



# Griffin Field Decommissioning Environment Plan (End State) Griffin Decommissioning

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# Terms and Acronyms

Term	Description
μ	micron
AET	Apparent Effect Threshold
AFMA	Australian Fisheries Management Authority
AHO	Australian Hydrographic Office
ALARP	As Low As Reasonably Practicable
AMOSC	Australian Maritime Oil Spill Centre
AMSA	Australian Maritime Safety Association
ANZECC	Australian & New Zealand Environment and Conservation Council
APPEA	Australian Petroleum Production and Exploration Association
APU	Australian Production Unit
ARMCANZ	Agriculture and Resource Management Council of Australia and New Zealand
AS	Australian Standard
ASBTIA	Australian Southern Bluefin Tuna Industry Association
ATSB	Australian Transport Safety Bureau
BIA	Biologically Important Area
BTAC	Buurabalayji Thalanyji Aboriginal Corporation
BTEX	benzene, toluene, ethyl benzene, xylene
CFA	Commonwealth Fisheries Association
CGB	Concrete gravity base
CODA	Centre of Decommissioning Australia
CRG	Community Reference Group
Cwth	Commonwealth
DAFF	Department of Agriculture, Fisheries and Forestry
DCCEEW	Department of Climate Change, Energy, The Environment and Water (formerly DAWE, Department of Agriculture, Water and Environment)

Term	Description
DBCA	Department of Biodiversity, Conservation and Attractions
DMIRS	Department of Mines, Industry Regulation and Safety (formerly Department of Mines and Petroleum)
DNP	Director of National Parks
DoT	Department of Transport
DPIRD	WA Department of Primary Industries and Regional Development
EMBA	Environment That May Be Affected
ENVID	Environment Impact and Risk Identification
EP	Environment Plan, prepared in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
EPO	Environmental Performance Outcome
EPS	Environmental Performance Standard
ESD	Ecologically Sustainable Development
FPSO	Floating Production Storage and Offloading
GEP	Gas Export Pipeline
GPS	Geographical Positioning System
HEX	Heat Exchanger
HSE	Health, Safety and Environment
HSEC	Health, Safety, Environment and Community
IMCRA	Interim Marine and Coastal Regionalisation of Australia
IMO	International Maritime Organisation
IMT	Incident Management Team
IOGP	International Association of Oil & Gas Producers
ISQG	Interim Sediment Quality Guideline

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Term	Description
IUCN	International Union for Conservation of Nature
KEF	Key Ecological Feature
km	Kilometre
LoR	Limit of Reporting
m	Metre
MC	Measurement Criteria
MDB	Mid-depth Buoy
mm	Millimetre
MNES	Matters of National Environmental Significance, according to the EPBC Act
MPRA	Marine Parks and Reserves Authority
MTE	Marine Transport Emergency
NCWHAC	Ningaloo Coast World Heritage Advisory Committee
NERA	National Energy Resources Australia
NES	National Environmental Significance
nm	nautical mile
NMERA	National Maritime Emergency Response Arrangement
NOPSEMA	National Offshore Petroleum Safety and Environmental Management Authority
NOPTA	National Petroleum Titles Administrator
NORMs	Naturally Occurring Radioactive Materials
NSCV	National Standard for Commercial Vessels
NSW	New South Wales
NWS	North West Shelf
OPEP	Oil Pollution Emergency Plan
OPGGS Act	<i>Offshore Petroleum and Greenhouse Gas Storage Act 2006</i>
OSPAR	Oil Spill Prevention, Administration and Response
OSRL	Oil Spill Response Limited
PAH	polycyclic aromatic hydrocarbons
PFW	Produced Formation Water

Term	Description
PLEM	Pipeline End Manifold
PMST	Protected Matters Search Tool
PPA	Pearl Producers Association
PSZ	Petroleum Safety Zone
PUF	Polyurethane Foam
ROV	Remotely Operated Vehicle
RTM	Riser Turret Mooring
SCSMF	South Coast Salmon Managed Fishery
SQG	Sediment Quality Guidelines
SQGV	Sediment Quality Guideline Value
SWCSMF	South West Coast Salmon Managed Fishery
t	tonne
TBT	tributyltin
TOC	Total Organic Carbon
TPH	Total Petroleum Hydrocarbons
TRH	Total Recoverable Hydrocarbons
UK	United Kingdom
UNCLOS	United Nations Convention on the Law of the Sea
WA	Western Australia
WAFIC	Western Australian Fishing Industry Council
WCD	Worst-Case Discharge
XT	Xmas tree
YMAC	Yamatji Marlpa Aboriginal Corporation
Zn	Zinc

# 1 Introduction

## 1.1 Overview of Proposed Activity

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), proposes to permanently decommission *in situ* the following subsea infrastructure, including up to 11 of the 12 RTM anchors and associated anchor chains, five piled foundation structures and six concrete gravity bases associated with the Griffin field within Permit Area WA-10-L. These activities will hereafter be referred to as the Petroleum Activity and forms the scope of this Environment Plan (EP). A detailed description of the Petroleum Activity is provided in **Section 4**.

This EP has been prepared to meet the Commonwealth *Offshore Petroleum and Greenhouse Gas Storage Act 2006* (OPGGGS Act) as administered by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

## 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 from planned (routine and non-routine) activities and unplanned events (including emergency situations) of the Petroleum Activity are identified and described.
- Appropriate management controls are implemented to reduce impacts and risks to a level that is 'as low as reasonably practicable' (ALARP) and acceptable.
- The petroleum activities are performed in a manner consistent with the principles of ecologically sustainable development (ESD) (as defined in Section 3A of the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)).

The EP describes the process used by Woodside to identify and evaluate potential environmental impacts and risks arising from the petroleum activities and defines activity specific Environmental Performance Outcomes (EPOs), Performance Standards (PSS) and Measurement Criteria (MCs) to be applied to manage the impacts and risks to ALARP and acceptable levels. These form the basis of the implementation strategy, defined in **Section 10** for monitoring, auditing, and managing the petroleum activities to be performed by Woodside and its contractors. This EP documents and considers consultation with relevant authorities, persons, and organisations.

## 1.3 Scope of this Environment Plan

A detailed description of the petroleum activity is provided in **Section 4** of this EP. An assessment of the decommissioning options for the subsea infrastructure proposed to be permanently decommissioned *in situ* is presented in **Section 3**.

The spatial boundary of the petroleum activity has been described and assessed based on the environment that may be affected (EMBA). The EMBA is defined as the boundary of the Petroleum Activity and is further described in **Section 4.3**.

The petroleum activity described in this EP forms part of the decommissioning of all property within the Griffin field in WA-10-L. Other activities relevant to the decommissioning of the Griffin field covered under the following EPs.

- Ongoing field management and removal of the majority of subsea infrastructure associated with the Griffin Field within WA-10-L, addressed in the Griffin Decommissioning and Field Management EP.
- Removal of the Griffin Gas Export Pipeline (GEP) within Commonwealth waters under pipeline licence WA-3-PL, addressed in the Griffin Gas Export Pipeline Decommissioning EP.

A summary of the holistic decommissioning planning and execution for the Griffin field, including an indicative schedule, is provided in **Section Error! Reference source not found.** The Griffin Decommissioning and Field

Management EP is intended to be the final EP decommissioning EP for the Griffin field and will therefore address the requirements of Section 270 and final title relinquishment.

## 1.4 Woodside/BHP Merger

BHP Petroleum (Australia) Pty Ltd (BHP Petroleum) and Woodside announced their intention to merge in 2021, which became effective on 1 June 2022. Prior to the 1 June 2022, BHP Petroleum and Woodside acted as independent companies, thus planning activities for this decommissioning Environment Plan were conducted originally by BHP Petroleum. The merger consisted of a change of control of BHP Petroleum International Pty Ltd (holding company for BHP global petroleum business) via a share sale to Woodside Petroleum Ltd. All BHP Petroleum entities holding Australian Petroleum titles transferred to Woodside parent company control with this change in ownership.

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 'heritage' BHP operations until potential changes have been assessed. References to BHP, BHP Petroleum and Woodside are interchangeable throughout this document.

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

## 1.5 Overview of HSE Management System

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

- Woodside "Our Values" (**Appendix A**),
- Woodside Environment and Biodiversity Policy,
- 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 Petroleum Activity are implemented through this EP.

## 1.6 Environment Plan Summary

An EP summary has been prepared based on material provided in this EP. **Table 1-1** summarises the items as required by Regulation 35(7) of the Environment Regulations.

**Table 1-1: EP Summary**

EP Summary Material Requirement	Relevant Section of the EP
The location of the activity	<b>Section 4.2</b>
A description of the receiving environment	<b>Section 5</b>
A description of the activity	<b>Section 4</b>
Details of the environmental impacts and risks	<b>Section 8</b>
The control measures for the activity	<b>Section 8</b>
The arrangements for ongoing monitoring of the titleholder's environmental performance	<b>Section 10</b>

EP Summary Material Requirement	Relevant Section of the EP
Response arrangements in the oil pollution emergency plan	N/A
Consultation already undertaken and plans for ongoing consultation	<b>Section 6</b>
Details of the titleholder's nominated liaison person for the activity	<b>Section 1.8</b>

## 1.7 Structure of the Environment Plan

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

**Table 1-2: EP content requirements from the Environment Regulations and relevant sections of the EP demonstrating the requirements are met.**

Criteria for Acceptance	Content Requirements / Relevant Regulations	Elements	Section of EP
Regulation 34(a): <i>is appropriate for the nature and scale of the activity</i>	Regulation 21 <i>Environmental Assessment</i>	The principle of 'nature and scale' applies throughout the EP	<b>Section 3</b>
	Regulation 22 <i>Implementation strategy for the environment plan</i>		<b>Section 5</b>
	Regulation 24 <i>Other information in the environment plan</i>		<b>Section 6</b>
Regulation 34(b): <i>demonstrates that the environmental impacts and risks of the activity will be reduced to as low as reasonably practicable</i>	Regulation 21(1)–21(7): 21(1) <i>Description of the activity</i> 21(2)(3) <i>Description of the environment</i> 21(4) <i>Requirements</i> 21(5)(6) <i>Evaluation of environmental impacts and risks</i>	<ul style="list-style-type: none"> <li>▪ Set the context (activity and existing environment)</li> <li>▪ Define 'acceptable' (the requirements, the corporate policy, relevant persons)</li> <li>▪ Detail the impacts and risks.</li> <li>▪ Evaluate the nature and scale.</li> <li>▪ Detail the control measures – ALARP and acceptable</li> </ul>	<b>Section 7</b>
Regulation 34(c): <i>demonstrates that the environmental impacts and risks of the activity will be of an acceptable level</i>	21(7) <i>Environmental performance outcomes and standards</i> Regulation 24(a)–24(c): <i>A statement of the titleholder's corporate environmental policy</i> <i>A report on all consultations between the titleholder and any relevant person</i>		<b>Section 8</b>
Regulation 34(d): <i>provides for appropriate environmental performance outcomes, environmental</i>	Regulation 21(7): <i>Environmental performance outcomes and standards</i>	<ul style="list-style-type: none"> <li>▪ Environmental Performance Outcomes</li> <li>▪ Environmental Performance Standards</li> <li>▪ Measurement Criteria</li> </ul>	<b>Section 9</b>

Criteria for Acceptance	Content Requirements / Relevant Regulations	Elements	Section of EP
<i>performance standards and measurement criteria</i>			
<p>Regulation 34(e):</p> <p><i>includes an appropriate implementation strategy and monitoring, recording and reporting arrangements</i></p>	<p>Regulation 22:</p> <p><i>Implementation strategy for the environment plan</i></p>	<p>Implementation strategy, including:</p> <ul style="list-style-type: none"> <li>▪ systems, practices, and procedures,</li> <li>▪ performance monitoring,</li> <li>▪ Oil Pollution Emergency Plan (OPEP) and scientific monitoring, and</li> <li>▪ ongoing consultation</li> </ul>	<p><b>Section 7</b> <b>Section 8</b></p>
<p>Regulation 34(f):</p> <p><i>does not involve the activity or part of the activity, other than arrangements for environmental 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</i></p>	<p>Regulation 21 (1)–21(3):</p> <p><i>21(1) Description of the activity</i></p> <p><i>21(2) Description of the environment</i></p> <p><i>21(3) Without limiting [Regulation 21(2)(b)], particular relevant values and sensitivities may include any of the following:</i></p> <p><i>(a) the world heritage values of a declared World Heritage property within the meaning of the EPBC Act</i></p> <p><i>(b) the national heritage values of a National Heritage place within the meaning of that Act</i></p> <p><i>(c) the ecological character of a declared Ramsar wetland within the meaning of that Act</i></p> <p><i>(d) the presence of a listed threatened species or listed threatened ecological community within the meaning of that Act</i></p> <p><i>(e) the presence of a listed migratory species within the meaning of that Act</i></p> <p><i>(f) any values and sensitivities that exist in, or in relation to, part or all of:</i></p> <p><i>(i) a Commonwealth marine area within the meaning of that Act; or</i></p> <p><i>(ii) Commonwealth land within the meaning of that Act.</i></p>	<p>No activity, or part of the activity, undertaken in any part of a declared World Heritage property.</p>	<p><b>Section 5</b> <b>Section 7</b> <b>Section 8</b> <b>Section 9</b></p>
<p>Regulation 34(g):</p> <p><i>(i) the titleholder has carried out the consultations required by Section 25</i></p> <p><i>(ii) the measures (if any) that the titleholder has</i></p>	<p>Regulation 25:</p> <p><i>Consultation with relevant authorities, persons and organisations, etc.</i></p> <p>Regulation 24(b):</p>	<p>Consultation in preparation of the EP</p>	<p><b>Section 6</b></p>



Criteria for Acceptance	Content Requirements / Relevant Regulations	Elements	Section of EP
<i>adopted, or proposes to adopt, because of the consultations are appropriate</i>	<i>A report on all consultations between the titleholder and any relevant person</i>		
Regulation 34(h): <i>complies with the Act and the regulations</i>	Regulation 23: <i>Details of the Titleholder and liaison person</i>  Regulation 24(c): <i>Details of all reportable incidents in relation to the proposed activity.</i>	All contents of the EP must comply with the <i>Offshore Petroleum and Greenhouse Gas Storage Act 2006</i> and the Environment Regulations	<b>Section 1.8</b>

## 1.8 Titleholder Details

Woodside Energy (Australia) Pty Ltd is the operator and nominated titleholder of WA-10-L. The non-operating titleholders are:

- Mobil Exploration and Producing Australia Pty Ltd; and
- Inpex Alpha Ltd.

Woodside's mission is to deliver affordable energy solutions and superior outcomes for stakeholders. Wherever Woodside works, it is committed to living its values of integrity, respect, working sustainably, ownership, courage and working together. Woodside's operations are characterised by strong safety and environmental performance in remote and challenging locations.

Woodside has an excellent 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 with the aim of being a partner of choice. Further information about Woodside can be found at <http://www.woodside.com>.

In accordance with Regulation 23(1) of the Environment Regulations, details of the titleholder are provided in **Table 1-3**. In accordance with Regulation 23(2) of the Environment Regulations, details of the titleholder's nominated liaison person are provided in **Table 1-4**.

In the event of any change in the titleholder, titleholder parent company, a change in the titleholder's nominated liaison person or a change in the contact details for either the titleholder or the liaison person, Woodside will notify NOPSEMA in writing in accordance with Regulation 23(3) of the Environment Regulations.

**Table 1-3: Titleholder details**

<b>Name</b>	Woodside Energy (Australia) Pty Ltd
<b>Business address</b>	11 Mount St, Perth, Western Australia 6000
<b>Telephone number</b>	1800 442 997
<b>Email address</b>	<a href="mailto:feedback@woodside.com">feedback@woodside.com</a>
<b>Australian Company Number</b>	006 923 879

**Table 1-4: Titleholder's nominated liaison person**

<b>Name</b>	Pip Milne
<b>Position</b>	Australian Projects Decommissioning Lead
<b>Business address</b>	11 Mount St, Perth, Western Australia 6000
<b>Telephone number</b>	1800 442 997
<b>Email address</b>	<a href="mailto:feedback@woodside.com">feedback@woodside.com</a>

## 2 Legislative Framework

### 2.1 Commonwealth Legislation

Environmental aspects of petroleum activities in Australian Commonwealth waters are controlled by two main statutes, the Commonwealth *Offshore Petroleum and Greenhouse Gas Storage Act 2006* (OPGGS Act) and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Each of these, as applicable to the petroleum activity, are described in the next sections. There are also applicable Commonwealth and Western Australian statutes and regulations, International Agreements and Conventions and other applicable standards, guidelines, and codes under which the activities are implemented. These are listed in **Appendix B** of this EP.

#### 2.1.1 Offshore Petroleum and Greenhouse Gas Storage Act 2006

The *Offshore Petroleum and Greenhouse Gas Storage Act 2006* (OPGGS Act) provides the regulatory framework for all offshore exploration and production activities in Commonwealth waters (those areas beyond three nautical miles from the territorial sea baseline and in the Commonwealth Petroleum Jurisdiction Boundary). The Environment Regulations have been made under the OPGGS Act to ensure “...any Petroleum Activity or greenhouse gas activity carried out in an offshore area is:

- *carried out in a manner consistent with the principles of ESD set out in section 3A of the Environment Protection and Biodiversity Act 1999 (EPBC Act)*
- *carried out in a manner by which the environmental impacts and risks of the activity will be reduced to as low as reasonably practicable*
- *carried out in a manner by which the environmental impacts and risks of the activity will be of an acceptable level”.*

This EP meets the requirements of the Environment Regulations by providing a plan that:

- is appropriate for the nature and scale of the activity
- demonstrates the environmental impacts and risks of the activity will be reduced to as low as reasonably practicable.
- demonstrates the environmental impacts and risks of the activity will be of an acceptable level.
- provides for appropriate Environmental Performance Outcomes (EPOs), Environmental Performance Standards (EPSs) and Measurement Criteria (MC)
- includes an appropriate implementation strategy and monitoring, recording and reporting arrangements.
- does not involve the activity or part of the activity, other than arrangements for environmental monitoring or for responding to an emergency, being performed in any part of a declared World Heritage property within the meaning of the EPBC Act
- demonstrates that:
  - an appropriate level of consultation, as required by Division 3 of the Environment Regulations, has been performed.
  - the measures (if any) adopted, or proposed to adopt, because of consultations are appropriate.
  - complies with the OPGGS Act and the Environment Regulations.

The OPGGS Act and supporting regulations address licensing, health, safety and environmental matters for offshore petroleum and gas exploration and production operations in Commonwealth waters. Obligations in relation to the maintenance and removal of equipment and property brought onto title are provided under subsection 572(3) of the OPGGS Act.

Under subsection 572(3) of the OPGGS Act, 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. Under subsection 572(7), property removal requirements are subject to any other provision of the OPGGS Act, the regulations, directions given by NOPSEMA or the responsible Commonwealth Minister, and any other law. Section 572(3) requires the removal of property when it is no longer used, unless NOPSEMA has accepted

alternative arrangements where justification is appropriate and with regard to the Guideline: Offshore Petroleum Decommissioning (Department of Industry, Science and Resources, 2022).

Under subsection 270(3) of the OPGGS Act, before title surrender, all property brought into the surrender area must be removed to the satisfaction of NOPSEMA, or arrangements that are satisfactory to NOPSEMA must be made relating to the property.

Field management covered under the Griffin Decommissioning and Field Management EP evaluates the infrastructure integrity and applies applicable measures, based on risk, to ensure subsea infrastructure may be removed in accordance with Section 572(3) of the OPGGS Act. All Griffin subsea infrastructure (including GEP in Commonwealth waters) will be removed before 31 December 2024, in accordance with Section 572(3) of the OPGGS Act, unless NOPSEMA approves and is satisfied that an alternative decommissioning approach delivers equal or better environmental outcomes compared with complete removal.

### 2.1.2 General Direction 832

On 30 August 2021, NOPSEMA issued Woodside with a General Direction (General Direction 832) under Section 574 of the OPGGS Act in relation to decommissioning of infrastructure relating to the Griffin field within Petroleum Title WA-10-L and Pipeline Licence WA-3-PL. **Table 2-1** outlines the directions in General Direction 832, and Woodside's intention for addressing each of these directions, either under this EP or under other separate Griffin decommissioning EPs.

This EP will address requirements under this General Direction related to the proposed permanent decommissioning *in situ* of the following Griffin subsea infrastructure, including up to 11 of the 12 RTM anchors and associated anchor chains, five piled structures and six concrete gravity bases. Requirements relating to the decommissioning of other subsea infrastructure within WA-10-L and WA-3-PL is covered under the following separate EPs:

- Griffin Decommissioning and Field Management EP (GV-HSE-E-0014), currently under assessment by NOPSEMA (submitted 22 December 2021)
- Griffin Gas Export Pipeline Decommissioning EP (00GA-BHPB-N00-0016), currently under assessment by NOPSEMA (submitted 21 March 2022)

The Griffin Decommissioning and Field Management EP is intended to be the final decommissioning EP for the Griffin field and will therefore address the requirement of Section 270 and title relinquishment. Further detail on the decommissioning EPs for the Griffin field is provided in **Section** Error! Reference source not found..

**Table 2-1: General Direction 832**

Direction	Woodside's Intentions relating to Direction
<p><b>Direction 1</b> Remove, or cause to be removed, to the satisfaction of NOPSEMA, from the title areas all property brought into those areas by any person engaged or concerned in the operations authorised by the titles as soon as practicable and before 31 December 2024.</p>	<p>This EP covers the Griffin field infrastructure proposed for left <i>in situ</i>. Refer to <b>Section 3</b> and <b>Section 4</b> for further detail.</p> <p>The Griffin Decommissioning and Field Management EP includes removal of Griffin field infrastructure. The Griffin Gas Export Pipeline Decommissioning EP includes the decommissioning and removal of the Griffin Gas Export Pipeline in Commonwealth waters.</p>
<p><b>Direction 2</b> Until such time as Direction 1 is complete, maintain all property on the titles to NOPSEMA's satisfaction to ensure removal of the property is not precluded.</p>	<p>Not Applicable to this EP</p> <p>Currently, inspection and maintenance activities for the Griffin subsea infrastructure within WA-10-L is managed under the accepted Griffin Operations Cessation EP (in force).</p> <p>Once accepted, the Griffin Decommissioning and Field Management EP will cover the ongoing management and maintenance of property relating to the Griffin field within WA-10-L and WA-3-PL until final decommissioning.</p>

Direction	Woodside’s Intentions relating to Direction
<p><b>Direction 3</b> Provide, to the satisfaction of NOPSEMA, for the conservation and protection of the natural resources in the title areas within 12 months after property referred to in Direction 1 is removed</p>	<p>Woodside applies the same definition for the term “natural resources”<sup>1</sup> as is used in NOPSEMA policy <i>Section 270 Consent to surrender title - NOPSEMA advice</i> (NOPSEMA, 2022a).</p> <p>Details on how Woodside will ensure the conservation and protection of natural resources within petroleum title WA-10-L and pipeline licence WA-3-PL will be addressed in the Griffin Decommissioning and Field Management EP, which is intended to be the final decommissioning EP for the Griffin Field and therefore addresses Section 270 requirements.</p> <p><b>Section 4</b> includes details of the Griffin field infrastructure to be decommissioned <i>in situ</i> under this EP. As left surveys for this infrastructure proposed to be decommissioning <i>in situ</i> will be conducted under the Griffin Decommissioning and Field Management EP.</p> <p>Furthermore, <b>Section 8</b> of this EP assesses risks and impacts to natural resources in WA-10-L specifically relating to the permanent left <i>in situ</i> of up to 11 (of the 12) RTM anchors and associated anchor chains, 5 piled structures and 6 concrete gravity bases associated with the Griffin field.</p>
<p><b>Direction 4</b> Make good to the satisfaction of NOPSEMA, any damage to the seabed or subsoil in the title areas caused by any person engaged or concerned in the operations authorised by the titles within 12 months after property referred to in Direction 1 is removed.</p>	<p>Details on how Woodside will address requirement to make good any damage to the seabed or subsoil within petroleum title WA-10-L and pipeline licence WA-3-PL will be addressed in the Griffin Decommissioning and Field Management EP, which is intended to be the final decommissioning EP for the Griffin Field and therefore addresses Section 270 requirements.</p> <p>The Griffin Decommissioning and Field Management EP includes details of the as-left surveys that will be undertaken on the Griffin infrastructure. Surveys to address Section 270 requirements will include general visual inspections and where relevant sediment sampling.</p> <p><b>Section 4</b> includes details of the Griffin field infrastructure to be decommissioned <i>in situ</i> under this EP. As left surveys for this infrastructure proposed to be decommissioning <i>in situ</i> will be conducted under the Griffin Decommissioning and Field Management EP.</p> <p>Furthermore, <b>Section 8</b> of this EP assesses risks and impacts to the seabed in WA-10-L specifically relating to the permanent left <i>in situ</i> of up to 11 (of the 12) RTM anchors and associated anchor chains, 5 piled structures and 6 concrete gravity bases associated with the Griffin field.</p>
<p><b>Direction 5</b> Submit to NOPSEMA on an annual basis, until all directions have been met, a progress report detailing planning towards and progress with undertaking the actions required by Direction 1, 2, 3 and 4.  The report submitted under Direction 5(a) must be to the satisfaction of NOPSEMA and submitted to NOPSEMA no later than 31 December each year.  Publish the report on the registered holders’ website within 14 days of obtaining NOPSEMA satisfaction under Direction 5(b).</p>	<p>Not Applicable to this EP</p> <p>The Griffin Decommissioning and Field Management EP is intended to be the final decommissioning EP for the Griffin Field and therefore provides for Woodside’s external reporting obligations required under Direction 5.</p>

<sup>1</sup> The Section 270 NOPSEMA advice - Consent to surrender title (NOPSEMA 2021) applies the same meaning to “natural resources” as in Article 77 of the United Nations Convention on the Law of the Sea 1982, which states “*The natural resources referred to in this Part consist of the mineral and other non-living resources of the seabed and subsoil together with living organisms belonging to sedentary species, that is to say, organisms which, at the harvestable stage, either are immobile on or under the seabed or are unable to move except in constant physical contact with the seabed of the subsoil.*”

### 2.1.3 Environment Protection and Biodiversity Conservation Act 1999

The EPBC Act aims to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places in Australia. These are defined in the Act as Matters of National Environmental Significance (MNES). NOPSEMA, through the Streamlining Offshore Petroleum Environmental Approvals Program, implements these requirements with respect to offshore petroleum activities in Commonwealth waters. The Streamlining Offshore Petroleum Environmental Approvals Program is applicable to all offshore petroleum activities authorised under the OPGGS Act and requires petroleum activities to be conducted in accordance with an accepted EP, consistent with the principles of ESD. The definition of 'environment' in the Streamlining Offshore Petroleum Environmental Approvals Program is consistent with that used in the EPBC Act and encompass all matters protected under Part 3 of the EPBC Act.

Under Section 268 of the EPBC Act "A Commonwealth agency must not take any action that contravenes a recovery plan or a threat abatement plan."

In respect to offshore petroleum activities in Commonwealth waters, the above is implemented by NOPSEMA. Commitments relating to listed threatened species and ecological communities under the Act are included in the Program Report (Commonwealth of Australia, 2014a):

- NOPSEMA will not accept an Environment Plan that proposes activities which will result in unacceptable impacts to a listed threatened species or ecological community.
- NOPSEMA will not accept an Environment Plan that is inconsistent with a recovery plan or threat abatement plan for a listed threatened species or ecological community.
- NOPSEMA will have regard to any approved conservation advice relating to a threatened species or ecological community before accepting an Environment Plan.

Recovery and management plans relevant to this EP are outlined in **Section 9**.

### 2.1.4 Environment Protection (Sea Dumping) Act 1981

The Commonwealth *Environment Protection (Sea Dumping) Act 1981* (Sea Dumping Act) is the legislative instrument that addresses Australia's obligations under the London Protocol. The aims of the London Protocol are to protect and preserve the marine environment from all sources of pollution, and to prevent, reduce and eliminate pollution by controlling the dumping of wastes and other materials at sea. The Sea Dumping Act regulates the dumping at sea of controlled material (including certain wastes and other matter), the incineration at sea of controlled material, loading for the purpose of dumping or incineration, export for the purpose of dumping or incineration, and the placement of artificial reefs. Permits are required to authorise sea dumping activities.

The Sea Dumping Act and associated sea dumping permits are administered by the Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW). The decommissioning *in situ* of the equipment within the scope of this EP will be the subject of sea dumping permits. Woodside will submit an application for a sea dumping permit to DCCEEW and progress the application process as required.

## 2.2 State Legislation

This EP will not be assessed under the Western Australia (WA) *Environmental Protection Act 1986* as the environment that may be affected by the petroleum activity does not occur on State land or within State waters. In addition, there are no proposed vessel activities under this EP and therefore no hydrocarbon spill risk that may impact State Waters and shorelines.

The majority of infrastructure relating to the Griffin development is located within Permit Area WA-10-L in Commonwealth Waters, with the exception of the Griffin Gas Export Pipeline (GEP) which spans both Commonwealth and State waters. The decommissioning activities associated with the Griffin Field spans across three Commonwealth EPs and one State EP covering the decommissioning of the GEP within State Waters, further detail of the holistic decommissioning approach and timing for the Griffin field is provided in **Table 4-2**.

## 2.3 Environmental Guidelines, Standards and Codes of Practice

Multiple international codes of practice and guidelines are relevant to environmental management of the petroleum activity. Those considered most relevant are listed in **Appendix B**.

The following two international conventions and protocols are considered most relevant to the petroleum activity. An assessment of the petroleum activity against these is provided in **Section 8.1.5**, **Section 8.2.5** and **Section 8.3.5**, and an assessment of the decommissioning options against these is provided in **Section 3**.

### 2.3.1 Article 192 of the United Nations Convention on the Law of the Sea 1982 (UNCLOS)

A general obligation of Article 192 of the United Nations Convention on the Law of the Sea 1982 (UNCLOS) is to protect and preserve the marine environment. International Maritime Organization (IMO) resolution A.672 (1989) recognises that the general requirement is base case of removal with the objective of protecting and preserving the marine environment. Further details are provided in paragraph 3.9 of the resolution describing that equipment left *in situ* should not move under environmental loading and paragraph 3.2 further describes that infrastructure less than 4000 tonnes in less than 100 m water should be removed.

### 2.3.2 Annex I (2) of the 1996 London Protocol

Annex I (2) of the 1996 London Protocol to the convention on the prevention of marine pollution by dumping of waste and other matter (update to London Convention and Protocol 1972) describes that material capable of creating floating debris or otherwise contributes to the pollution of the marine environment has to be removed.

## 3 Decommissioning Options Assessment

### 3.1 Regulatory Context

Article 60 of the 1982 United Nations Convention on the Law of the Sea (UNCLOS), to which Australia is a party, states: *“Any installations or structures which are abandoned or disused shall be removed to ensure safety of navigation, taking into account any generally accepted international standards established in this regard by the competent international organization. Such removal shall also have due regard to fishing, the protection of the marine environment and the rights and duties of other States.”*

Australia is a member state of the International Maritime Organization (IMO), a body created by agreement of member states of the United Nations. The IMO is regarded as the competent organization to deal with the requirement of Article 60 of the UNCLOS. Following UNCLOS, the IMO published *Resolution A.672(16) Guidelines and Standards for the Removal of Offshore Installations and Structures on the Continental Shelf and in the Exclusive Economic Zone* (IMO, 1989). This resolution recognises that structures on the continental shelf should be removed, but coastal states (such as the Commonwealth of Australia) may make decisions to leave structures partially or completely in the sea.

Direction 1 in General Direction 832 directs that the titleholder remove, or cause to be removed, all property brought into WA-10-L and WA-3-PL by the titleholder to the satisfaction of NOPSEMA.

Section 572(3) of the OPGGS Act states that “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 in which the titleholder is or will be engaged and that are authorised by the permit, lease, licence or authority.”, which is consistent with the requirement of Article 60 of UNCLOS. Under S572(7) OPGGS Act property removal requirements are subject to any other provision of the OPGGS Act, the regulations, directions given by NOPSEMA or the responsible Commonwealth Minister, and any other law. Under S270(3) OPGGS Act before title surrender, all property brought into the surrender area must be removed to the satisfaction of NOPSEMA, or arrangements that are satisfactory to NOPSEMA must be made relating to the property. The Offshore Petroleum Decommissioning Guideline (DISR (formerly DISER), 2022) and NOPSEMA policy on Section 572 (NOPSEMA, 2022b) state that alternative decommissioning approach may be considered if the environmental outcomes are equal or better than complete removal, and that the alternative approach complies with all other requirements (DISR (formerly DISER), 2022).

NOPSEMA's Section 572 policy (NOPSEMA, 2022b) states that NOPSEMA expects that any EP describing an alternative to removal include:

- a feasibility assessment of all decommissioning options that could reasonably be undertaken and are likely to be successful.
- an evaluation of all environmental impacts and risks of all feasible options. The evaluation should:
  - be appropriate to the nature and scale of the activity.
  - demonstrate compliance with relevant domestic legislation and international guidelines and standards (for example, those provided by the IMO Resolution A.672(16))
  - consider information received during early consultation.
  - demonstrate that the alternative arrangements, and any subsequent benefits, will be consistent with the principles of ESD.
  - consider control measures necessary to manage the impacts and risks.
  - consider environmental impacts and risks within Australia's environment including, where relevant, indirect consequences that may arise from the activity of removing property etc. from a title area.
- a description of monitoring or survey activities proposed to be conducted to confirm decommissioning outcomes have been met, and that control measures have been implemented effectively.
- a description of the arrangements for long term management of property etc. which is not removed, including any ongoing monitoring.



## 3.2 Decommissioning Options Assessment

This section outlines the decommissioning options assessment Woodside has performed to determine whether the arrangement to leave proposed infrastructure relating to the Griffin Field *in situ* complies with the OPGGS Act as well as aligning with DISR concept of equal or better environmental outcomes when compared to complete removal. Woodside plans to remove the majority of infrastructure in the Griffin Field, as detailed in the Griffin Decommissioning and Field Management EP (relating to removal of Griffin subsea infrastructure) and Griffin Gas Export Pipeline Decommissioning EP (relating to the removal of the Griffin GEP in Commonwealth Waters). This EP covers the proposal for permanent decommissioning *in situ* of the following Griffin Infrastructure:

- Up to 11 RTM steel anchors with the associated anchor chains cut at or below the mudline as close as practicable to the anchors. The field has a total of 12 RTM anchors that were deployed in pairs with six lengths of buried interconnecting 30 m chain bridles between each of the anchor pairs. One of the 12 RTM Mooring 6 trailing anchor) was found to be exposed in the most recent ROV survey and will be removed. The final number of anchors and length of chain to remain *in situ* will be determined after removal efforts have been made on RTM anchors and mooring chains, under the approved Griffin Decommissioning and Field Management EP. This collective group of infrastructure is herein referred to as the RTM anchors.
- Five piled foundations, one for the Pipeline End Manifold (PEM) and four Distribution Skids. The piled foundations will be cut as close to the mudline as practicable with only the remanent structures proposed to be abandoned *in situ*. Vessel based activities involving in the recovery of the PEM and distribution skid structures that currently sit on top of the piles as well as the cutting of the piles themselves are covered under the Griffin Decommissioning and Field Management.
- Six Mid-depth buoy (MDB) concrete gravity bases.

In accordance with NOPSEMA's *Section 572 Maintenance and Removal of Property* policy (NOPSEMA, 2022b), Woodside identified several feasible decommissioning options for the infrastructure listed above, which are described in **Section 3.2.2**, **Section 3.2.3** and **Section 3.2.4** respectively. The implementation of these options assumes controls are implemented to manage environmental impacts and risks that are consistent with industry good practice.

Each of the feasible decommissioning options for the infrastructure groups proposed for permanent decommissioning *in situ* has a range of different environmental, safety, technical, cost, and socio-economic outcomes. The *Section 572 Maintenance and Removal of Property* policy (NOPSEMA, 2022b) requires that Woodside evaluate the environmental impacts and risks of the feasible decommissioning options for the infrastructure listed above. Woodside completed a decommissioning options assessment, which is summarised in this section. An evaluation was developed for each decommissioning options to determine the impacts of each on environmental values and sensitivities relative to the removal referred to as the base case.

The decommissioning options assessment did not explicitly consider risks (i.e., impacts that may occur due to accidents or emergencies) to environmental values and sensitivities. The risk profile of each of the feasible full and partial removal decommissioning options is broadly similar, with risks generally arising from vessel-based activities (e.g., introductions of invasive marine species and hydrocarbon spills). Woodside has a proven ability to prevent vessel-based risks becoming realised, and hence the environmental risk profiles of the feasible full and partial removal options were not considered to differentiate the feasible decommissioning options. Only environmental impacts were considered when comparing the feasible decommissioning options to removal. This approach demonstrates the relative environmental outcomes as an alternative to removal as required by NOPSEMA's *Section 572 Maintenance and Removal of Property Policy* (NOPSEMA, 2022b).

### 3.2.1 Decommissioning Options Assessment Methodology

The process used to evaluate the decommissioning options for the RTM anchors, piled structures and MDB concrete gravity bases comprised of the following steps:

- Identify feasible decommissioning options.
- Define environmental criteria and ratings used to assess the feasible decommissioning options.

- Assess the feasible decommissioning options using the environmental criteria relative to the 'removal' decommissioning requirement under S573(3) of the OPGGS Act and General Direction 832. 'Removal' in accordance with General Direction 832 is referred to as the 'base case' within this EP.
- The assessment includes consideration of the principles of ESD.
- Evaluation options based on compliance alongside relevant legislation and guidelines associated with decommissioning.

The method used to compare the feasible decommissioning options for the proposed infrastructure groups aligns with Method A – narrative / Red-Amber-Green described in the *Guidelines for Comparative Assessment in Decommissioning Programs* (Oil and Gas UK, 2015).

### 3.2.1.1 Decommissioning Options

Woodside identified the feasible decommissioning options for the three infrastructure groups. Feasible decommissioning options for each of the candidate infrastructure were broadly categorised as:

- Removal - no infrastructure remaining left on or buried in the seabed.
- Partial removal – with components or part of the infrastructure removed and the remaining abandoned *in situ*.
- Left *in situ* - with infrastructure in its entirety left on the seabed in its current state.
- Augmentation - to augment the hard substrate provided by the infrastructure abandoned *in situ* (i.e., creating an artificial reef around the infrastructure)

### 3.2.1.2 Technical Feasibility of Decommissioning Options

Feasible decommissioning options for each infrastructure group were identified by Woodside through:

- a review of relevant requirements, particularly *Section 572 Maintenance and Removal of Property* (NOPSEMA, 2022b) policy, which requires titleholders proposing alternatives to removal to:
  - evaluate the feasibility of all decommissioning options, including partial and complete removal of property.
  - evaluate the environmental impacts and risks of all feasible decommissioning options, including complete removal.
  - demonstrate that the alternative decommissioning approach meets all applicable requirements under the OPGGS Act and regulations, any other legislative requirement, and relevant international obligations.
- a review of offshore decommissioning activities globally
- feedback received during stakeholder engagement and a stakeholder workshop.
- preliminary engineering consideration of the methods by which an alternative may be implemented.
- preliminary assessment of the acceptability of the decommissioning options.

The feasibility of the different decommissioning options for each infrastructure group is described in **Section 3.2.2.2**, **Section 3.2.3.2** and **Section 3.2.4.2**. Only feasible options were included in the decommissioning options assessment. The feasibility of decommissioning options has been informed based on a "concept select" engineering basis. The execution of any of the feasible options would require further detailed engineering analysis and refinement.

Decommissioning options that had unacceptable impacts and risks to the environment, or could be substituted with less hazardous options, were not considered. This ensures that the decommissioning options environmental impact assessments were not unduly biased against any of the options. The methods presented for each infrastructure group are reasonable and consistent with current offshore engineering practices.

### 3.2.1.3 Decommissioning Options Assessment

Following identification of feasible decommissioning options, a decommissioning options assessment was undertaken by Woodside for each infrastructure group, including:

- Decommissioning options assessment for the RTM anchors (refer to **Section 3.2.2, Table 3-4**)
- Decommissioning options assessment for the piled foundations (refer to **Section 3.2.3, Table 3-9**)
- Decommissioning options assessment for the MDB concrete gravity bases (refer to **Section 3.2.4, Table 3-14**)

The assessment considered available information, such as engineering studies, environmental conditions in the Griffin field and stakeholder consultation outcomes.

As stated above in **Section 3.2.1**, removal of infrastructure was considered the base case for decommissioning, to which the other feasible options were compared. Accordingly, removal of infrastructure was scored as being neutral (as per the definitions provided in **Table 3-2**). Each of the feasible decommissioning options were assessed relative to the removal case.

Following the options assessment, the decommissioning options for each of the infrastructure groups were subsequently assessed to determine consistency with the principles of ESD defined in Section 3A of the EPBC Act. These principles of ESD are:

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

Following the options assessment, each decommissioning option was assessed to determine if it was aligned with the principles of ESD in Section 3A of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). A summary of this assessment has been provided in **Table 3-6** for the RTM anchors, **Table 3-11** for the piled foundations and **Table 3-16** for the MDB concrete gravity bases.

### 3.2.1.4 Options Assessment Criteria

The criteria and sub-criteria used for the decommissioning options assessment is detailed in **Table 3-1** and the ratings described in **Table 3-2**. These criteria, sub-criteria and ratings were used to conduct an environmental impact assessment against each of the feasible decommissioning options for the RTM anchors, piled foundations and MDB concrete gravity bases.

**Table 3-1: Decommissioning Options Assessment Criteria and Sub-criteria**

Criteria	Sub-criteria	Description
Environment	Benthic habitats	Benthic habitats are the environment within which organisms associated with the seabed live. Benthic habitats include the interactions between the physical and biological environment.  The benthic habitats that may credibly be impacted by the feasible decommissioning options are described in <b>Section 5.3.2</b> .
	Marine Fauna	Marine fauna are animals, hence the term encompasses a diversity of organisms, such as vertebrates (e.g., cetaceans, birds and fishes), sponges, cnidarians (e.g., corals), molluscs etc. Fauna groups have a range of life histories and use the environment in different ways. Life history phases and habitat preferences may be common across different fauna

Criteria	Sub-criteria	Description
		groups (e.g., pelagic larval stages and common in many faunae, sessile filter feeding is common to some cnidarians, molluscs and polychaete species). The marine fauna that may credibly be impacted by the feasible decommissioning options are described in <b>Section 5.5</b> .
	GHG emissions (excluding materials management)	Greenhouse gas emissions (e.g., CO <sub>2</sub> , CH <sub>4</sub> etc.), excluding emissions associated with handling of materials recovered by removal of the proposed infrastructure (which are considered in the waste management sub-criterion).
	Sediment quality	The quality of the sediment, including physical (e.g., grain size) and chemical (e.g., concentrations of potential toxicants) characteristics. Natural conditions are considered desirable.
	Water quality	The quality of the water, including physical (e.g., temperature) and chemical (e.g., concentrations of potential toxicants) characteristics. Natural conditions are considered desirable.
	Waste management	Management of the equipment, includes consideration of the materials hierarchy (in order of preference): reuse, repurpose, recycle, dispose and entomb.
Social	Other users	Other uses of the sea, such as commercial shipping, commercial fishing, and energy producers. Very little activity by other users of the sea in the vicinity of the proposed infrastructure.

Table 3-2: Feasible Decommissioning Options Rating Definitions

Criteria	Sub-criteria	Score		
		More Preferred	Neutral <sup>2</sup>	Less Preferred
Environment	Benthic habitat	Materially better outcomes for benthic habitat – increased physical and biological resources available to support survival of species.	Benthic habitat outcomes are the same as the removal base case.	Materially worse outcomes for benthic habitat – reduced physical and biological resources available to support survival of species.
	Marine Fauna	Materially better outcomes for marine fauna – increased species diversity or species richness than the removal base case.	Marine fauna outcomes are the same as the removal base case.	Materially worse outcomes for marine fauna – reduced species diversity or species richness than the removal base case.
	GHG emissions (excluding materials management)	Materially less GHG emissions than the removal base case.	GHG emissions outcomes are the same as the removal base case.	Materially greater GHG emissions than the removal base case.

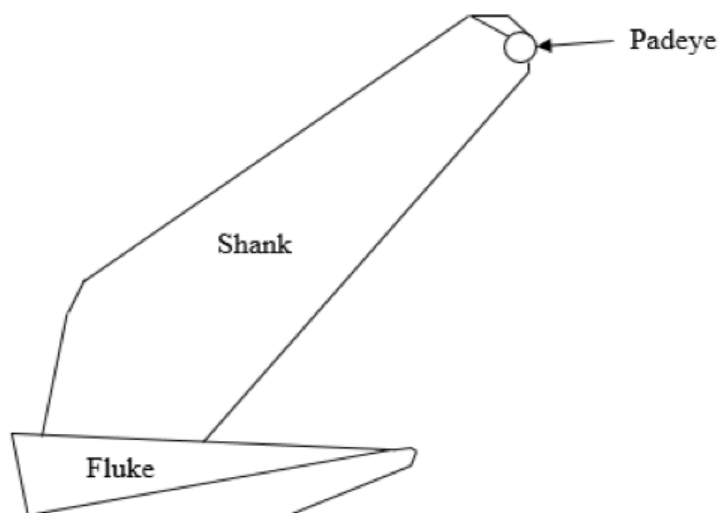
<sup>2</sup> For the purpose of this decommissioning options assessment, full removal of infrastructure is considered base case as defined in **Section 3.2.1** and therefore scored as neutral. The environmental impacts associated with alternative feasible decommissioning options have been assessed against this base case 'neutral' score for full removal.

Criteria	Sub-criteria	Score		
		<i>More Preferred</i>	<i>Neutral<sup>2</sup></i>	<i>Less Preferred</i>
	Sediment quality	Materially better outcomes for sediment quality – lower modification of physical and chemical characteristics of sediments than the removal base case.	Sediment quality outcomes are the same as the removal base case.	Materially worse outcomes for sediment quality – greater modification of physical and chemical characteristics of sediments than the removal base case.
	Water quality	Materially better outcomes for water quality – lower modification of physical and chemical characteristics of water than the removal base case.	Water quality outcomes are the same as the removal base case.	Materially worse outcomes for water quality – lower modification of physical and chemical characteristics of water than the removal base case.
	Materials management	Materially better outcomes for materials management – materials management higher in the materials hierarchy than the removal base case.	Materials management outcomes are the same as the removal base case.	Materially worse outcomes for materials management – materials management lower in the materials hierarchy than the removal base case.
Social	Other users	Materially better outcomes for other users of the sea – less disruption of other users than the removal base case.	Outcomes for other users of the sea are the same as the removal base case.	Materially worse outcomes for other users of the sea – greater disruption of other users than the removal base case.

### 3.2.2 RTM Anchors

#### 3.2.2.1 Infrastructure Overview

The RTM was held in place by a series of six mooring chains. Each mooring chain then connected to anchor legs. Each of the anchor legs is comprised of dual anchors, that is a leading anchor and a trailing anchor connected by an approximately 30 m chain (herein referred to collectively as the RTM anchor). The anchors and interconnecting chain are embedded to varying degrees in the seabed. The anchors are embedment-type anchors consisting of flukes, a shank and a padeye (**Figure 3-1**). The anchors were set within the seabed by tensioning a line attached to the anchor. The anchor design ensures that tension on the anchor leg encourages further embedment. The anchors are designed not to be removed.



**Figure 3-1: Components of a typical drag embedment type anchor**

The six RTM mooring anchor chain legs will be removed during the Griffin subsea infrastructure removal campaign under the Griffin Decommissioning and Field Management EP. The mooring chain will be cut at or below the mudline as close as practicable to the anchors. The 30 m interconnecting anchor chain joining the leading and trailing anchor (dual system) is also proposed to be left *in situ* with the dual anchors. In total there are 12 anchors deployed in pairs with interconnecting 30m anchor chain bridles.

For the decommissioning options assessment, the anchors were assumed to be buried with the exposed chains cut at or below the mudline as close as practicable to the anchor. The most recent ROV survey conducted in July 2023 confirmed that 11 of the 12 anchors were buried. One of the anchors Mooring 6 trailing anchor was not buried and shown to be exposed on the seabed, see Figure 4-2. Removal of the Mooring 6 trailing anchor is proposed, with attempts also made to remove the remaining 11 anchors and associated mooring chains. Only anchors and chain that are unable to be removed are proposed to be left *in situ*. The final number of anchors and length of chain to remain *in situ* will be determined after removal efforts have been made on RTM anchors and mooring chains, under the approved Griffin Decommissioning and Field Management EP.

### 3.2.2.2 Feasible Decommissioning Options

The technical feasibility of the decommissioning options for the RTM anchors is summarised in **Table 3-3**. The two feasible options identified were removal and left *in situ*.

**Table 3-3: Feasibility of the decommissioning options for the RTM anchors**

Decommissioning Option	Description of Feasibility
Removal	<p>Feasible</p> <p>The anchors were not designed to be removed; their purpose is to securely hold the RTM, which depends on their ability to remain securely embedded within the seabed. The removal option for the RTM anchors consists of removing each of the 12 anchors and 6 sections of interconnecting anchor chains each 30 m in length, by pulling them from the seabed in the opposite direction to which they were installed.</p> <p>This methodology involves:</p> <ul style="list-style-type: none"> <li>▪ Securing a line to the anchor leg using an ROV</li> <li>▪ Pulling the line in the opposite direction to which the anchor was installed until the anchor is dislodged from the seabed. Sediment relocation may be required around anchors to enable dislodgement.</li> </ul>

Decommissioning Option	Description of Feasibility
	<ul style="list-style-type: none"> <li>▪ Recovering the anchor from the seabed for onshore disposal</li> <li>▪ Making good the disturbance to the seabed from removal of the anchor</li> </ul>
Partial removal	<p style="background-color: #cccccc;">Not Feasible</p> <p>The RTM anchors are not amenable to being sectioned as 11 of the anchors and associated mooring chains are buried in the seabed.</p>
Left <i>in situ</i>	<p style="background-color: #c8e6c9;">Feasible</p> <p>The left <i>in situ</i> option will leave the RTM anchors and associated mooring chains in the seabed with the chains cut at or below the mudline as close as practicable to the anchors. No further monitoring or interventions would be undertaken. Removal of the RTM mooring six trailing anchor and RTM mooring anchor chains, with the exposed chain cut at or below the mudline as close as practicable to the anchor. This work will be conducted as part of an equipment removal campaign under the approved Griffin Decommissioning and Field Management EP.</p> <p>No vessel activities will be required as part of the left <i>in situ</i> option for the RTM anchors.</p>
Augmentation	<p style="background-color: #cccccc;">Not Feasible</p> <p>Augmentation relies on substantial habitat being provided by the existing equipment. The anchors are buried in the seabed with little or no available hard substrate to augment.</p>

**Table 3-4: Decommissioning Options Assessment for the RTM Anchors**

Criteria		Short <sup>3</sup> and Long-term Consideration	Option 1 Removal		Option 2 Left <i>in Situ</i>	
			Justification	Score	Justification	Score
Environment	Benthic Habitats	Short-term	<p>Removal of the RTM anchors will result in localised disturbance of the benthic habitats above and around the anchors.</p> <p>Disturbance to seabed from sediment relocation around the drag anchors and chains would be executed in such a way as to limit seabed disturbance to that required to uncover and dislodge each anchor.</p> <p>These habitats are comprised of unconsolidated sandy sediments dominated by infauna (<b>Section 5.3.2</b>). As described in <b>Section 5.3.2</b>, this habitat is very widely represented in the region and does not hold significant conservation value.</p> <p>If dredging is required to create a removal path, relocation of ~115 m<sup>2</sup> per anchor is anticipated. This is expected to result in a minor, short-term effect to soft sediment benthic habitats.</p> <p>Removal is referred to as the base case; hence it is neither preferred nor not preferred.</p>	Neutral	<p>No activities would be required and therefore no disturbance to benthic habitats. Existing habitat retained.</p> <p>The preservation of benthic habitat results in this decommissioning option being preferred relative to removal.</p>	More Preferred
		Long-term	<p>Benthic habitats will return to bare sediment habitat over time following removal of the anchors, which will be consistent with the natural state prior to the Griffin development and the surrounding benthic habitat. Removal eliminates the release of degradation products. The environmental survey by Gardline (2015) did not observe historical seabed disturbance from installation. Some of the infrastructure, such as the flowlines, had become partially buried. These observations suggest natural sediment transport and</p>	Neutral	<p>The left <i>in situ</i> option will preserve the benthic habitats and associated species above and around the anchors. These unconsolidated sediment habitats and associated biota are widely represented in the region.</p> <p>Rust from corrosion of steel will be deposited in the sediments immediately around the anchors which are buried. This will occur over a prolonged period of time (hundreds to thousands of years) due to the low levels of oxygen in sediments and the protective effect of the bitumen paint and</p>	Neutral

<sup>3</sup> Short term considerations relate to short term impacts resulting from the decommissioning operations.



Criteria		Short <sup>3</sup> and Long-term Consideration	Option 1 Removal		Option 2 Left <i>in Situ</i>		
			Justification	Score	Justification	Score	
			deposition will remediate any disturbance to the seabed topography. As there would be no infrastructure remaining <i>in situ</i> , this removes any potential impacts in the long-term. Removal is referred to as the base case; hence it is neither preferred nor not preferred.			layers of corrosion. The steel used in the RTM anchors is carbon steel, with relatively low quantities of alloying materials (refer to sediment quality criterion for a consideration of sediment contamination). The majority of the degradation products will be buried and not readily available to biota.  Gardline (2015) observed a trend for increased infauna abundance around Griffin equipment, with the increase due to greater abundance of sipunculans and oligochaete worms; other components of the infauna communities near equipment were similar to reference sites ( <b>Section 5.3.2</b> ). Similar effects were observed around steel shipwrecks by Peyghan et al. (2023). However, these infauna observations were associated with equipment and wrecks that protruded from the sediment, and hence were potentially modifying sediment grain size characteristics through the effects on hydrodynamics. Grain size influences infauna community structure, so the changes in infauna community may be the result of changes in hydrodynamics and consequent changes to sediment characteristics rather than degradation. Given the anchors are buried, modification of sediment grain size characteristics is unlikely to occur. As such, the anchors are unlikely to materially modify the physical characteristics of the unconsolidated sediment habitat surrounding the anchors.	
	Marine Fauna	Short-term	The removal will entirely remove the RTM anchors. Relatively little of the anchors are exposed, with 11 of the 12 anchors found to be buried in sediment. Hence, there are very few, if any, sessile benthic fauna associated directly with the anchors.	Neutral	As there would be no activities required, this removes any potential impacts to marine fauna during decommissioning activities. Hence this option is preferred compared to removal.	More Preferred	

Criteria		Short <sup>3</sup> and Long-term Consideration	Option 1 Removal		Option 2 Left <i>in Situ</i>	
			Justification	Score	Justification	Score
			<p>The infauna with sparse epifauna associated with the unconsolidated sediment habitat above the anchors will be lost during removal activities. Mobile fauna that can move away from the disturbance (e.g., fishes) will be displaced rather than lost. The fauna impacted are widely represented in the region and not of significant conservation value (<b>Section 5.3.2</b>).</p> <p>Vessel and helicopters will generate noise in the air and underwater during decommissioning activities. The main source of noise would be from a DP vessel relating to use of DP thrusters. Listed threatened and migratory species that could be potentially impacts by noise and vibration may be present within the water column above the RTM anchors, primarily including cetaceans, sharks and turtles. The RTM anchors are located in a Humpback Whale migration Biologically Important Area (BIA), Pygmy Blue Whale distribution BIA and Whale Shark Foraging BIA.</p> <p>Given the noise levels associated with routine operations of the vessel, the potential impacts on marine fauna are unlikely to be significant and cause hearing impairment in marine mammals, reptiles or fishes, such as permanent and temporary threshold shifts (Popper et al., 2014; Southall et al., 2019, 2007). However, there is the potential for behavioural disturbance and masking to occur. Behavioural impacts will depend on the audible frequency range of each potential receptor in relation to the frequency of the noise, as well as the intensity of the noise.</p> <p>Removal of the anchors would be completed in 1-2 days, so any behavioural impacts would be restricted to during this time. It is considered noise generated by the vessel and helicopter activities may result in minor, localised, temporary impacts to marine fauna.</p> <p>Removal is referred to as the base case; hence it is neither preferred nor not preferred.</p>			

Criteria		Short <sup>3</sup> and Long-term Consideration	Option 1 Removal		Option 2 Left <i>in Situ</i>	
			Justification	Score	Justification	Score
		Long-term	<p>Marine fauna will recover rapidly following removal activities through natural recruitment and movement of animals. The benthic infauna sampling conducted by Gardline (2015) indicated that many species in the Griffin field appear widely distributed at low density. Hence, the impacts to infauna from removal would only affect a relatively small portion of the community and ecosystem services would not be affected.</p> <p>Removal is referred to as the base case; hence it is neither preferred nor not preferred.</p>	Neutral	<p>The left <i>in situ</i> option will leave the RTM anchors in the environment, which will degrade over time. Given the infrastructure is made from steel and buried, impacts of degradation on benthic infauna will be negligible. Iron and carbon, which are over 98% of the anchors by mass (<b>Table 4-5</b>) pose little risk to the environment. Iron (II) and (III) oxides (i.e., rust) are listed by the OSPAR Commission as posing little or no risk to the environment (PLONOR) and an extensive review by Johnson et al. (2007) found no evidence of toxic effects of iron in marine sediments. The other alloying materials are not recognised as sediment toxicants by the <i>Australian and New Zealand Guidelines for Fresh and Marine Water Quality</i> (Commonwealth of Australia and New Zealand Government, 2018).</p> <p>The majority of the degradation products from the anchors will be buried and will not interact with marine fauna. In-fauna have the greatest likelihood of interacting with degradation products given their associated with sediments. Most infauna are restricted to the upper 30 cm of sediment (Kristensen et al., 2012). As a result, they are unlikely to interact with the majority of the degradation products, and the degradation products that infauna may interact with pose little risk of environmental impact. Given the gradual degradation process over a long duration, impacts to benthic infauna are expected to be negligible. Hence this option is neutral compared to removal.</p>	Neutral
	GHG Emissions	Short-term	<p>Atmospheric emissions will be generated by the vessel from internal combustion engines (including all equipment and generators) and incineration activities (including on-board incinerators). Emissions</p>	Neutral	<p>As there would be no activities, this removes any potential for atmospheric emission from incineration and fuel combustion.</p> <p>Hence this option is preferred compared to removal.</p>	More Preferred

Criteria		Short <sup>3</sup> and Long-term Consideration	Option 1 Removal		Option 2 Left <i>in Situ</i>	
			Justification	Score	Justification	Score
			will include SO <sub>2</sub> , NO <sub>x</sub> , ozone-depleting substances, CO <sub>2</sub> , particulates and volatile organic compounds. Given the short duration of the activity and exposed location of the RTM anchors which will lead to the rapid dispersion of the low volumes of atmospheric emissions in an offshore environment, the potential impacts are expected to be negligible. Removal is referred to as the base case; hence it is neither preferred nor not preferred.			
		Long-term	As there would be no activities, this removes any potential for atmospheric emission from incineration and fuel combustion. Removal is referred to as the base case; hence it is neither preferred nor not preferred.	Neutral	As there would be no activities, this removes any potential for atmospheric emission from incineration and fuel combustion. Hence this option is neutral compared to the removal.	Neutral
	Materials Management	Short-term	The removal option provides the opportunity to re-use, repurpose or recycle the RTM mooring anchors. These all sit above disposal in the waste management hierarchy. Removal is referred to as the base case; hence it is scored neutral.	Neutral	There is no opportunity to reuse or repurpose the RTM anchors. This option scores lower in the waste management hierarchy than removal, hence it is less preferred.	Less Preferred
		Long-term	The removal option provides the opportunity to re-use, repurpose or recycle the RTM mooring anchors. These all sit above disposal in the waste management hierarchy. Removal is referred to as the base case; hence it is scored neutral.	Neutral	There is no opportunity to reuse, repurpose or recycle the RTM anchors. This option scores lower in the waste management hierarchy than removal, hence it is less preferred.	Less Preferred
	Sediment Quality	Short-term	Elimination of seabed disturbance is not possible, as the RTM anchors are predominately buried. Some sediment relocation may be required to remove the anchors from the seabed. This will result in sediment resuspension and may result in some	Neutral	As there would be no activities required, this removes any potential impacts to sediment quality during decommissioning activities. Hence this option is preferred compared to removal.	More preferred

Criteria		Short <sup>3</sup> and Long-term Consideration	Option 1 Removal		Option 2 Left <i>in Situ</i>	
			Justification	Score	Justification	Score
			<p>modification of the particle size distribution (i.e., a reduction in the portion of fine sediments) and localised depressions in the seabed. Recovery to natural conditions is expected to occur through natural sediment transport processes within years, predominantly through redistribution of local sediments by tidal currents as bedload.</p> <p>Seabed disturbance associated with removal of the RTM anchors is expected to be localised, resulting in a minor short-term effect on sediment quality.</p> <p>Removal is referred to as the base case; hence it is scored neutral.</p>			
	Long-term	<p>As there would be no infrastructure remaining <i>in situ</i>, this removes any potential impacts in the long term.</p> <p>Removal is referred to as the base case; hence it is scored neutral.</p>	Neutral	<p>The degradation of the RTM anchors will impact upon sediments. Degradation will release material among seabed sediments over the course of hundreds to thousands of years.</p> <p>The RTM anchors consist mainly of steel, and the anchors are buried within the seabed. Corrosion products will be concentrated in the sediments around the anchors and will not be readily available to fauna in the upper 30 cm, where most infauna occur (Kristensen et al., 2012). Iron and carbon, which are over 98% of the anchors by mass (<b>Table 4-5</b>) pose little risk to the environment. Iron (II) and (III) oxides (i.e., rust) are listed by the OSPAR Commission as posing little or no risk to the environment (PLONOR) and an extensive review by Johnson et al. (2007) found no evidence of toxic effects of iron in marine sediments. The other alloying materials are not recognised as sediment toxicants by the <i>Australian and New Zealand Guidelines for Fresh and Marine Water Quality</i> (Commonwealth of Australia and New Zealand Government, 2018).</p> <p>This option is less preferred compared to removal.</p>	Less Preferred	

Criteria		Short <sup>3</sup> and Long-term Consideration	Option 1 Removal		Option 2 Left <i>in Situ</i>	
			Justification	Score	Justification	Score
Water Quality	Short-term	<p>Removal of the anchors will result in substantial resuspension of sediments as the anchors are pulled from the seabed and recovered to a vessel. This will result in a short-term increase in suspended sediments in the water column, which will return to normal levels within days following completion of the activity.</p> <p>Vessel operations for the removal base case will result in utility discharges. Impacts to water quality from vessel utility discharges may include:</p> <ul style="list-style-type: none"> <li>▪ Increases in nutrients,</li> <li>▪ Increased biochemical oxygen demand,</li> <li>▪ Increased turbidity,</li> <li>▪ Reduced visual amenity, and</li> <li>▪ Increases in potential contaminants such as hydrocarbons and chemicals.</li> </ul> <p>The open water environment receiving utility discharges is expected to result in rapid mixing of utility discharges from vessels. As a result, the potential impacts to water quality will be highly localised and restricted to the immediate area (i.e., 10's to 100's of metres) around the discharge point.</p> <p>Removal is referred to as the base case; hence it is neither preferred nor not preferred.</p>	Neutral	As there would be no activities required, this removes any potential impacts to water quality during decommissioning activities. Hence this option is preferred compared to removal.	More Preferred	
	Long-term	<p>No impacts to water quality following completion of the removal activities.</p> <p>Removal is referred to as the base case; hence it is neither preferred nor not preferred.</p>	Neutral	No impacts to water quality in the long-term. The degradation products are insoluble in seawater, and Gardline (2015) found no evidence of increased metals (e.g., iron) near infrastructure compared to reference sites. Hence this option is equally preferred compared to removal.	Neutral	

Criteria		Short <sup>3</sup> and Long-term Consideration	Option 1 Removal		Option 2 Left <i>in Situ</i>	
			Justification	Score	Justification	Score
Social	Other Users	Short-term	<p>Several State and Commonwealth-managed commercial fishery management areas overlap the EMBA and whilst fishing effort is reported as low, the State managed Pilbara Line Fishery have recently recorded fishing effort (<b>Section 5.6.2</b>). The presence of a vessel used for decommissioning activities may restrict the use of the area by commercial fisheries.</p> <p>However, because the vessel will only be in the area for short periods over a defined amount of time, and because the fisheries areas extend beyond that of the RTM anchor locations, impacts during decommissioning activities would be considered negligible.</p> <p>No shipping fairways intercept the area (<b>Section 5.6.6</b>). Shipping density at the RTM anchor locations is low. Due to the temporary nature of the decommissioning activity and low shipping density, impacts are expected to be negligible. Removal is referred to as the base case; hence it is scored neutral.</p>	Neutral	No potential for displacement of other users as no vessel activities required. Hence this option is preferred to removal.	More Preferred
		Long-term	<p>Removal of the RTM anchors results in no long-term interactions with current third-party marine users and activities.</p> <p>Removal is referred to as the base case; hence it is scored neutral.</p>	Neutral	<p>The <i>in situ</i> left of the RTM anchors introduces potential for interactions with commercial fishers. For trawl fishers this may result in displacement from the immediate area around the RTM anchors, noting the infrastructure will be marked on navigational charts to reduce likelihood of a potential interaction/'snag'.</p> <p>The <i>in situ</i> left of the RTM anchors may present a snag risk to trawl fishing vessels in the North West fishing region currently or in the future. The potential for unplanned interactions with other marine users is assessed below in the evaluation of unplanned activities and risks (<b>Section 8.1.3</b>)</p> <p>The RTM anchors may become partially or fully buried over time due to surrounding hydrodynamic</p>	Less Preferred

Criteria		Short <sup>3</sup> and Long-term Consideration	Option 1 Removal		Option 2 Left <i>in Situ</i>	
			<i>Justification</i>	<i>Score</i>	<i>Justification</i>	<i>Score</i>
					conditions and will eventually fully degrade into seabed sediments ( <b>Section 8.3.3</b> ). Whilst trawl fishing effort within the EMBA is currently low/negligible ( <b>Table 5-9</b> ) fishing effort in this region may increase over time.	



### 3.2.2.3 Summary of Decommissioning Options Assessment

A summary of the decommissioning options assessment for the RTM anchors is provided in **Table 3-5**. The assessment indicates that left *in situ* results in equal or better environmental outcome than removal of the RTM anchors. It is therefore recommended that the RTM anchors are permanently decommissioned *in situ*.

The feasible decommissioning options have been demonstrated to align with the principles of ESD as summarised in **Table 3-6**. **Table 3-7** provides an assessment of the decommissioning options against identified relevant legislation and guidelines.

**Table 3-5: Summary of the Decommissioning Options Assessment for the RTM Anchors**

Criteria		Removal		Left <i>In Situ</i>	
		Short Term	Long Term	Short Term	Long Term
Environment	Benthic Habitats	Neutral	Neutral	More Preferred	Neutral
	Marine Fauna	Neutral	Neutral	More Preferred	Neutral
	GHG Emissions	Neutral	Neutral	More Preferred	Neutral
	Materials Management	Neutral	Neutral	Less Preferred	Less Preferred
	Sediment Quality	Neutral	Neutral	More Preferred	Less Preferred
	Water Quality	Neutral	Neutral	More Preferred	Neutral
Social	Other Users	Neutral	Neutral	More Preferred	Less Preferred

**Table 3-6: Alignment with Principles of ESD for decommissioning of the RTM Anchors**

Principle of ESD	Removal	Left <i>In Situ</i>
<p>Decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations</p>	<p>The decision-making process by which the feasible decommissioning options for the RTM anchors were assessed considers environmental (e.g., water and sediment quality), social (e.g., the rights of other users of the marine environment) and equitable (e.g., the rights of other users of the marine environment) criteria. Short-term (i.e., during decommissioning activities) and long-term (i.e., following the decommissioning activities) timeframes have been explicitly considered in the options assessment. Woodside has considered the economics of the feasible decommissioning options; however, this is not presented in the assessment as NOPSEMA’s <i>Section 572 Maintenance and Removal of Property (2022b)</i> policy only considers the relative environmental outcomes of decommissioning options. Hence, the assessment of the feasible decommissioning options including both removal and left <i>in situ</i> is consistent with this principle of ESD.</p>	
<p>If there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation</p>	<p>As described in the options assessment presented above, there are short term impacts and risks associated with the removal option including those arising from vessel use and the anchor removal itself (seabed disturbance, disturbance to benthic habitats and infauna). Removal of the RTM anchors removes the long-term impacts associated with leaving the anchors <i>in situ</i>, such as possible future displacement of trawl fishers or snagging of trawl nets on the infrastructure and long-term corrosion and release of materials into the marine environment. There is no threat of serious or irreversible damage associated with removal of the RTM anchors. Hence, the assessment of the removal is consistent with this principle of ESD.</p>	<p>The left <i>in situ</i> option will result in the degradation of the RTM anchors over hundreds to thousands of years. The materials from which the anchors are made are well known, including the relative portions of alloying materials in the steel, none of which have established guideline values for sediments in the <i>Australian and New Zealand Guidelines for Fresh and Marine Water Quality</i> (Commonwealth of Australia and New Zealand Government, 2018). Degradation causes (e.g., galvanic and microbial induced corrosion) are well understood. Eleven of the 12 anchors were found to be buried within the sediments.</p> <p>Given the nature and scale of potential environmental impacts from degradation of RTM anchors, there is no threat of serious or irreversible environmental damage from the left <i>in situ</i> option. Hence, the assessment of the left <i>in situ</i> option is consistent with this principle of ESD.</p>
<p>The principle of inter-generational equity – that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations</p>	<p>Removal of the RTM anchors will cause disturbance of the seabed, but this will recover over time through natural sedimentary processes. There are no long-term impacts to the environment that would impact upon the health, diversity and productivity of the environment. Hence, the assessment of the removal is consistent with this principle of ESD.</p>	<p>The left <i>in situ</i> of the RTM anchors will not reduce the health, diversity and productivity of the environment such that future generations would not benefit from the environment. The left <i>in situ</i> of the RTM anchors affects a small area of the seabed and the locations of the anchors is known. Any future uses of the seabed (e.g., installation of offshore structures) can avoid the RTM anchors, and any such displacement of future uses would be on the scale of tens to hundreds of metres only. The anchors are expected to remain buried in perpetuity. Hence, the assessment of the left <i>in situ</i> option is consistent with this principle of ESD.</p>

Principle of ESD	Removal	Left <i>In Situ</i>
<p>The conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making</p>	<p>The environmental criteria either relate to biological diversity and ecological integrity (e.g., fauna, benthic habitat) or are strongly connected to biological diversity and ecological integrity (e.g., water and sediment quality). Hence, the assessment of the feasible decommissioning options including both removal and left <i>in situ</i> is consistent with this principle of ESD.</p>	
<p>Improved valuation, pricing and incentive mechanisms should be promoted</p>	<p>Woodside’s waste management hierarchy incentivises the reuse, repurposing and recycling of the RTM anchors. These arrangements are reflected in Woodside’s contracting strategies. Removal of the RTM anchors provides the greatest potential for reuse, repurposing and recycling compared to left <i>in situ</i> option. The left <i>in situ</i> decommissioning option scores relatively poorly when compared to the removal. Hence, the assessment of the feasible decommissioning options including both removal and left <i>in situ</i> is consistent with this principle of ESD.</p>	

**Table 3-7: Assessment of relevant legislation and guidelines for RTM Anchors**

Legislation/Guidelines Relevant clause/requirement	Removal	Left <i>In Situ</i>
<b><i>Offshore Petroleum and Greenhouse Gas Storage (OPGGS) Act 2006</i></b>		
<ul style="list-style-type: none"> <li>▪ Section 572 requires titleholders to remove structures, equipment and property that are no longer being used in connection with operations authorised by the title (subject to any other provisions of the Act, the regulations, a direction by NOPSEMA and any other law).</li> <li>▪ Section 270 requires titleholders to remove all infrastructure before the title can be surrendered or to make alternative arrangements that are satisfactory to NOPSEMA in relation to that infrastructure.</li> </ul>	<p>The removal of the RTM anchors meets requirements under the OPGGS Act for removal from the title area.</p>	<p>The case for leaving the infrastructure <i>in situ</i> needs to be to the satisfaction of NOPSEMA and approved through acceptance of an EP.</p>
<b><i>Offshore Petroleum and Greenhouse Gas Storage (OPGGS) (Environment) Regulations 2023</i></b>		
<p>Under the OPGGS Act 2006, the Environment Regulations 2023 ensure that any petroleum activity or greenhouse gas activity carried out in an offshore area is:</p> <ul style="list-style-type: none"> <li>▪ Carried out in a manner consistent with the principles of ecologically sustainable development set out in section 3A of the EPBC Act.</li> <li>▪ Carried out in a manner by which the environmental impacts and risks of the activity will be reduced to as low as reasonably practicable (ALARP).</li> <li>▪ Carried out in a manner by which the environmental impacts and risks of the activity will be of an acceptable level.</li> </ul>	<p>Removal meets commitments under the Environment Regulations for removal from the title area.</p>	<p>Leaving infrastructure <i>in situ</i> meets requirements under the Environment Regulations for petroleum and greenhouse gas activities carried out in an offshore area as follows:</p> <ul style="list-style-type: none"> <li>▪ This EP contains an assessment that determines consistency with the principles defined in Section 3A of the EPBC Act for partial removal of infrastructure.</li> <li>▪ This EP contains an ALARP assessment for all environmental impacts and risks.</li> <li>▪ This EP contains an evaluation that environmental impacts and risks relating to left <i>in situ</i> of infrastructure will be carried out to an acceptable level.</li> </ul>

Legislation/Guidelines Relevant clause/requirement	Removal	Left <i>In Situ</i>
<b>Offshore Petroleum Decommissioning Guideline (DISR, 2022)</b>		
<p>The Offshore Petroleum Decommissioning Guideline (DISR, 2022) (the Decommissioning Guidelines) proposes that removal of infrastructure is the default decommissioning requirement under the OPGGS Act, this notwithstanding, decommissioning options other than removal may be considered; however, the titleholder must demonstrate in permissioning documents that the alternative approach delivers equal or better environmental outcomes compared to complete removal and other applicable laws.</p>	<p>Removal meets default decommissioning requirement under the Guideline for removal from the title area.</p>	<p>The decommissioning <i>in situ</i> option is shown to yield equal or better environmental outcomes than removal and the option is the petroleum activity proposed in this EP. This EP identifies a range of relevant requirements (e.g., <b>Section 2</b>). Demonstrations that the petroleum activity will comply with relevant requirements are made throughout the EP (e.g., the acceptability demonstrations in the assessment of environmental impacts).</p>
<b>NOPSEMA Policy on Section 572 (NOPSEMA, 2022b)</b>		
<p>NOPSEMA's policy on S572 (NOPSEMA, 2022b) proposes that a deviation from removal can be sought via an EP where the titleholder demonstrates that the arrangements for the alternative approach are acceptable arrangements other than removal of property will only be accepted where they are appropriate having regard to applicable legislation, relevant Australian Government guidelines and policy.</p> <p>Specifically, the titleholder must demonstrate that the alternative decommissioning approach meets all applicable requirements under the OPGGS Act and regulations, any other legislative requirement, and relevant international obligations.</p>	<p>Removal meets 'base case' requirements for decommissioning.</p>	<p>The EP identifies a range of relevant requirements (e.g., <b>Section 2</b>), including relevant Australian Government guidelines and policy. Demonstrations that the petroleum activity (i.e., decommissioning <i>in situ</i>) will comply with relevant requirements are made throughout the EP (e.g., the acceptability demonstrations in the assessment of environmental impacts).</p>
<b>Environment Protection and Biodiversity Conservation Act 1999</b>		
<p>The EPBC Act requires that the petroleum activity consider:</p>	<p>Removal of infrastructure meets requirements under the Act, as:</p>	<p>Left <i>in situ</i> of infrastructure meets requirements under the Act, as:</p>

<b>Legislation/Guidelines</b> <b>Relevant clause/requirement</b>	<b>Removal</b>	<b>Left <i>In Situ</i></b>
<ul style="list-style-type: none"> <li>▪ Matters of national environmental significance, such as threatened and migratory species and the Commonwealth marine environment.</li> <li>▪ The principles of ESD.</li> </ul>	<ul style="list-style-type: none"> <li>▪ It will not likely result in unacceptable impacts to MNES, such as threatened or migratory fauna or the Commonwealth marine environment.</li> <li>▪ It is not inconsistent with plans made under the Act (e.g., recovery and threat abatement plans)</li> <li>▪ It is consistent with the principles of ESD.</li> </ul>	<ul style="list-style-type: none"> <li>▪ It will not likely result in unacceptable impacts to MNES, such as threatened or migratory fauna or the Commonwealth marine environment.</li> <li>▪ It is not inconsistent with plans made under the Act (e.g., recovery and threat abatement plans)</li> <li>▪ It is consistent with the principles of ESD.</li> </ul> <p>Demonstrations of the points above are provided throughout the EP (e.g., the acceptability demonstrations in the assessment of environmental impacts)</p>
<p><b><i>Environment Protection (Sea Dumping) Act 1981</i></b></p>		
<p>Section 10A of the <i>Environment Protection (Sea Dumping) Act 1981</i> requires a permit to be obtained for the dumping of controlled material into Australian waters. 'Controlled material' is defined in the <i>Environment Protection (Sea Dumping) Act 1981</i> as 'waste or other material (within the meaning of the Protocol [meaning the London Protocol])'.</p> <p>The London Protocol states that sea dumping does not include "the left in the sea of matter (e.g., cables pipelines and marine research devices) placed for a purpose other than the mere disposal thereof".</p>	<p>Removal of infrastructure does not trigger any requirements under the <i>Environment Protection (Sea Dumping) Act 1981</i>, considering infrastructure will be removed from the marine environment.</p>	<p>Prior to permanently leaving any structure considered in this EP <i>in situ</i>, Woodside anticipates obtaining a Sea Dumping Permit in accordance with the requirements of the <i>Environment Protection (Sea Dumping) Act 1981</i>.</p>
<p><b><i>International Maritime Organisation (IMO) Resolution A.672(16) - Guidelines and standards for the Removal of Offshore Installations and Structures on the Continental Shelf and the Exclusive Economic Zone adopted 1989<sup>1</sup></i></b></p>		
<p>Relevant paragraphs of IMO Resolution A.672 (16) contain the following requirements:</p> <ul style="list-style-type: none"> <li>▪ Infrastructure within specified water depths (above 75 and 100 m) should be completely removed (paragraphs 3.1 and 3.2).</li> </ul>	<p>Meets requirements for removal of abandoned or disused installations or structures.</p>	<p>Leaving the infrastructure meets all the relevant requirements of IMO Resolution A.672 (16) as follows:</p> <ul style="list-style-type: none"> <li>▪ The depth of water where the infrastructure is located is approximately 130 m and therefore deeper than the depths paragraphs 3.1 and 3.2 recommend removal.</li> <li>▪ Physical presence of the infrastructure will not result in a potential impact greater than a minor disturbance to other users as assessed in <b>Section 8.1</b>. No concerns</li> </ul>

Legislation/Guidelines Relevant clause/requirement	Removal	Left <i>In Situ</i>
<ul style="list-style-type: none"> <li>▪ Infrastructure left <i>in situ</i> should not cause unjustifiable interference with other uses of the sea (paragraph 3.4.2).</li> <li>▪ Structures left <i>in situ</i> should be marked on navigational charts (paragraph 3.8).</li> <li>▪ Structures left <i>in situ</i> should remain on location and not move (paragraph 3.9).</li> <li>▪ Structures left <i>in situ</i> should be monitored, as necessary, for compliance against these guidelines (paragraph 3.10).</li> <li>▪ Responsibility for maintenance and liability for future damages from structures left <i>in situ</i> should be clearly established (paragraph 3.11).</li> </ul>		<p>or objections regarding physical presence of the infrastructure have been raised by relevant stakeholders.</p> <ul style="list-style-type: none"> <li>▪ Through this EP, Woodside commits to notifying Australian Hydrographic Office (AHO) to ensure the infrastructure remain marked on navigation charts, refer to <b>Section 8.1</b> (paragraph 3.8).</li> <li>▪ The infrastructure is located in a fixed position buried below the seabed and will therefore not move from this location, refer to <b>Section 0</b> (paragraph 3.9).</li> <li>▪ Periodic monitoring has been determined not to be required to ensure ongoing compliance against IMO Resolution A.672 (16) (paragraph 3.10). This is on the basis that degradation of the subsea infrastructure will occur over a significantly long time period by which the rate of change is predicted to be slow and unlikely to be easily detected over short to medium timeframes making ongoing monitoring impractical.</li> <li>▪ No ongoing maintenance is required beyond decommissioning of the infrastructure. Section 270 of the OPPGS Act provides for the title to be relinquished, at which point Woodside’s responsibility for liability would cease. Demonstration against Section 270 requirements is summarised in Griffin Decommissioning and Field Management EP (paragraph 3.11).</li> </ul>

<sup>1</sup> IMO Resolution A.672(16) sets out the matters to be considered by State parties to United Nations Convention on the Law of the Sea (UNCLOS) when making decisions dealing with abandoned or disused installations on the Continental Shelf. Australia’s decommissioning policies consider the requirements of IMO Resolution A.672(16) (DISR, 2022)

### 3.2.3 Piled Foundations

#### 3.2.3.1 Infrastructure Overview

Four distribution skids and one pipeline end manifold (PLEM) structure were installed on top of piled foundations to ensure their stability on the seabed for the life of the Griffin development. There are five (5) piled foundations in total, one pile per distribution skid (four in total) and one pile for the PLEM (**Figure 3-2**).

The piled foundations are comprised of steel and concrete/cement. They are about 30” in diameter and vary from 23 m to 36 m in length, with up to 4 m extending above the seabed. The piles were installed in the seabed by driving/drilling and subsequently grouting. The piles were installed during construction of the Griffin field.

The distribution skids and PLEM that sat on top of the piled foundations will be removed as part of the Griffin subsea infrastructure removal campaign under the Griffin Decommissioning and Field Management EP. Therefore, the infrastructure considered as part of this decommissioning options assessment is the piled foundation, including the guide base and posts as shown in **Figure 3-3**.

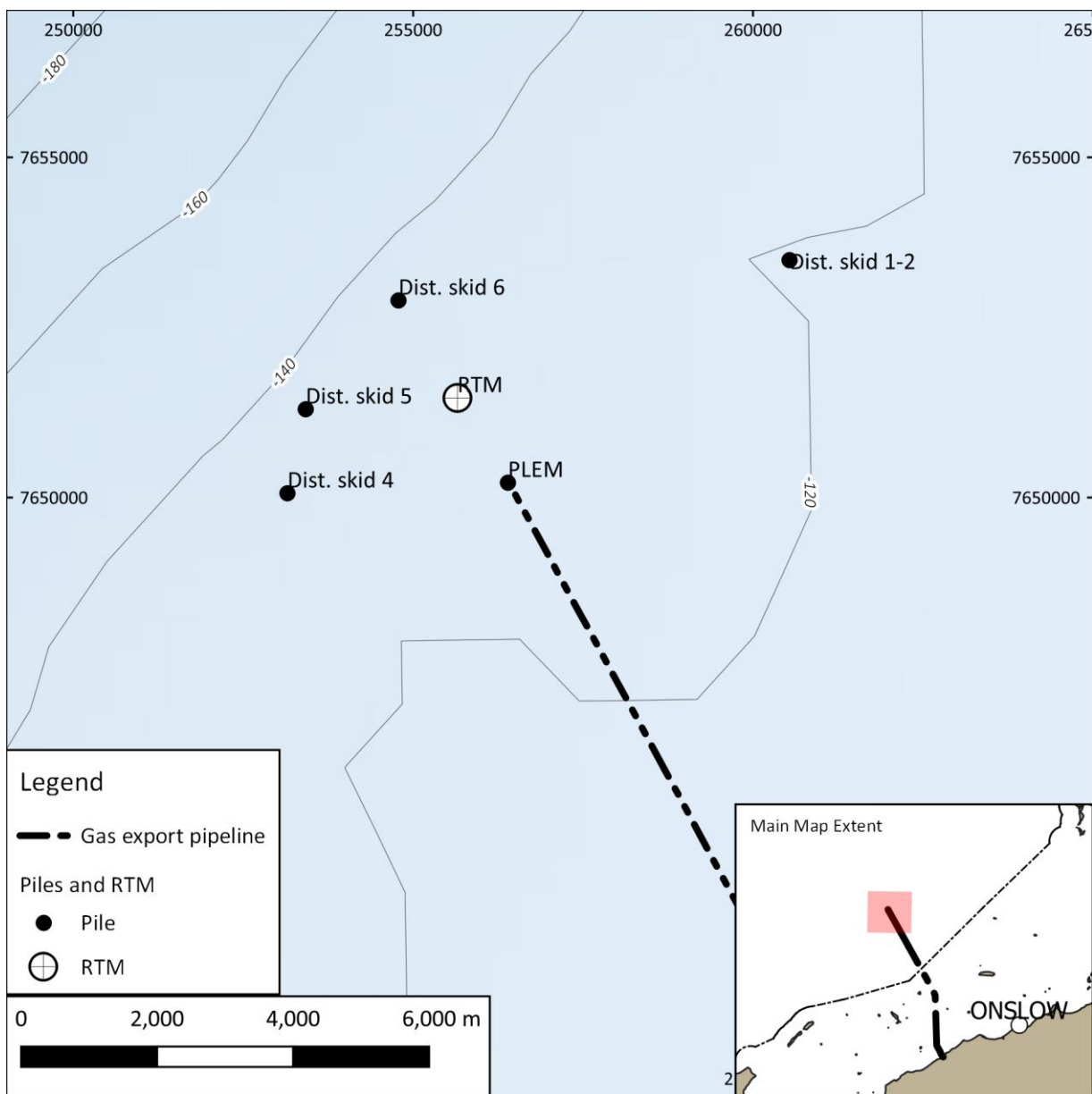


Figure 3-2: Location of the five piled foundations



### 3.2.3.2 Feasible Decommissioning Options

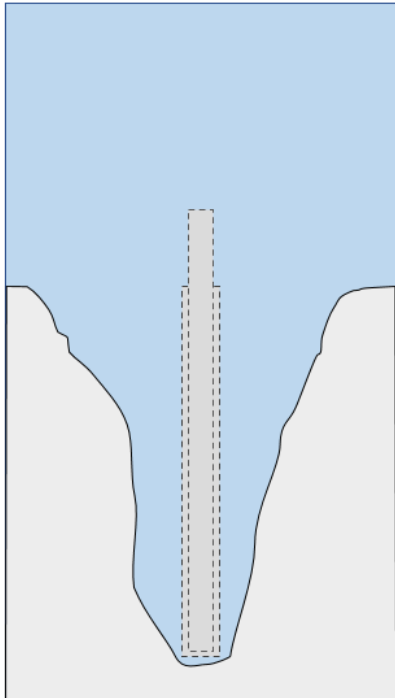
The technical feasibility of the decommissioning options for the piled foundations is summarised in **Table 3-8**. Three feasible options were identified including removal, partial removal and left *in situ*. A conceptual model of the feasible decommissioning options for the piled foundations is shown in **Figure 3-2**.

**Table 3-8: Feasibility of the decommissioning options for the Piled Foundations**

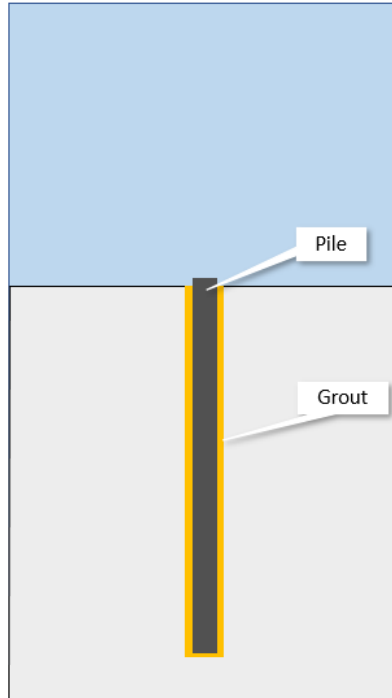
Decommissioning Option	Description of Feasibility
Removal	<p>Feasible</p> <p>The piles installed for the piled foundations were not designed to be removed; their purpose is to provide a secure foundation for the distribution skids and PLEM, which depends on their ability to remain securely embedded within the seabed.</p> <p>The piles (30 inches in diameter and vary from 23 m to 36 m in length) are assumed to be removed by vibrating each pile using a vibratory hammer to reduce the skin friction between the pile and the seabed. As the pile is vibrated it would be simultaneously pulled upwards to remove the pile from the seabed. Once free of the seabed, the pile will be recovered to a vessel for transport to shore. Once onshore, the piles will be disposed of as landfill.</p>
Partial removal	<p>Feasible</p> <p>Partial removal consists of cutting the pile below, or as close as practicable, to the mudline and removing the severed section of the pile. The recovered sections of the piles will be disposed of onshore. Partial removal may be done using an internal cutting tool inserted into the pile, which is expected to sever the pile below the mudline, leaving no part of the pile protruding above the seabed. This is Woodside's preferred partial removal method.</p> <p>Partial removal using an internal cutting tool may not be feasible, depending on access to, and the condition of, the interior of the pile. The interiors of the piles are unable to be inspected to confirm their condition until the distribution skids and PLEM are removed; hence the feasibility of internal cutting cannot be confirmed at the time of EP submission.</p> <p>An external cutting tool, such as a diamond wire cutter, may be used if internal cutting is not feasible. Partial removal using an external cutting tool may leave a portion of the pile (up to 1 m) protruding above the seabed.</p> <p>The decommissioning options evaluation for the piled foundations assumes partial removal using an internal cutting tool.</p>
Left <i>in situ</i>	<p>Feasible</p> <p>The left <i>in situ</i> option will leave the piled foundations as they are in the seabed following the removal of the distribution skid and PLEM structures. The left <i>in situ</i> option would also leave behind the surrounding temporary and permanent guide bases and posts which may extend up to 5 m above the mudline. No further monitoring or interventions would be undertaken.</p>
Augmentation	<p>Not Feasible</p> <p>The piled foundations are predominantly embedded in seabed, with little available hard substrate to augment</p>

### Equipment Group – Piled Foundations

a) Full Removal



b) Partial Removal



c) Abandonment *in situ*

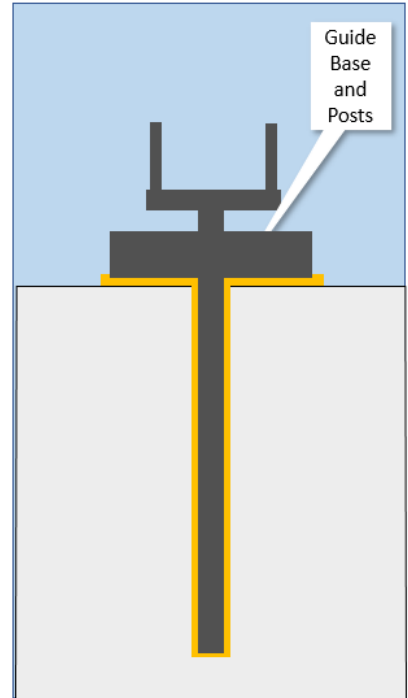


Figure 3-3: Artistic impression of feasible decommissioning options for piled foundations (images not to scale)

Table 3-9: Decommissioning Options Assessment for the Piled Foundations

Criteria		Short <sup>4</sup> and Long-term Consideration	Option 1 Removal		Option 2 Partial Removal		Option 3 Left <i>in Situ</i>	
			Justification	Score	Justification	Score	Justification	Score
Environment	Benthic Habitats	Short-term	Given the piled foundations are covered by distribution skids and the PLEM, any communities associated with the piles will be disrupted during removal of the skids and PLEM. The removal will disturb the benthic habitats around the piles. A hole in the seabed will remain following removal of the pile. Some slumping of sediments into this hole is expected to occur immediately following removal of the pile.  Removal is referred to as the base case; hence it is neither preferred nor not preferred.	Neutral	Given the piled foundations are covered by distribution skids and the PLEM, any communities associated with the piles will be disrupted during removal of the skids and PLEM. The partial removal option will result in some localised disturbance to sediments for the cutting tool to access the piles. The seabed disturbance will be substantially smaller than the removal base case. Hence, this option is preferred relative to the removal.	More preferred	The left <i>in situ</i> option will not result in benthic habitat disturbance in the short-term. Hence, this option is preferred relative to the removal.	More preferred
		Long-term	Benthic habitats will return to bare sediment habitat following removal of the piles - consistent with the natural state prior to the Griffin development. Removal eliminates the release of degradation products. The unconsolidated sediment habitat around the piles will recover over time. The environmental survey by Gardline (2015) did not observe historical seabed disturbance from installation. Some of the equipment, such as the flowlines, had become partially buried. These observations suggest natural sediment transport and deposition will remediate any disturbance to the seabed topography in less than 21 years (the time between installation and the Gardline inspection).  Removal is referred to as the base case; hence it is neither preferred nor not preferred.	Neutral	Degradation products from the buried section of the piles left by the partial removal option will not result in impacts to benthic habitats. These degradation products will largely be too deeply buried in sediments to come into contact with benthic habitats.  Degradation products from the piles will not result in impacts to benthic habitats. The majority of the degradation products will largely be deeply buried in sediments, with only degradation products of the section of the pile at the seabed coming into contact with benthic habitats.  Rust from corrosion of steel will be deposited in the sediments immediately around the piles. This will occur over a prolonged period of time (hundreds to thousands of years) due to the low levels of oxygen in sediments. The steel used in the piles is carbon steel, with relatively low quantities of alloying materials (refer to sediment quality criterion for a consideration of sediment contamination). The majority of the degradation products will be buried and not readily available to biota.  Given the exposed section of the pile will be removed, there will be little or no hard substrate remaining, hence there will be little or no increase in biodiversity of benthic biota associated with hard substrates.  Hence, this option is neutral compared to the removal.	Neutral	The left <i>in situ</i> option will preserve the hard substrate provided by the piles and guide bases. Hard substrate is uncommon in the region at the water depths of the Griffin field, and the retention of the piles and guide bases will provide substrate for attachment of sessile benthic invertebrates, such as those observed by Gardline (2015) on the Griffin equipment. The resulting communities around the piles and guide bases will have higher biodiversity and abundance than the surrounding unconsolidated sediment habitat. The communities will persist until the exposed part of the piles and guide bases are completely degraded (expected to be on a timescale of hundreds of years).  Degradation products from the piles and guide bases will not result in impacts to benthic habitats. The majority of the degradation products will largely be deeply buried in sediments, with only degradation products of the exposed sections of the piles and guide bases coming into contact with benthic habitats.  Rust from corrosion of steel will be deposited in the sediments immediately around the piles and guide bases which are mostly buried. This will occur over a prolonged period of time (hundreds to thousands of years) due to the low levels of oxygen in sediments. The steel used in the piles and guide bases is carbon steel, with relatively low quantities of alloying materials (refer to sediment quality criterion for a consideration of sediment contamination). The majority of the degradation products will be buried and not readily available to biota.	More preferred

<sup>4</sup> Short term considerations relate to short term impacts resulting from short duration vessel-based removal activities.

Criteria		Short <sup>4</sup> and Long-term Consideration	Option 1 Removal		Option 2 Partial Removal		Option 3 Left <i>in Situ</i>	
			Justification	Score	Justification	Score	Justification	Score
							<p>Gardline (2015) observed a trend for increased infauna abundance around Griffin infrastructure, with the increase due to greater abundance of sipunculans and oligochaete worms; other components of the infauna communities detected around the infrastructure were similar to those identified at reference sites (<b>Section 5.3.2</b>).</p> <p>Similar effects were observed around steel shipwrecks by Peyghan et al. (2023). However, these infauna observations were associated with infrastructure and wrecks that protruded from the sediment, and hence were potentially modifying sediment grain size characteristics through the effects on hydrodynamics.</p> <p>Grain size influences infauna community structure, so the changes in infauna community may be the result of changes in hydrodynamics and consequent changes to sediment characteristics rather than degradation.</p> <p>Abandoning the piles and guide bases <i>in situ</i> may result in modification of the grain size characteristics, with consequent effects on benthic habitats. Such effects would be limited to within 2-3 m of the pile given the pile dimension.</p> <p>Given the higher biodiversity and abundance as a result of the hard substrate provided by the pile, this option is preferred compared to the removal.</p>	
Marine Fauna	Short-term	<p>Marine fauna associated with the piles will be substantially disturbed by the removal of the PLEM and distribution skids during the removal campaign. The removal of the piles, which is assumed to occur during the removal campaign for other equipment, is not expected to result in additional impacts to fauna. Any sessile fauna associated with the piles will be lost, and mobile fauna are assumed to disperse away from the piles during the removal campaign.</p> <p>Vibration of the pile during removal will generate underwater noise, which may result in behavioural impacts to fauna, such as avoidance of the area around the piles.</p> <p>Removal is referred to as the base case; hence it is neither preferred nor not preferred.</p>	Neutral	<p>Marine fauna associated with the piles will be substantially disturbed by the removal of the PLEM and distribution skids during the removal campaign. The partial removal of the piles, which is assumed to occur during the removal campaign for other equipment, is not expected to result in additional impacts to fauna. Any sessile fauna associated with the piles will be lost, and mobile fauna are assumed to disperse away from the piles during the removal campaign.</p> <p>Cutting of the piles to remove the exposed section will generate underwater noise, however this will be substantially lower intensity and for shorter duration.</p> <p>Hence, this option is neutral compared to removal.</p>	Neutral	<p>Marine fauna associated with the piles and guide bases will be substantially disturbed by the removal of the PLEM and distribution skids during the removal campaign. The left <i>in situ</i> of the piles and guide bases is not expected to result in additional impacts to fauna in the short term.</p> <p>Mobile fauna, such as fish, may be attracted to the piles and guide bases, which provide shelter, and sessile fauna may begin to recruit to the exposed sections of the piles and guide bases in the short term. Hence, this option is neutral compared to removal.</p>	Neutral	
	Long-term	<p>The removal of the piles by the removal eliminates areas of hard substrate that would reasonably be expected to provide relatively complex benthic habitats for marine fauna in the future. The seabed</p>	Neutral	<p>The removal of the exposed sections of the piles by the partial removal option eliminates areas of hard substrate that would reasonably be expected to provide relatively complex benthic habitats for marine fauna in the future.</p>	Neutral	<p>Left <i>in situ</i> will preserve the exposed sections of the piles and guide bases, which will provide hard substrate for sessile benthic fauna and habitat for a range of species.</p>	More preferred	

Criteria	Short <sup>4</sup> and Long-term Consideration	Option 1 Removal		Option 2 Partial Removal		Option 3 Left <i>in Situ</i>	
		Justification	Score	Justification	Score	Justification	Score
		depression left following removal and seabed disturbance during partial removal will be colonised by organisms and is expected to become indistinguishable from the surrounding habitat over time. Removal is referred to as the base case; hence it is neither preferred nor not preferred.		Any seabed disturbance caused during the partial removal of the piles will be colonised by organisms and is expected to become indistinguishable from the surrounding habitat over time. Given the equipment is made from steel and buried, impacts of degradation on fauna will be negligible. Iron and carbon, which are over 98% of the piles by mass (Table 4-5) pose little risk to the environment. Iron (II) and (III) oxides (i.e., rust) are listed by the OSPAR Commission as posing little or no risk to the environment (PLONOR) and an extensive review by Johnson et al. (2007) found no evidence of toxic effects of iron in marine sediments. The other alloying materials are not recognised as sediment toxicants by the <i>Australian and New Zealand Guidelines for Fresh and Marine Water Quality</i> (Commonwealth of Australia and New Zealand Government, 2018). The majority of the degradation products from the piles will be buried and will not interact with fauna. Infauna have the greatest likelihood of interacting with degradation products given their associated with sediments. Most infauna are restricted to the upper 30 cm of sediment (Kristensen et al., 2012). As a result, they are unlikely to interact with the majority of the degradation products, and the degradation products that infauna may interact with pose little risk of environmental impact. Hence this option is neutral compared to removal.		Hard substrate (and associated habitat) is uncommon in the Griffin field, which is characterised by unconsolidated sediment habitat and associated infauna and epifauna assemblages (Gardline, 2015). Given the foundations are made from steel and partially buried, impacts of degradation on fauna are considered negligible. Iron and carbon, which are over 98% of the piles and guide bases by mass (Table 4-5) pose little risk to the environment. Iron (II) and (III) oxides (i.e., rust) are listed by the OSPAR Commission as posing little or no risk to the environment (PLONOR) and an extensive review by Johnson et al. (2007) found no evidence of toxic effects of iron in marine sediments. The other alloying materials are not recognised as sediment toxicants by the <i>Australian and New Zealand Guidelines for Fresh and Marine Water Quality</i> (Commonwealth of Australia and New Zealand Government, 2018). The majority of the degradation products from the piles and guide bases will be buried and will not interact with fauna. Infauna have the greatest likelihood of interacting with degradation products given their associated with sediments. Most infauna are restricted to the upper 30 cm of sediment (Kristensen et al., 2012). As a result, they are unlikely to interact with the majority of the degradation products, and the degradation products that infauna may interact with pose little risk of environmental impact. Hence, this option is preferred relative to the removal.	
GHG Emissions	Short-term	The removal would be implemented as part of an equipment removal campaign, with GHG emissions limited to the additional sea time required to complete the removal activities. Atmospheric emissions from vessels undertaking the removal will result in a localised decrease in air quality due to exhaust emissions from internal combustion engines. Fuel combustion onboard vessels will generate carbon dioxide emissions, which is a GHG. GHG emissions will result in indirect environmental impacts from climate change. Removal is referred to as the base case; hence it is neither preferred nor not preferred.	Neutral	Like the removal base case, the partial removal option would be implemented as part of an equipment removal campaign. The duration of the partial removal activity would be shorter than the removal base case, however the GHG emissions from both would be similar in nature and scale. Hence, the partial removal option is neutral compared to removal.	Neutral	The left <i>in situ</i> option does not generate GHG or atmospheric emissions during the removal campaign. Hence this decommissioning option is preferred compared to removal.	More preferred
	Long-term	No GHG emissions (excluding waste management) following removal of the piles.	Neutral	No GHG emissions (excluding waste management) following partial removal of the piles.	Neutral	The left <i>in situ</i> option does not generate or offset GHG or atmospheric emissions following the removal campaign. Hence this	Neutral

Criteria	Short <sup>4</sup> and Long-term Consideration	Option 1 Removal		Option 2 Partial Removal		Option 3 Left <i>in Situ</i>		
		Justification	Score	Justification	Score	Justification	Score	
			Removal is referred to as the base case; hence it is neither preferred nor not preferred.		This option is neither preferred nor not preferred.		decommissioning option is neutral compared to removal.	
Materials Management	Short-term		The removal provides the opportunity to repurpose or recycle the piled foundations. These both sit above disposal in the waste management hierarchy. Removal is referred to as the base case; hence it is scored neutral.	Neutral	The partial removal option provides the opportunity to repurpose or recycle the exposed section of the pile, however most of the pile will remain buried in the seabed. Hence, there is less opportunity to divert the piles from disposal compared to the removal. Hence this decommissioning option is less preferred than removal.	Less preferred	There is no opportunity to reuse, repurpose or recycle the piles and guide bases when implementing the left <i>in situ</i> option. This decommissioning option scores lower in the waste management hierarchy than the removal. Hence this decommissioning option is less preferred than removal.	Less preferred
	Long-term		The removal provides the opportunity to repurpose or recycle the piled foundations. These both sit above disposal in the waste management hierarchy. Removal is referred to as the base case; hence it is scored neutral.	Neutral	The partial removal option provides the opportunity to repurpose or recycle the exposed section of the pile, however most of the pile will remain buried in the seabed. Hence, there is less opportunity to divert the piles from disposal compared to the removal; hence this decommissioning option is less preferred.	Less preferred	There is no opportunity to reuse, repurpose or recycle the piles and guide bases. The option scores lower in the waste management hierarchy than removal, hence it is less preferred.	Less preferred
Sediment Quality	Short-term		Some sediment relocation will occur to remove the piles. This will result in sediment resuspension and a hole in the seabed, which will fill due to slumping of sediments. Recovery to natural conditions is expected to occur through natural sediment transport processes within weeks to months. Removal is referred to as the base case; hence it is scored neutral.	Neutral	Short-term, localised sediment resuspension may occur during removal of the exposed sections of the piles. Recovery to natural conditions is expected to occur within hours. Hence this decommissioning option is more preferred than removal.	More preferred	No impacts to sediment quality in the short-term. Hence this decommissioning option is more preferred than removal.	More preferred
	Long-term		No impacts to sediment quality in the long term. Removal is referred to as the base case; hence it is scored neutral.	Neutral	The degradation of the section of the piles remaining in the seabed will impact upon sediments. Degradation will release material among seabed sediments over the course of hundreds to thousands of years. The remaining sections of the piles consist mainly of steel and cement and are buried within the seabed. Corrosion products will be concentrated in the sediments around the piles and will not be readily available to fauna in the upper 50 cm, where most fauna occur. Iron, the major component of the equipment, is not generally recognised as toxic in sediments and the <i>Australian and New Zealand Guidelines for Fresh and Marine Water Quality</i> (Commonwealth of Australia and New Zealand Government, 2018) do not provide a default guideline value or guideline value-high for this element. Other components of the steel alloys (e.g., carbon, manganese) do have guideline values published. These alloying materials are only present in the steel alloys in trace amounts. The cement grout in the pile is inert and does not contain potential contaminants.	Less preferred	The degradation of the piles and guide bases will impact upon sediments. Degradation will release material among seabed sediments over the course of hundreds to thousands of years. The piles and guide bases consist mainly of steel and concrete and are largely buried within the seabed. Corrosion products will be concentrated in the sediments around the piles and guide bases and very little will be readily available to fauna in the upper 50 cm, where most fauna occur. Iron, the major component of the steel, is not generally recognised as toxic in sediments and the <i>Australian and New Zealand Guidelines for Fresh and Marine Water Quality</i> (Commonwealth of Australia and New Zealand Government, 2018) do not provide a default guideline value or guideline value-high for this element. Other components of the steel alloys (e.g., carbon) do not have guideline values published. These alloying materials are only present in the steel alloys in trace amounts. The cement grout in the pile is inert and does not contain potential contaminants.	Less preferred

Criteria		Short <sup>4</sup> and Long-term Consideration	Option 1 Removal		Option 2 Partial Removal		Option 3 Left <i>in Situ</i>	
			Justification	Score	Justification	Score	Justification	Score
					This option is less preferred compared to removal.		This option is less preferred compared to removal.	
	Water Quality	Short-term	Removal of the piles will result in resuspension of sediments as the piles are pulled from the seabed and recovered to a vessel. This will result in a short-term increase in suspended sediments in the water column, which will return to normal levels within days following completion of the activity. The sediments in the Griffin field are characterised as sands and silts, which are expected to settle rapidly. Finer sediments will remain suspended for longer, and hence may be advected further from the removal location, however such fine sediments are a relatively small fraction of the sediments.  Vessel operations for the removal will result in utility discharges. Impacts to water quality from vessel utility discharges may include: <ul style="list-style-type: none"> <li>Increases in nutrients,</li> <li>Increased biochemical oxygen demand,</li> <li>Increased turbidity,</li> <li>Reduced visual amenity, and</li> <li>Increases in potential contaminants such as hydrocarbons and chemicals.</li> </ul> The open water environment receiving utility discharges is expected to result in rapid mixing of utility discharges from vessels. As a result, the potential impacts to water quality will be highly localised and restricted to the immediate area (i.e., 10's to 100's of metres) around the discharge point.  Removal is referred to as the base case; hence it is neither preferred nor not preferred.	Neutral	The partial removal option will result in minor disturbance of the seabed around the piled foundations. This will result in a temporary, localised decrease in water quality through resuspension of sediments, although this will be much less than the removal base option. Like the removal option, vessel-related discharges will occur during the partial removal activity. However, are expected to be of a shorter duration than the removal activity. Hence this decommissioning option is more preferred than removal.	More preferred	No impacts to water quality in the short-term. Hence this option is more preferred than removal.	More preferred
		Long-term	No impacts to water quality following completion of the removal activities. Removal is referred to as the base case; hence it is neither preferred nor not preferred.	Neutral	No impacts to water quality in the long-term. The degradation products are insoluble in seawater, and Gardline (2015) found no evidence of increased metals (e.g., iron) near equipment compared to reference sites. Hence this decommissioning option is equally preferred compared to removal.	Neutral	No impacts to water quality in the long-term. The degradation products are insoluble in seawater, and Gardline (2015) found no evidence of increased metals (e.g., iron) near equipment compared to reference sites. Hence this decommissioning option is equally preferred compared to removal.	Neutral
Social	Other Users	Short-term	Several State and Commonwealth-managed commercial fishery management areas overlap the EMBA and whilst fishing effort is reported as low, the State managed Pilbara Line Fishery have recently recorded fishing effort ( <b>Section 5.6.2</b> ). The presence of a vessel used for decommissioning activities may	Neutral	Several State and Commonwealth-managed commercial fishery management areas overlap the EMBA and whilst fishing effort is reported as low, the State managed Pilbara Line Fishery have recently recorded fishing effort ( <b>Section 5.6.2</b> ). The presence of a vessel used for decommissioning activities	Neutral	No potential for displacement of other users as no vessel activities required. Hence this decommissioning option is preferred to removal.	More preferred

Criteria	Short <sup>4</sup> and Long-term Consideration	Option 1 Removal		Option 2 Partial Removal		Option 3 Left <i>in Situ</i>	
		Justification	Score	Justification	Score	Justification	Score
		<p>restrict the use of the area by commercial fisheries.</p> <p>However, because the vessel will only be in the area for short periods over a defined amount of time, and because the fisheries areas extend beyond that of the piled foundation locations, impacts during decommissioning activities would be considered negligible.</p> <p>No shipping fairways intercept the area (<b>Section 5.6.6</b>). Shipping density at the piled foundation locations is low. Due to the temporary nature of the decommissioning activity and low shipping density, impacts are expected to be negligible. Removal is referred to as the base case; hence it is scored neutral.</p>		<p>may restrict the use of the area by commercial fisheries.</p> <p>However, because the vessel will only be in the area for short periods over a defined amount of time, and because the fisheries areas extend beyond that of the piled foundation locations, impacts during decommissioning activities would be considered negligible.</p> <p>No shipping fairways intercept the area (<b>Section 5.6.6</b>). Shipping density at the piled foundation locations is low. Due to the temporary nature of the decommissioning activity and low shipping density, impacts are expected to be negligible.</p> <p>Hence this option is neutral compared to removal.</p>			
	Long-term	<p>No impacts to other users following removal.</p> <p>Removal is referred to as the base case; hence it is scored neutral.</p>	Neutral	<p>No impacts to other users following partial removal.</p> <p>Hence this decommissioning option is neutral compared to removal.</p>	Neutral	<p>The left <i>in situ</i> option will retain the hard substrate provided by the piles and guide bases. This will provide habitat for fish species targeted by recreational and commercial fishers (McLean et al, 2022), although the number of fish will be negligible given the size and locations of the piles and guide bases.</p> <p>The piles and guide bases pose a snagging risk to trawled fishing equipment. The most active trawl fishery in the region is the Pilbara Fish Trawl managed fishery. This fishery is prohibited from operating in the vicinity of the piles and guide bases (the piles and guide bases which currently lie outside the managed fishery areas within which trawling is permitted). The piles and guide bases occur in relatively small areas which would be easily avoidable by trawl fishers should such fishing activity commence in the future.</p> <p>Recreational fishing groups have expressed a preference for left <i>in situ</i> as a decommissioning option. However, the water depth and distance from shore makes fish resources in the Griffin field very difficult for recreational fishers to access.</p> <p>Hence this option is less preferred than removal.</p>	Less preferred



**3.2.3.3 Summary of Decommissioning Options Assessment**

A summary of the decommissioning options assessment for the piled foundations is provided in **Table 3-10**. The assessment indicates that partial removal results in equal or better environmental outcome than removal of the piled foundations. It is therefore recommended that the piled foundations are partially removed from the seabed.

The partial removal option satisfies the requirement in the Guideline: Offshore Petroleum Decommissioning (DISR, 2022) for decommissioning options to yield equal or better environmental outcomes than removal.

The feasible decommissioning options align with the principles of ESD, as summarised in **Table 3-11**. **Table 3-12** provides an assessment of the decommissioning options against identified relevant legislation and guidelines.

**Table 3-10: Summary of the Decommissioning Options Assessment for the Piled Foundations**

Criteria		Removal		Partial Removal		Left <i>In Situ</i>	
		Short Term	Long Term	Short Term	Long Term	Short Term	Long Term
Environment	Benthic Habitats	Neutral	Neutral	More preferred	Neutral	More preferred	More preferred
	Marine Fauna	Neutral	Neutral	Neutral	Neutral	Neutral	More preferred
	GHG Emissions	Neutral	Neutral	Neutral	Neutral	More preferred	Neutral
	Materials Management	Neutral	Neutral	Less preferred	Less preferred	Less preferred	Less preferred
	Sediment Quality	Neutral	Neutral	More preferred	Less preferred	More preferred	Less preferred
	Water Quality	Neutral	Neutral	More preferred	Neutral	More preferred	Neutral
Social	Other Users	Neutral	Neutral	Neutral	Neutral	More preferred	Less preferred

Table 3-11: Alignment with Principles of ESD for decommissioning of the Piled Foundations

Principle of ESD	Removal	Partial Removal	Left <i>In Situ</i>
<p>Decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations</p>	<p>The decision-making process by which the feasible decommissioning options for the PLEM and distribution skid piled foundations were assessed considers environmental (e.g., water and sediment quality), social (e.g., the rights of other users of the marine environment) and equitable (e.g., the rights of other users of the marine environment) criteria. Short-term (i.e., during removal campaign) and long-term (i.e., following the removal campaign) timeframes have been explicitly considered in the comparative assessment. Woodside has considered the economics of the feasible decommissioning options; however, this is not presented in the comparative assessment as the <i>Guideline: Offshore Petroleum Decommissioning</i> (DISR, 2022) only considers the relative environmental outcomes of decommissioning options. Hence, the assessment of the feasible decommissioning options is consistent with this principle of ESD.</p>		
<p>If there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation</p>	<p>The removal does not pose the risk of serious or irreversible environmental damage. Hence, the assessment of the removal is consistent with this principle of ESD.</p>	<p>The partial removal decommissioning option will result in the degradation of the buried section of the pile over hundreds to thousands of years. The materials from which the piles are made are well known, including the relative portions of alloying materials in the steel, none of which have established guideline values for sediments in the <i>Australian and New Zealand Guidelines for Fresh and Marine Water Quality</i> (Commonwealth of Australia and New Zealand Government, 2018). Degradation causes (e.g., galvanic and microbial induced corrosion) are well understood. The sections of the piles left following partial removal is deeply buried and are effectively entombed within the sediments.</p> <p>Given the nature and scale of potential environmental impacts from degradation of piles, there is no threat of serious or irreversible environmental damage from the partial removal option. Hence, the assessment of the partial removal option is consistent with this principle of ESD.</p>	<p>The abandon <i>in situ</i> decommissioning option will result in the degradation of each entire pile and guide bases over hundreds to thousands of years. The materials from which the piled foundations are made are well known, including the relative portions of alloying materials in the steel, none of which have established guideline values for sediments in the <i>Australian and New Zealand Guidelines for Fresh and Marine Water Quality</i> (Commonwealth of Australia and New Zealand Government, 2018). Degradation causes (e.g., galvanic and microbial induced corrosion) are well understood. The piles are deeply buried and are effectively entombed within the sediments.</p> <p>Given the nature and scale of potential environmental impacts from degradation of piles and guide bases, there is no threat of serious or irreversible environmental damage from the left <i>in situ</i> option. Hence, the assessment of the left <i>in situ</i> option is consistent with this principle of ESD.</p>
<p>The principle of inter-generational equity – that the present generation should ensure that the health,</p>	<p>The removal will cause disturbance of the seabed, but this will recover over time through natural sedimentary processes. There are no long-term impacts to the environment that would</p>	<p>The partial removal option will not reduce the health, diversity and productivity of the environment such that future generations would not benefit from the environment. The buried</p>	<p>The left <i>in situ</i> option will not reduce the health, diversity and productivity of the environment such that future generations would not benefit from the environment.</p>

Principle of ESD	Removal	Partial Removal	Left <i>In Situ</i>
<p>diversity and productivity of the environment is maintained or enhanced for the benefit of future generations</p>	<p>impact upon the health, diversity and productivity of the environment. Hence, the assessment of the removal is consistent with this principle of ESD.</p>	<p>sections of the piles that would remain <i>in situ</i> after partial removal affect a small area of the seabed and the locations of the piles is known. Any future uses of the seabed (e.g., installation of offshore structures) can avoid the piles, and any such displacement of future uses would be on the scale of tens of metres only. Hence, the assessment of the partial removal option is consistent with this principle of ESD.</p>	<p>The left <i>in situ</i> of the piles and guide bases affects a small area of the seabed and the locations of the piles is known. Trawling is not currently permitted in the location of the piled foundations and trawl fishers can avoid the piles and guide bases as long as the locations are known. Any future uses of the seabed (e.g., installation of offshore structures) can avoid the piles and guide bases, and any such displacement of future uses would be on the scale of tens to hundreds of metres only. Hence, the assessment of the left <i>in situ</i> option is consistent with this principle of ESD.</p>
<p>The conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making</p>	<p>The environmental criteria either relate to biological diversity and ecological integrity (e.g., fauna, benthic habitat) or are strongly connected to biological diversity and ecological integrity (e.g., water and sediment quality). Hence, the assessment of the feasible decommissioning options is consistent with this principle of ESD.</p>		
<p>Improved valuation, pricing and incentive mechanisms should be promoted</p>	<p>Woodside’s waste management hierarchy incentivises the reuse, repurposing and recycling of the piled foundations. These arrangements are reflected in Woodside’s contracting strategies. The removal option has the greatest potential for reuse, repurposing and recycling compared to left <i>in situ</i>. The partial removal and left <i>in situ</i> option scores relatively poorly when compared to the removal base case. Hence, the assessment of the feasible decommissioning options is consistent with this principle of ESD.</p>		

**Table 3-12: Assessment of relevant legislation and guidelines for the Piled Foundations**

Legislation/Guidelines Relevant clause/requirement	Removal	Partial Removal	Left <i>In Situ</i>
<b><i>Offshore Petroleum and Greenhouse Gas Storage (OPGGS) Act 2006</i></b>			
<p>Section 572 requires titleholders to remove structures, equipment and property that are no longer being used in connection with operations authorised by the title (subject to any other provisions of the Act, the regulations, a direction by NOPSEMA and any other law).</p> <p>Section 270 requires titleholders to remove all infrastructure before the title can be surrendered or to make alternative arrangements that are satisfactory to NOPSEMA in relation to that infrastructure.</p>	<p>Removal meets requirements under the Act for removal from the title area.</p>	<p>The case for partial removal involves removing property and leaving some infrastructure <i>in situ</i> and needs to be to the satisfaction of NOPSEMA and approved through acceptance of an EP.</p>	<p>The case for leaving the infrastructure <i>in situ</i> needs to be to the satisfaction of NOPSEMA and approved through acceptance of an EP.</p>
<b><i>Offshore Petroleum and Greenhouse Gas Storage (OPGGS) (Environment) Regulations 2023</i></b>			
<p>Under the OPGGS Act 2006, the Environment Regulations 2023 ensure that any petroleum activity or greenhouse gas activity carried out in an offshore area is:</p> <ul style="list-style-type: none"> <li>▪ Carried out in a manner consistent with the principles of ecologically sustainable development set out in section 3A of the EPBC Act.</li> <li>▪ Carried out in a manner by which the environmental impacts and risks of the activity will be reduced to as</li> </ul>	<p>Removal meets commitments under the Environment Regulations for removal from the title area.</p>	<p>Partial removal meets requirements under the Environment Regulations for petroleum and greenhouse gas activities carried out in an offshore area as follows:</p> <ul style="list-style-type: none"> <li>▪ This EP contains an assessment that determines consistency with the principles defined in Section 3A of the EPBC Act for partial removal of infrastructure.</li> <li>▪ This EP contains an ALARP assessment for all environmental impacts and risks.</li> <li>▪ This EP contains an evaluation that environmental impacts and risks relating to left <i>in situ</i> of infrastructure will be carried out to an acceptable level.</li> </ul>	<p>Leaving infrastructure <i>in situ</i> meets requirements under the Environment Regulations for petroleum and greenhouse gas activities carried out in an offshore area as follows:</p> <ul style="list-style-type: none"> <li>▪ This EP contains an assessment that determines consistency with the principles defined in Section 3A of the EPBC Act for partial removal of infrastructure.</li> <li>▪ This EP contains an ALARP assessment for all environmental impacts and risks.</li> <li>▪ This EP contains an evaluation that environmental impacts and risks relating to</li> </ul>

Legislation/Guidelines Relevant clause/requirement	Removal	Partial Removal	Left <i>In Situ</i>
<p>low as reasonably practicable (ALARP).</p> <p>Carried out in a manner by which the environmental impacts and risks of the activity will be of an acceptable level.</p>			<p>left <i>in situ</i> of infrastructure will be carried out to an acceptable level.</p>
<b>Offshore Petroleum Decommissioning Guideline (DISR, 2022)</b>			
<p>The Offshore Petroleum Decommissioning Guideline (DISR, 2022) (the Decommissioning Guidelines) proposes that removal of infrastructure is the default decommissioning requirement under the OPGGS Act, this notwithstanding, decommissioning options other than removal may be considered; however, the titleholder must demonstrate in permissioning documents that the alternative approach delivers equal or better environmental outcomes compared to complete removal and other applicable laws.</p>	<p>Removal meets default decommissioning requirement under the Guideline for removal from the title area.</p>	<p>An evaluation of the relative environmental impacts of decommissioning options relative to removal is provided in <b>Table 3-9</b>.</p>	<p>An evaluation of the relative environmental impacts of decommissioning options relative to removal is provided in <b>Table 3-9</b>.</p>
<b>NOPSEMA Policy on Section 572 (NOPSEMA, 2022b)</b>			
<p>NOPSEMA’s policy on S572 (NOPSEMA, 2022b) proposes that a deviation from the base case of removal can be sought via an EP where the titleholder demonstrates that the arrangements for the alternative</p>	<p>Removal meets ‘base case’ requirements for decommissioning under the Policy for removal from the title area.</p>	<p>The EP identifies a range of relevant requirements. Demonstrations that the petroleum activity will comply with relevant requirements are made throughout the EP (e.g., the acceptability demonstrations in the assessment of environmental impacts).</p>	<p>Woodside is not pursuing left <i>in situ</i> as an alternative arrangement to removal.</p>

Legislation/Guidelines Relevant clause/requirement	Removal	Partial Removal	Left <i>In Situ</i>
<p>approach are acceptable arrangements other than removal of property will only be accepted where they are appropriate having regard to applicable legislation, relevant Australian Government guidelines and policy.</p> <p>Specifically, the titleholder must demonstrate that the alternative decommissioning approach meets all applicable requirements under the OPGGS Act and regulations, any other legislative requirement, and relevant international obligations.</p>			
<b><i>Environment Protection and Biodiversity Conservation Act 1999</i></b>			
<p>The EPBC Act requires that the petroleum activity consider:</p> <ul style="list-style-type: none"> <li>▪ Matters of national environmental significance, such as threatened and migratory species and the Commonwealth marine environment.</li> <li>▪ The principles of ESD.</li> </ul>	<p>Removal of infrastructure meets requirements under the Act, as:</p> <ul style="list-style-type: none"> <li>▪ It will not result in unacceptable impacts to MNES, such as threatened or migratory fauna or the Commonwealth marine environment.</li> <li>▪ It is not inconsistent with plans made under the Act (e.g., recovery and threat abatement plans)</li> <li>▪ It is consistent with the principles of ESD.</li> </ul>	<p>Partial removal of infrastructure meets requirements under the Act, as:</p> <ul style="list-style-type: none"> <li>▪ It will not result in unacceptable impacts to MNES, such as threatened or migratory fauna or the Commonwealth marine environment.</li> <li>▪ It is not inconsistent with plans made under the Act (e.g., recovery and threat abatement plans)</li> <li>▪ It is consistent with the principles of ESD.</li> </ul> <p>Demonstrations of the points above are provided throughout the EP (e.g., the acceptability demonstrations in the assessment of environmental impacts)</p>	<p>Left <i>in situ</i> of infrastructure meets requirements under the Act, as:</p> <ul style="list-style-type: none"> <li>▪ It will not result in unacceptable impacts to MNES, such as threatened or migratory fauna or the Commonwealth marine environment.</li> <li>▪ It is not inconsistent with plans made under the Act (e.g., recovery and threat abatement plans)</li> <li>▪ It is consistent with the principles of ESD.</li> </ul> <p>Demonstrations of the points above are provided throughout the EP (e.g., the acceptability demonstrations in the assessment of environmental impacts)</p>

Legislation/Guidelines Relevant clause/requirement	Removal	Partial Removal	Left <i>In Situ</i>
<b><i>Environment Protection (Sea Dumping) Act 1981</i></b>			
<p>Section 10A of the <i>Environment Protection (Sea Dumping) Act 1981</i> requires a permit to be obtained for the dumping of controlled material into Australian waters.</p> <p>'Controlled material' is defined in the <i>Environment Protection (Sea Dumping) Act 1981</i> as 'waste or other material (within the meaning of the Protocol [meaning the London Protocol])'.</p> <p>The London Protocol states that sea dumping does not include "the left in the sea of matter (e.g., cables pipelines and marine research devices) placed for a purpose other than the mere disposal thereof".</p>	<p>Removal of infrastructure does not trigger any requirements under the <i>Environment Protection (Sea Dumping) Act 1981</i>, considering infrastructure will be removed from the marine environment.</p>	<p>Prior to permanently leaving any partially removed structure <i>in situ</i>, Woodside will obtain a Sea Dumping Permit in accordance with the requirements of the <i>Environment Protection (Sea Dumping) Act 1981</i>.</p>	<p>Prior to permanently leaving any structure <i>in situ</i>, Woodside will obtain a Sea Dumping Permit in accordance with the requirements of the <i>Environment Protection (Sea Dumping) Act 1981</i>.</p>
<b><i>International Maritime Organisation (IMO) Resolution A.672(16) - Guidelines and standards for the Removal of Offshore Installations and Structures on the Continental Shelf and the Exclusive Economic Zone adopted 1989<sup>1</sup></i></b>			
<p>Relevant paragraphs of IMO Resolution A.672 (16) contain the following requirements:</p> <ul style="list-style-type: none"> <li>▪ Infrastructure within specified water depths (above 75 and 100 m) should be completely removed (paragraphs 3.1 and 3.2).</li> <li>▪ Infrastructure left <i>in situ</i> should not cause unjustifiable</li> </ul>	<p>Meets requirements for removal of abandoned or disused installations or structures.</p>	<p>Partial removal of the infrastructure meets all the relevant requirements of IMO Resolution A.672 (16) as follows:</p> <ul style="list-style-type: none"> <li>▪ The depth of water where the components of the infrastructure not completely removed and left <i>in situ</i> are located is approximately 130 m and therefore deeper than the depths paragraphs 3.1 and 3.2 recommend removal.</li> <li>▪ Physical presence of the infrastructure not completely removed and left <i>in situ</i> will not</li> </ul>	<p>Leaving the infrastructure meets all the relevant requirements of IMO Resolution A.672 (16) as follows:</p> <ul style="list-style-type: none"> <li>▪ The depth of water where the infrastructure is located is approximately 130 m and therefore deeper than the depths paragraphs 3.1 and 3.2 recommend removal.</li> <li>▪ Physical presence of the infrastructure will not result in a potential impact greater than a minor disturbance to other users as</li> </ul>

Legislation/Guidelines Relevant clause/requirement	Removal	Partial Removal	Left <i>In Situ</i>
<p>interference with other uses of the sea (paragraph 3.4.2).</p> <ul style="list-style-type: none"> <li>▪ Structures left <i>in situ</i> should be marked on navigational charts (paragraph 3.8).</li> <li>▪ Structures left <i>in situ</i> should remain on location and not move (paragraph 3.9).</li> <li>▪ Structures left <i>in situ</i> should be monitored, as necessary, for compliance against these guidelines (paragraph 3.10).</li> <li>▪ Responsibility for maintenance and liability for future damages from structures left <i>in situ</i> should be clearly established (paragraph 3.11).</li> </ul>		<p>result in a potential impact greater than a minor disturbance to other users as assessed in Section 8.1. No concerns or objections regarding physical presence of the infrastructure have been raised by relevant stakeholders.</p> <ul style="list-style-type: none"> <li>▪ Through this EP, Woodside commits to notifying Australian Hydrographic Office (AHO) to ensure the infrastructure not completely removed and left <i>in situ</i> remain marked on navigation charts (paragraph 3.8) (refer to Section 8.1).</li> <li>▪ The components of the infrastructure not fully removed and left <i>in situ</i> are located in a fixed position partially buried below the seabed and will therefore not move from this location (paragraph 3.9) (refer to Section 0).</li> <li>▪ Periodic monitoring has been determined not to be required to ensure ongoing compliance against IMO Resolution A.672 (16) (paragraph 3.10). This is on the basis that degradation of the subsea infrastructure will occur over a significantly long time period by which the rate of change is predicted to be slow and unlikely to be easily detected over short to medium timeframes making ongoing monitoring impractical.</li> </ul> <p>No ongoing maintenance is required beyond decommissioning of the infrastructure. Section 270 of the OPPGS Act provides for the title to be relinquished, at which point Woodside's responsibility for liability would cease. Demonstration against Section 270 requirements is summarised in Griffin</p>	<p>assessed in Section 8.1. No concerns or objections regarding physical presence of the infrastructure have been raised by relevant stakeholders.</p> <ul style="list-style-type: none"> <li>▪ Through this EP, Woodside commits to notifying Australian Hydrographic Office (AHO) to ensure the infrastructure remain marked on navigation charts (paragraph 3.8) (refer to <b>Section 8.1</b>).</li> <li>▪ The infrastructure is located in a fixed position buried below the seabed and will therefore not move from this location (paragraph 3.9) (refer to <b>Section 0</b>).</li> <li>▪ Periodic monitoring has been determined not to be required to ensure ongoing compliance against IMO Resolution A.672 (16) (paragraph 3.10). This is on the basis that degradation of the subsea infrastructure will occur over a significantly long time period by which the rate of change is predicted to be slow and unlikely to be easily detected over short to medium timeframes making ongoing monitoring impractical.</li> </ul> <p>No ongoing maintenance is required beyond decommissioning of the infrastructure. Section 270 of the OPPGS Act provides for the title to be relinquished, at which point Woodside's responsibility for liability would cease. Demonstration against Section 270 requirements is summarised in Griffin Decommissioning and Field Management EP (paragraph 3.11).</p>



Legislation/Guidelines Relevant clause/requirement	Removal	Partial Removal	Left <i>In Situ</i>
		Decommissioning and Field Management EP (paragraph 3.11).	

<sup>1</sup> IMO Resolution A.672(16) sets out the matters to be considered by State parties to United Nations Convention on the Law of the Sea (UNCLOS) when making decisions dealing with abandoned or disused installations on the Continental Shelf. Australia's decommissioning policies consider the requirements of IMO Resolution A.672(16) (DISR, 2022)

### 3.2.4 MDB Concrete Gravity Bases

#### 3.2.4.1 Infrastructure Overview

The MDB concrete gravity bases which include the concrete clump weights are large concrete blocks consisting of aggregate, Portland cement and reinforcing steel which are partially buried in the seabed (refer **Table 4-5** for dimensions). The MDB concrete gravity bases were installed by lifting into place.

There are six MDB concrete gravity bases in WA-10-L (**Figure 3-4**) to which the MDB mooring chains are attached. The MDBs were removed from the field in 2018 to eliminate buoyant risk. Woodside intends to remove the mooring chains during the Griffin subsea infrastructure removal campaign under the Griffin Decommissioning and Field Management EP. Following disconnection and removal of the attached mooring chains, the MDB concrete gravity bases will be the only remaining component of the MDB mooring system left *in situ* in WA-10-L.

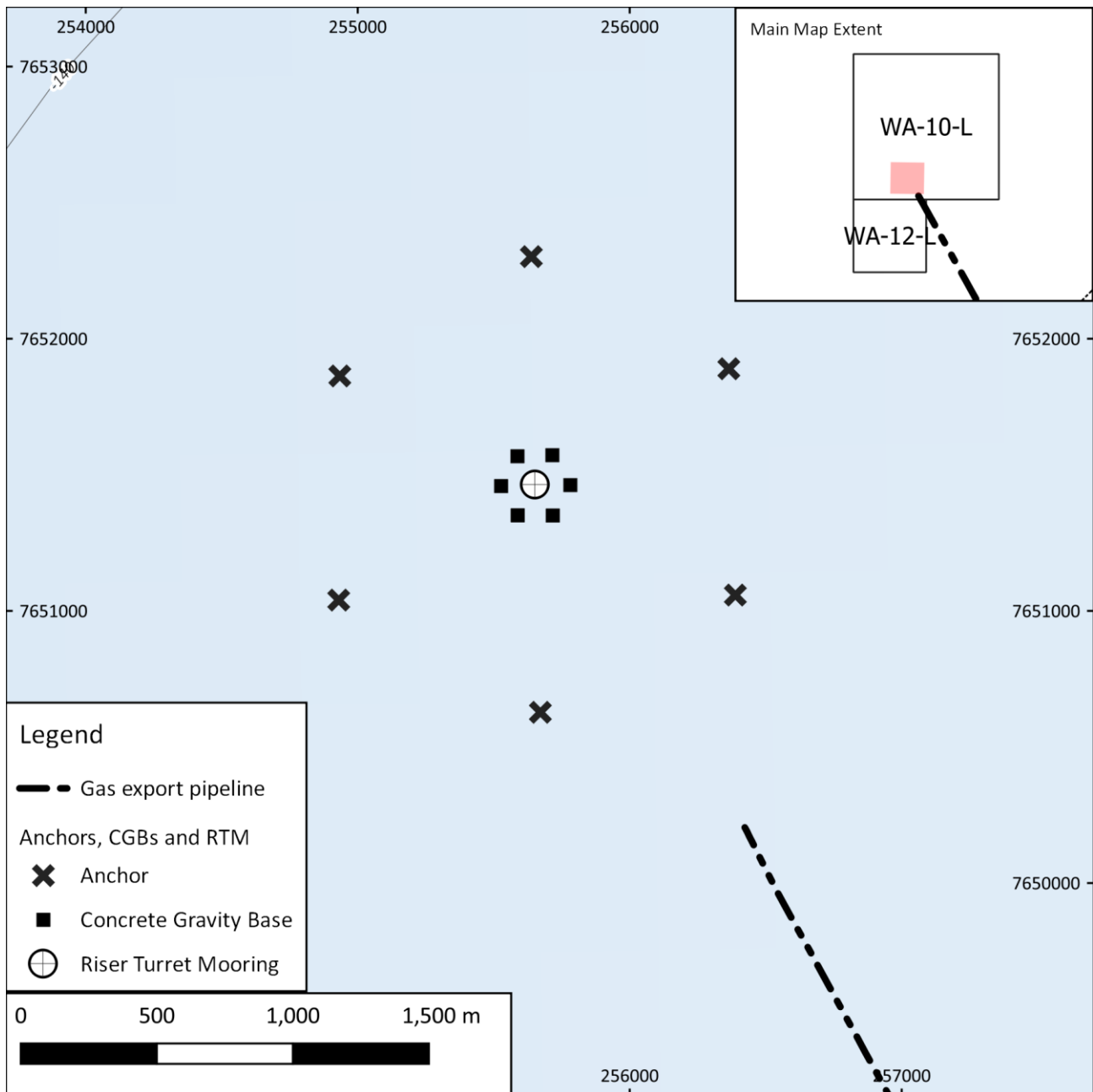


Figure 3-4: Locations of MDB Gravity Bases in relation to the Griffin RTM and GEP

### 3.2.4.2 Feasible Decommissioning Options

The technical feasibility of the decommissioning options for the MDB concrete gravity bases is summarised in **Table 3-13**. The two feasible options identified were removal and left *in situ*.

**Table 3-13: Feasibility of the decommissioning options for the MDB Gravity Bases**

Decommissioning Option	Description of Feasibility
Removal	<p>Feasible</p> <p>The MDB concrete gravity bases were not designed to be removed. As such, a method to lift the MDB concrete gravity bases would need to be engineered.</p> <p>The environmental impact assessment assumes that engineered lifting solution is relatively simple, such as a yoke secured to a MDB concrete gravity bases, which is then lifted by a vessel crane. The MDB concrete gravity bases may need to be broken up into smaller pieces to facilitate removal.</p> <p>Lifting the MDB concrete gravity bases will generate suction between their bases and the seabed. This suction will considerably increase the force required to lift the MDB concrete gravity bases from the seabed. To mitigate this, some form of intervention would be used, such as sediment displacement from below the MDB concrete gravity bases by an ROV or an adjusted rigging design.</p> <p>Once recovered to the lifting vessel, the MDB concrete gravity bases will be transported to shore for processing and disposal. No feasible opportunities for re-use or repurposing of the MDB concrete gravity bases were readily identified. The steel is assumed to be recycled and the concrete is assumed to be crushed for disposal.</p>
Partial removal	<p>Not Feasible</p> <p>The concrete gravity bases are large structures that are not amenable to be sectioned.</p>
Left <i>in situ</i>	<p>Feasible</p> <p>The left <i>in situ</i> option will leave the MDB concrete gravity bases on the seabed at the conclusion of the equipment removal campaign (i.e., with MDB chains removed). No further monitoring or interventions would be undertaken.</p> <p>No vessel activities will be required as part of the left <i>in situ</i> option for the MDB concrete gravity bases.</p>
Augmentation	<p>Not Feasible</p> <p>Concrete Gravity Bases are predominantly embedded in seabed, with little available hard substrate to augment.</p>

**Table 3-14: Decommissioning Options Assessment for the MDB Gravity Bases**

Criteria		Short <sup>5</sup> and Long-term Consideration	Option 1 Removal		Option 2 Left <i>in Situ</i>	
			Justification	Score	Justification	Score
Environment	Benthic Habitats	Short-term	<p>The MDB concrete ballast support sessile invertebrate communities that are relatively high in diversity compared to the surrounding largely bare sediments (Gardline, 2015). This habitat in turn supports increased diversity and abundance of fishes (Bond et al., 2018; McLean et al., 2021), although the MDB concrete gravity bases are relatively small compared to infrastructure such as pipelines. Removal of the MDB concrete gravity bases will result in the loss of this habitat and associated biota.</p> <p>Removal is referred to as the base case; hence it is neither preferred nor not preferred.</p>	Neutral	<p>No disturbance to benthic habitats associated with the MDB concrete gravity bases. Existing habitat retained.</p> <p>The preservation of benthic habitat that supports relatively high biodiversity and abundance results in this option being preferred relative to removal.</p>	More preferred
		Long-term	<p>Benthic habitats will return to bare sediment habitat following removal of the MDB concrete gravity bases - consistent with the natural state prior to Griffin development. Removal eliminates the release of degradation products. The disruption of the unconsolidated sediment habitat around the gravity bases will be disturbed during removal. These are expected to recover over time. The environmental survey by Gardline (2015) did not observe historical seabed disturbance from installation. Some of the equipment, such as the flowlines, had become partially buried. These observations suggest natural sediment transport and deposition will remediate any disturbance to the seabed topography in less than 21 years (the time between installation and the Gardline inspection).</p>	Neutral	<p>The left <i>in situ</i> option will preserve the benthic habitats and associated species that have developed on the MDB concrete gravity bases. Environmental surveys observed that these communities were relatively high in species diversity and abundance compared to the surrounding bare sediment habitat (Gardline, 2015), although the gravity bases and concrete ballast form a small part of the overall equipment surveyed. The MDB concrete gravity bases will degrade over 100s of years, with consequent reduction in hard substrate benthic habitat.</p> <p>Rust from corrosion of steel will be deposited in the sediments immediately around the MDB concrete gravity bases which are buried. This will occur over a prolonged period of time (hundreds of years) due to the protective effect of the cathodic protection system and layers of corrosion. The</p>	More preferred

<sup>5</sup> Short term considerations relate to short term impacts resulting from short duration vessel-based removal activities.

Criteria		Short <sup>5</sup> and Long-term Consideration	Option 1 Removal		Option 2 Left <i>in Situ</i>	
			Justification	Score	Justification	Score
			Removal is referred to as the base case; hence it is neither preferred nor not preferred.			<p>steel used in the MDB concrete gravity bases is carbon steel, with relatively low quantities of alloying materials (refer to sediment quality criterion for a consideration of sediment contamination). The majority of the degradation products will be buried and not readily available to biota. Laboratory testing did not identify any plastic fibres in the concrete.</p> <p>Gardline (2015) observed a trend for increased infauna abundance around Griffin equipment, with the increase due to greater abundance of sipunculans and oligochaete worms; other components of the infauna communities near equipment were similar to reference sites (Section 5.3.2). Similar effects were observed around steel shipwrecks by Peyghan et al. (2023). However, these infauna observations were associated with equipment and wrecks that protruded from the sediment, and hence were potentially modifying sediment grain size characteristics through the effects on hydrodynamics. Grain size influences infauna community structure, so the changes in infauna community may be the result of changes in hydrodynamics and consequent changes to sediment characteristics rather than degradation. Gardline (2015) found the unconsolidated sediment habitat around the MBD concrete gravity bases appeared the same as the surrounding habitat in the field, with sessile benthic fauna and fishes associated with the MDB concrete gravity bases. The concrete consists of cement and aggregate, which is inert and does not contain materials that may result in sediment contamination during degradation.</p> <p>The preservation of benthic habitat that supports relatively high biodiversity and abundance results</p>

Criteria		Short <sup>5</sup> and Long-term Consideration	Option 1 Removal		Option 2 Left <i>in Situ</i>	
			Justification	Score	Justification	Score
	Marine Fauna	Short-term	<p>Marine fauna associated with the MDB concrete gravity bases will be substantially disturbed by the removal activities. Any sessile fauna associated with the piles will be lost, and mobile fauna are assumed to disperse away from the piles during the removal campaign.</p> <p>Removal is referred to as the base case; hence it is neither preferred nor not preferred.</p>	Neutral	<p>No impacts during removal campaign. Hence this option is preferred compared to removal.</p>	More preferred
		Long-term	<p>No impacts to fauna following completion of the removal activities.</p> <p>Removal is referred to as the base case; hence it is neither preferred nor not preferred.</p>	Neutral	<p>The left <i>in situ</i> option will leave the MDB concrete gravity bases in the environment, which will degrade over time. Given the MDB concrete gravity bases consist almost entirely of steel and concrete, impacts of degradation on fauna will be negligible (refer to sediment quality criterion for a consideration of sediment contamination). The presence of the MDB concrete gravity bases provides habitat for a range of fauna species, such as the fishes and sessile invertebrates observed on the gravity bases and concrete ballast by Gardline (2015). The timeframe for degradation of the gravity bases and concrete ballast is in the order of hundreds of years, hence the fauna communities associated with this equipment will persist over the same timeframe.</p> <p>Given the equipment is made from steel and buried, impacts of degradation on fauna will be negligible. Iron and carbon, which are over 98% of the piles by mass (Table 4-5) pose little risk to the environment. Iron (II) and (III) oxides (i.e., rust) and Portland cement (used in the cement) are listed by the OSPAR Commission as posing little or no risk to the environment (PLONOR) and an</p>	More preferred

Criteria		Short <sup>5</sup> and Long-term Consideration	Option 1 Removal		Option 2 Left <i>in Situ</i>	
			Justification	Score	Justification	Score
					<p>extensive review by Johnson et al. (2007) found no evidence of toxic effects of iron in marine sediments. The other alloying materials are not recognised as sediment toxicants by the <i>Australian and New Zealand Guidelines for Fresh and Marine Water Quality</i> (Commonwealth of Australia and New Zealand Government, 2018). Laboratory testing did not identify any plastic fibres in the concrete.</p> <p>Infauna have the greatest likelihood of interacting with degradation products given their associated with sediments. Most infauna are restricted to the upper 30 cm of sediment (Kristensen et al., 2012), which is where the majority of the degradation products of the MDB concrete gravity bases will be. Peyghan et al. (2023) observed infauna communities closer to a steel shipwreck had higher diversity and abundance than those 100 m and 400 m away, which is consistent with the results of Gardline (2015) (<b>Section 5.3.2</b>). Given the degradation products are listed as PLONOR and unlikely to induce toxic effects, changes to infauna communities are likely to be restricted to within 50 m of the MDB concrete gravity bases; these changes are expected to be a localised increase in abundance and diversity of infauna.</p> <p>Based on the increased biodiversity and abundance of fauna and the negligible impacts on infauna from degradation products, this option is preferred compared to the removal.</p>	
	GHG Emissions (excluding waste management)	Short-term	The removal option would be implemented as part of an equipment removal campaign, with GHG emissions limited to the additional sea time required to complete the removal activities. Atmospheric emissions from vessels undertaking the removal base case will result in a localised	Neutral	The left <i>in situ</i> option does not generate GHG or atmospheric emissions during the removal campaign. Hence this decommissioning option is preferred compared to removal.	More preferred

Criteria		Short <sup>5</sup> and Long-term Consideration	Option 1 Removal		Option 2 Left <i>in Situ</i>	
			Justification	Score	Justification	Score
			<p>decrease in air quality due to exhaust emissions from internal combustion engines.</p> <p>Fuel combustion onboard vessels will generate carbon dioxide emissions, which is a GHG. GHG emissions will result in indirect environmental impacts from climate change.</p> <p>Removal is referred to as the base case; hence it is neither preferred nor not preferred.</p>			
		Long-term	<p>No GHG emissions (excluding waste management) following removal of the equipment.</p> <p>Removal is referred to as the base case; hence it is neither preferred nor not preferred.</p>	Neutral	<p>The left <i>in situ</i> option does not generate or offset GHG or atmospheric emissions following the removal campaign. Hence this decommissioning option is neutral compared to removal.</p>	Neutral
	Materials Management	Short-term	<p>The removal provides the opportunity to re-use, repurpose or recycle the MDB concrete gravity bases. These all sit above disposal in the waste management hierarchy. Removal is referred to as the base case; hence it is scored neutral.</p>	Neutral	<p>There is no opportunity to reuse, repurpose or recycle the MDB concrete gravity bases. The left <i>in situ</i> option scores lower in the waste management hierarchy than removal, hence it is less preferred.</p>	Less preferred
		Long-term	<p>The recovery of the gravity bases and concrete ballast provides the opportunity to re-use, repurpose or recycle the gravity bases and concrete ballast. These all sit above disposal in the waste management hierarchy. Removal is referred to as the base case; hence it is scored neutral.</p>	Neutral	<p>There is no opportunity to reuse, repurpose or recycle the MDB concrete gravity bases. The left <i>in situ</i> option scores lower in the waste management hierarchy than removal, hence it is less preferred.</p>	Less preferred
	Sediment Quality	Short-term	<p>Sediment relocation may be required to provide access to lifting points or installation of lifting equipment to remove the gravity bases and concrete ballast from the seabed. This will result in localised sediment resuspension and may result in some temporary modification of the particle size distribution (i.e., a reduction in the portion of fine sediments) and localised depressions in the seabed. Recovery to natural conditions is expected</p>	Neutral	<p>No impacts to sediment quality in the short-term. Hence, this option is more preferred than removal.</p>	More preferred



Criteria		Short <sup>5</sup> and Long-term Consideration	Option 1 Removal		Option 2 Left <i>in Situ</i>	
			Justification	Score	Justification	Score
			to occur through natural sediment transport processes within weeks, predominantly through redistribution of local sediments by tidal currents as bedload. Removal is referred to as the base case; hence it is scored neutral.			
		Long-term	No impacts to sediment quality in the long term. Removal is referred to as the base case; hence it is scored neutral.	Neutral	The degradation of the MDB concrete gravity bases on the seabed will impact upon sediments. Degradation will release material among seabed sediments over the course of hundreds of years. The MDB concrete gravity bases consist of steel and concrete and are partially buried within the seabed. Degradation products will be concentrated in the sediments around the MDB concrete gravity bases in the upper 50 cm of sediment, Iron and carbon, which are over 98% of the piles by mass ( <b>Table 4-5</b> ) pose little risk to the environment. Iron (II) and (III) oxides (i.e., rust) and Portland cement (used in the cement) are listed by the OSPAR Commission as posing little or no risk to the environment (PLONOR) and an extensive review by Johnson et al. (2007) found no evidence of toxic effects of iron in marine sediments. The other alloying materials are not recognised as sediment toxicants by the <i>Australian and New Zealand Guidelines for Fresh and Marine Water Quality</i> (Commonwealth of Australia and New Zealand Government, 2018). Laboratory testing did not identify any plastic fibres in the concrete. This option is less preferred compared to removal.	Less preferred
	Water Quality	Short-term	Removal of the MDB concrete gravity bases will result in resuspension of sediments as sediment is relocated and the bases are lifted from the seabed and recovered to a vessel. This will result in a	Neutral	No impacts to water quality in the short-term. Hence this option is more preferred than the removal.	More preferred

Criteria		Short <sup>5</sup> and Long-term Consideration	Option 1 Removal		Option 2 Left <i>in Situ</i>	
			Justification	Score	Justification	Score
			<p>short-term increase in suspended sediments in the water column, which will return to normal levels within days following completion of the activity. The sediments in the Griffin field are characterised as sands and silts, which are expected to settle rapidly. Finer sediments (e.g., fine silt- and clay-sized fractions) will remain suspended for longer, and hence may be advected further from the removal location, however such fine sediments are a relatively small fraction of the sediments.</p> <p>Vessel operations for the removal will result in utility discharges. Impacts to water quality from vessel utility discharges may include:</p> <ul style="list-style-type: none"> <li>▪ Increases in nutrients,</li> <li>▪ Increased biochemical oxygen demand,</li> <li>▪ Increased turbidity,</li> <li>▪ Reduced visual amenity, and</li> <li>▪ Increases in potential contaminants such as hydrocarbons and chemicals.</li> </ul> <p>The open water environment receiving utility discharges is expected to result in rapid mixing of utility discharges from vessels. As a result, the potential impacts to water quality will be highly localised and restricted to the immediate area (i.e., 10's to 100's of metres) around the discharge point.</p> <p>Removal is referred to as the base case; hence it is neither preferred nor not preferred.</p>			
		Long-term	<p>No impacts to water quality following completion of the removal activities.</p> <p>Removal is referred to as the base case; hence it is neither preferred nor not preferred.</p>	Neutral	<p>No impacts to water quality in the long-term. The degradation products are insoluble in seawater, and Gardline (2015) found no evidence of increased metals (e.g., iron) near equipment</p>	Neutral

Criteria		Short <sup>5</sup> and Long-term Consideration	Option 1 Removal		Option 2 Left <i>in Situ</i>	
			Justification	Score	Justification	Score
					compared to reference sites. Hence this option is equally preferred compared to removal.	
Social	Other Users	Short-term	<p>Several State and Commonwealth-managed commercial fishery management areas overlap the EMBA and whilst fishing effort is reported as low, the State managed Pilbara Line Fishery have recently recorded fishing effort (<b>Section 5.6.2</b>). The presence of a vessel used for decommissioning activities may restrict the use of the area by commercial fisheries.</p> <p>However, because the vessel will only be in the area for short periods over a defined amount of time, and because the fisheries areas extend beyond that of the gravity base locations, impacts during decommissioning activities would be considered negligible.</p> <p>No shipping fairways intercept the area (<b>Section 5.6.6</b>). Shipping density at the gravity base locations is low. Due to the temporary nature of the decommissioning activity and low shipping density, impacts are expected to be negligible. Removal is referred to as the base case; hence it is scored neutral.</p>	Neutral	No potential for displacement of other users as no vessel activities required. Hence this option is preferred to removal.	More preferred
		Long-term	<p>The removal will remove habitats associated with the MDB concrete gravity bases, which will eliminate any benefits and risks to recreational and commercial fishers because of the equipment degrading <i>in situ</i>.</p> <p>Removal is referred to as the base case; hence it is scored neutral.</p>	Neutral	<p>The left <i>in situ</i> option will retain the hard substrate provided by the MDB concrete gravity bases. This will provide habitat for fish species targeted by recreational and commercial fishers, although the number of fish will be negligible given the size and locations of the concrete gravity bases.</p> <p>The MDB concrete gravity bases pose a snagging risk to trawled fishing equipment. The most active trawl fishery in the region is the Pilbara Fish Trawl managed fishery. This fishery is prohibited from operating in the vicinity of the concrete gravity</p>	Less preferred

Criteria		Short <sup>5</sup> and Long-term Consideration	Option 1 Removal		Option 2 Left <i>in Situ</i>	
			<i>Justification</i>	<i>Score</i>	<i>Justification</i>	<i>Score</i>
					<p>bases, which lie outside the managed fishery areas within which trawling is permitted. The MDB concrete gravity bases occur in relatively small areas which would be easily avoidable by trawl fishers should trawl fishing activity be permitted in the future.</p> <p>Recreational fishing groups have expressed a preference for left <i>in situ</i> as a decommissioning option. However, the water depth and distance from shore makes fish resources in the Griffin field difficult for recreational fishers to access.</p> <p>Hence this option is less preferred than the removal base case.</p>	

### 3.2.4.3 Summary of Decommissioning Options Assessment

A summary of the decommissioning options assessment for the MDB concrete gravity bases is provided in **Table 3-15**. The assessment indicates that left *in situ* results an equal or better environmental outcome than removal of the MDB concrete gravity bases. It is therefore recommended that the MDB concrete gravity bases are permanently decommissioned *in situ*.

The feasible decommissioning options have been demonstrated to align with the principles of ESD as summarised in **Table 3-16**. **Table 3-17** provides an assessment of the decommissioning options against identified relevant legislation and guidelines.

**Table 3-15: Summary of the Decommissioning Options Assessment for the MDB Gravity Bases**

Criteria		Removal		Left <i>In Situ</i>	
		Short Term	Long Term	Short Term	Long Term
Environment	Benthic Habitats	Neutral	Neutral	More preferred	More preferred
	Marine Fauna	Neutral	Neutral	More preferred	More preferred
	GHG Emissions	Neutral	Neutral	More preferred	Neutral
	Materials Management	Neutral	Neutral	Less preferred	Less preferred
	Sediment Quality	Neutral	Neutral	More preferred	Less preferred
	Water Quality	Neutral	Neutral	More preferred	Neutral
Social	Other Users	Neutral	Neutral	More preferred	Less preferred

**Table 3-16: Alignment with Principles of ESD for decommissioning of the MDB Gravity Bases**

Principle of ESD	Removal	Left <i>In Situ</i>
Decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations	The decision-making process by which the feasible options for the MDB concrete gravity bases were assessed considers environmental (e.g., water and sediment quality), social (e.g., the rights of other users of the marine environment) and equitable (e.g., the rights of other users of the marine environment) criteria. Short-term (i.e., during removal campaign) and long-term (i.e., following the removal campaign) timeframes have been explicitly considered in the comparative assessment. Woodside has considered the economics of the feasible decommissioning options; however, this is not presented in the comparative assessment as the Guideline: Offshore Petroleum Decommissioning (DISR, 2022) policy only considers the relative environmental outcomes of decommissioning options. Hence, the assessment of the feasible decommissioning options is consistent with this principle of ESD.	
If there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation	The removal option does not pose the risk of serious or irreversible environmental damage. Hence, the assessment of the removal option is consistent with this principle of ESD.	<p>The left <i>in situ</i> option will result in the degradation of the MDB concrete gravity bases over hundreds of years. The materials from which the concrete gravity bases are made are well known, including the relative portions of alloying materials in the steel, none of which have established guideline values for sediments in the <i>Australian and New Zealand Guidelines for Fresh and Marine Water Quality</i> (Commonwealth of Australia and New Zealand Government, 2018). Degradation causes (e.g., galvanic and microbial induced corrosion) are well understood. Laboratory testing did not identify any plastic fibres in the concrete.</p> <p>Given the nature and scale of potential environmental impacts from degradation of MDB concrete gravity bases, there is no threat of serious or irreversible environmental damage from the left <i>in situ</i> option. Hence, the assessment of the left <i>in situ</i> option is consistent with this principle of ESD.</p>
The principle of inter-generational equity – that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations	The removal option will cause disturbance of the seabed, but this will recover over time through natural sedimentary processes. There are no long-term impacts to the environment that would impact upon the health, diversity and productivity of the environment. Hence, the assessment of the removal base case is consistent with this principle of ESD.	The left <i>in situ</i> option will not reduce the health, diversity and productivity of the environment such that future generations would not benefit from the environment. The left <i>in situ</i> of the MDB concrete gravity bases affects a small area of the seabed and the locations of the MDB concrete gravity bases is known. Any future uses of the seabed (e.g., installation of offshore structures) can avoid the MDB concrete gravity bases, and any such displacement of future uses would be on the scale of tens of metres only. Hence, the assessment of the left <i>in situ</i> option is consistent with this principle of ESD.

Principle of ESD	Removal	Left <i>In Situ</i>
<p>The conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making</p>	<p>The environmental criteria either relate to biological diversity and ecological integrity (e.g., fauna, benthic habitat) or are strongly connected to biological diversity and ecological integrity (e.g., water and sediment quality). Hence, the assessment of the feasible decommissioning options is consistent with this principle of ESD.</p>	
<p>Improved valuation, pricing and incentive mechanisms should be promoted</p>	<p>Woodside’s waste management hierarchy incentivises the reuse, repurposing and recycling of the MDB concrete gravity bases. These arrangements are reflected in Woodside’s contracting strategies. The removal base case has the greatest potential for reuse, repurposing and recycling compared to left <i>in situ</i>. The left <i>in situ</i> option scores relatively poorly when compared to the removal base case. Hence, the assessment of the feasible decommissioning options is consistent with this principle of ESD.</p>	

**Table 3-17: Assessment of relevant legislation and guidelines for the MDB Gravity Bases**

Legislation/Guidelines Relevant Clause/Requirement	Removal	Left <i>In Situ</i>
<b><i>Offshore Petroleum and Greenhouse Gas Storage (OPGGS) Act 2006</i></b>		
<p>Section 572 requires titleholders to remove structures, equipment and property that are no longer being used in connection with operations authorised by the title (subject to any other provisions of the Act, the regulations, a direction by NOPSEMA and any other law).</p> <p>Section 270 requires titleholders to remove all infrastructure before the title can be surrendered or to make alternative arrangements that are satisfactory to NOPSEMA in relation to that infrastructure.</p>	<p>Removal meets requirements under the Act for removal from the title area.</p>	<p>The case for leaving the infrastructure <i>in situ</i> needs to be to the satisfaction of NOPSEMA and approved through acceptance of an EP.</p>
<b><i>Offshore Petroleum and Greenhouse Gas Storage (OPGGS) (Environment) Regulations 2023</i></b>		
<p>Under the OPGGS Act 2006, the Environment Regulations 2023 ensure that any petroleum activity or greenhouse gas activity carried out in an offshore area is:</p> <p>Carried out in a manner consistent with the principles of ecologically sustainable development set out in section 3A of the EPBC Act.</p> <p>Carried out in a manner by which the environmental impacts and risks of the activity will be reduced to as low as reasonably practicable (ALARP).</p> <p>Carried out in a manner by which the environmental impacts and risks of the activity will be of an acceptable level.</p>	<p>Removal meets commitments under the Environment Regulations for removal from the title area.</p>	<p>Leaving infrastructure <i>in situ</i> meets requirements under the Environment Regulations for petroleum and greenhouse gas activities carried out in an offshore area as follows:</p> <p>This EP contains an assessment that determines consistency with the principles defined in Section 3A of the EPBC Act for partial removal of infrastructure.</p> <p>This EP contains an ALARP assessment for all environmental impacts and risks.</p> <p>This EP contains an evaluation that environmental impacts and risks relating to left <i>in situ</i> of infrastructure will be carried out to an acceptable level.</p>



Legislation/Guidelines Relevant Clause/Requirement	Removal	Left <i>In Situ</i>
<b><i>Offshore Petroleum Decommissioning Guideline (DISR, 2022)</i></b>		
<p>The Offshore Petroleum Decommissioning Guideline (DISR, 2022) (the Decommissioning Guidelines) proposes that removal of infrastructure is the default decommissioning requirement under the OPGGS Act, this notwithstanding, decommissioning options other than removal may be considered; however, the titleholder must demonstrate in permissioning documents that the alternative approach delivers equal or better environmental outcomes compared to complete removal and other applicable laws.</p>	<p>Removal meets default decommissioning requirement under the Guideline for removal from the title area.</p>	<p>An evaluation of the relative environmental impacts of decommissioning options relative to removal is provided in <b>Table 3-14</b>.</p>
<b><i>NOPSEMA Policy on Section 572 (NOPSEMA, 2022b)</i></b>		
<p>NOPSEMA's policy on S572 (NOPSEMA, 2022b) proposes that a deviation from removal can be sought via an EP where the titleholder demonstrates that the arrangements for the alternative approach are acceptable arrangements other than removal of property will only be accepted where they are appropriate having regard to applicable legislation, relevant Australian Government guidelines and policy.</p> <p>Specifically, the titleholder must demonstrate that the alternative decommissioning approach meets all applicable requirements under the OPGGS Act and regulations, any other legislative requirement, and relevant international obligations.</p>	<p>Removal meets 'base case' requirements for decommissioning.</p>	<p>The EP identifies a range of relevant requirements. Demonstrations that the petroleum activity will comply with relevant requirements are made throughout the EP (e.g., the acceptability demonstrations in the assessment of environmental impacts).</p>

Legislation/Guidelines Relevant Clause/Requirement	Removal	Left <i>In Situ</i>
<b><i>Environment Protection and Biodiversity Conservation Act 1999</i></b>		
<p>The EPBC Act requires that the petroleum activity consider:</p> <ul style="list-style-type: none"> <li>▪ Matters of national environmental significance, such as threatened and migratory species and the Commonwealth marine environment.</li> <li>▪ The principles of ESD.</li> </ul>	<p>Removal of infrastructure meets requirements under the Act, as:</p> <ul style="list-style-type: none"> <li>▪ It will not result in unacceptable impacts to MNES, such as threatened or migratory fauna or the Commonwealth marine environment.</li> <li>▪ It is not inconsistent with plans made under the Act (e.g., recovery and threat abatement plans)</li> <li>▪ It is consistent with the principles of ESD.</li> </ul>	<p>Left <i>in situ</i> of infrastructure meets requirements under the Act, as:</p> <ul style="list-style-type: none"> <li>▪ It will not result in unacceptable impacts to MNES, such as threatened or migratory fauna or the Commonwealth marine environment.</li> <li>▪ It is not inconsistent with plans made under the Act (e.g., recovery and threat abatement plans)</li> <li>▪ It is consistent with the principles of ESD.</li> </ul> <p>Demonstrations of the points above are provided throughout the EP (e.g., the acceptability demonstrations in the assessment of environmental impacts)</p>
<b><i>Environment Protection (Sea Dumping) Act 1981</i></b>		
<p>Section 10A of the <i>Environment Protection (Sea Dumping) Act 1981</i> requires a permit to be obtained for the dumping of controlled material into Australian waters.</p> <p>'Controlled material' is defined in the <i>Environment Protection (Sea Dumping) Act 1981</i> as 'waste or other material (within the meaning of the Protocol [meaning the London Protocol])'.</p> <p>The London Protocol states that sea dumping does not include "<i>the left in the sea of matter (e.g., cables pipelines and marine research devices) placed for a purpose other than the mere disposal thereof</i>".</p>	<p>Removal of infrastructure does not trigger any requirements under the <i>Environment Protection (Sea Dumping) Act 1981</i>, considering infrastructure will be removed from the marine environment.</p>	<p>Prior to permanently leaving any structure <i>in situ</i>, Woodside anticipated obtaining a Sea Dumping Permit in accordance with the requirements of the <i>Environment Protection (Sea Dumping) Act 1981</i>.</p>

Legislation/Guidelines Relevant Clause/Requirement	Removal	Left <i>In Situ</i>
<b><i>International Maritime Organisation (IMO) Resolution A.672(16) - Guidelines and standards for the Removal of Offshore Installations and Structures on the Continental Shelf and the Exclusive Economic Zone adopted 1989<sup>1</sup></i></b>		
<p>Relevant paragraphs of IMO Resolution A.672 (16) contain the following requirements:</p> <ul style="list-style-type: none"> <li>▪ Infrastructure within specified water depths (above 75 and 100 m) should be completely removed (paragraphs 3.1 and 3.2).</li> <li>▪ Infrastructure left <i>in situ</i> should not cause unjustifiable interference with other uses of the sea (paragraph 3.4.2).</li> <li>▪ Structures left <i>in situ</i> should be marked on navigational charts (paragraph 3.8).</li> <li>▪ Structures left <i>in situ</i> should remain on location and not move (paragraph 3.9).</li> <li>▪ Structures left <i>in situ</i> should be monitored, as necessary, for compliance against these guidelines (paragraph 3.10).</li> <li>▪ Responsibility for maintenance and liability for future damages from structures left <i>in situ</i> should be clearly established (paragraph 3.11).</li> </ul>	<p>Meets requirements for removal of abandoned or disused installations or structures.</p>	<p>Leaving the infrastructure meets all the relevant requirements of IMO Resolution A.672 (16) as follows:</p> <p>The depth of water where the infrastructure is located is approximately 130 m and therefore deeper than the depths paragraphs 3.1 and 3.2 recommend removal.</p> <p>Physical presence of the infrastructure will not result in a potential impact greater than a minor disturbance to other users as assessed in <b>Section 8.1</b>. No concerns or objections regarding physical presence of the infrastructure have been raised by relevant stakeholders.</p> <p>Through this EP, Woodside commits to notifying Australian Hydrographic Office (AHO) to ensure the infrastructure remain marked on navigation charts (refer to <b>Section 8.1</b>) (paragraph 3.8).</p> <p>The infrastructure is located in a fixed position buried below the seabed and will therefore not move from this location (paragraph 3.9) (refer to <b>Section 0</b>).</p> <p>Periodic monitoring has been determined not to be required to ensure ongoing compliance against IMO Resolution A.672 (16) (paragraph 3.10). This is on the basis that degradation of the subsea infrastructure will occur over a significantly long time period by which the rate of change is predicted to be slow and unlikely to be easily detected over short to medium timeframes making ongoing monitoring impractical.</p> <p>No ongoing maintenance is required beyond decommissioning of the infrastructure. Section 270 of the OPPGS Act provides for the title to be relinquished, at which point Woodside’s responsibility for liability would cease. Demonstration against Section 270 requirements is summarised in Griffin Decommissioning and Field Management EP(GV-HSE-E-0014) (paragraph 3.11).</p>

<sup>1</sup> IMO Resolution A.672(16) sets out the matters to be considered by State parties to United Nations Convention on the Law of the Sea (UNCLOS) when making decisions dealing with abandoned or disused installations on the Continental Shelf. Australia’s decommissioning policies consider the requirements of IMO Resolution A.672(16) (DISR, 2022)

### 3.2.5 Decommissioning Options Assessment Summary

The decommissioning options assessments demonstrate that Woodside's preferred decommissioning approach for RTM anchors, piled foundations and MDB concrete gravity bases will yield equal or better environmental outcomes compared to removal. The preferred decommissioning options are:

- RTM anchors: left *in situ*.
- Piled foundations: partial removal option.
- MDB concrete gravity bases left *in situ*.

These options satisfy the requirement that any alternatives to removal result in equal or better environmental outcomes than removal outlined in the Offshore Petroleum Decommissioning Guideline (DISR, 2022).

## 4 Description of the Activity

### 4.1 Overview

This section has been prepared in accordance with Regulation 21(1) of the Environment Regulations, and describes the petroleum activity to be performed under this EP.

When in production, the Griffin field comprised the Griffin Venture, a floating production, storage and offloading (FPSO) vessel, with 12 production wells from the Griffin, Scindian and Chinook reservoirs routed to the riser turret mooring (RTM) via flexible and rigid flowlines. Oil products were stabilised and stored for offloading via tanker, while gas products were transported to the shore via the Griffin gas export pipeline (GEP) for domestic sale.

The Griffin field ceased production in 2009. Since then, the following cessation activities have been completed:

- the Griffin Venture floating production, storage and offloading vessel was disconnected from the RTM and demobilised from the field.
- all flowlines and gas lift lines were flushed and filled with treated seawater.
- the GEP was purged with nitrogen and positively pressurised.
- all wells were plugged and abandoned.
- all Xmas trees (XTs) were removed and placed onto mud mats around 25 m from the wells.
- all mid-depth buoys (MDBs) were removed and recovered. MDB mooring chains were laid on the seabed at the concrete gravity bases. Flexible risers were laid on the seabed.

Within the scope of this EP, Woodside proposes to decommission *in situ* equipment buried in the seabed, namely:

- up to 11 steel anchors deployed in pairs with six sections of approximately 32m interconnecting mooring chain, with the exposed chain cut at or below the mudline as close as practicable to the anchor.
- five piled foundations, with the exposed part of the piles removed as close as practicable to the seabed.
- six mid-depth buoy concrete gravity bases

A detailed inventory of subsea infrastructure to be decommissioned *in situ* under the scope of this EP is provided in **Table 4-5**.

Other activities relevant to the decommissioning of the Griffin field are covered in other EPs:

- Management and removal certain subsea equipment in the Griffin field (including removal efforts on the RTM anchors and mooring chain) is addressed in Griffin Decommissioning and Field Management Environment Plan (GV-HSE-E-0014).
- Decommissioning of the Griffin Gas Export Pipeline (GEP) in Pipeline Licence WA-3-PL in Commonwealth waters is addressed in Griffin Gas Export Pipeline Decommissioning Environment Plan (00GA-BHPB-N00-0016)

An as-left survey to confirm the position and condition of the equipment to be decommissioned *in situ* will be done as part of the equipment removal activities addressed in the Griffin Decommissioning and Field Management EP (GV-HSE-E-0014) and will be the ongoing EP on the Petroleum Title until Title relinquishment.

### 4.2 Location of the Activity

The Griffin field and subsea infrastructure is located within Permit Areas WA-10-L, located in Commonwealth waters, around 58 km north-west of Exmouth, Western Australia and in water depths of about 130 m (**Figure 4-1**).

The relative distances of key islands/mainland from the petroleum activity are provided in **Table 4-1**. The location of the infrastructure proposed for left *in situ* is presented in **Section 0**.

**Table 4-1: Location of infrastructure proposed for *in situ* decommissioning in relation to key onshore features.**

Key Onshore Features	Distance and Direction from EMBA
Muiron Islands	48 km south west
Thevenard Island	45 km south east
Exmouth	58 km north east
Onslow	45 km south east
Barrow Island	80 km north east
Dampier	235 km north east

### 4.3 Operational Area

As no planned operations are proposed, an Operational Area has not been defined. However, an area around the subsea infrastructure (the RTM anchors, the piled foundations and the MDB concrete gravity bases) proposed to be decommissioned *in situ*, where environmental impacts have the potential to occur has been defined. This area is referred to throughout the EP as the Environment That May Be Affected (EMBA). The EMBA is shown in **Figure 4-1**.

The EMBA is the spatial boundary of the petroleum activity, and has been defined by the impacts and risks assessed and managed by this EP. The changes to the environment from left *in situ* of the RTM anchors, partially removed piles and MDB concrete gravity bases include:

- Provision of hard substrate, resulting in increased abundance of sessile benthic fauna that require hard substrate and associated biota (e.g., fishes). These changes will be restricted to the infrastructure itself.
- Changes to sediment quality due to the release of degradation products over time and modification of hydrodynamic regimes. The degradation products will not result in toxic effects and sediment grain size distribution changes due to hydrodynamic effects will be limited to within 10's of metres of the infrastructure.
- The petroleum activity will result in the long-term physical presence of subsea infrastructure on the seabed. The presence of this infrastructure may displace commercial fishers operating trawl equipment around the infrastructure, however a 500 m radius around this infrastructure will be maintained on navigational charts to inform fishers to avoid the area to prevent any damage to equipment from snagging.

The EMBA therefore includes the area encompassing a conservative 500 m radius around the 6 dual RTM anchors and interconnecting chain, the five partially removed piled foundations and the six MDB concrete gravity bases and the water column 20 m above it. The 500 m radius buffer around the infrastructure is considered highly conservative covering the footprint where seabed disturbance may occur due to the long-term presence of infrastructure buried in the seabed and the associated long-term degradation of the infrastructure and release of material into the marine environment over time. **Section 8** describes the spatial extent of the risks and impacts associated with the subsea infrastructure proposed to be left *in situ*, which have informed the size of the EMBA.

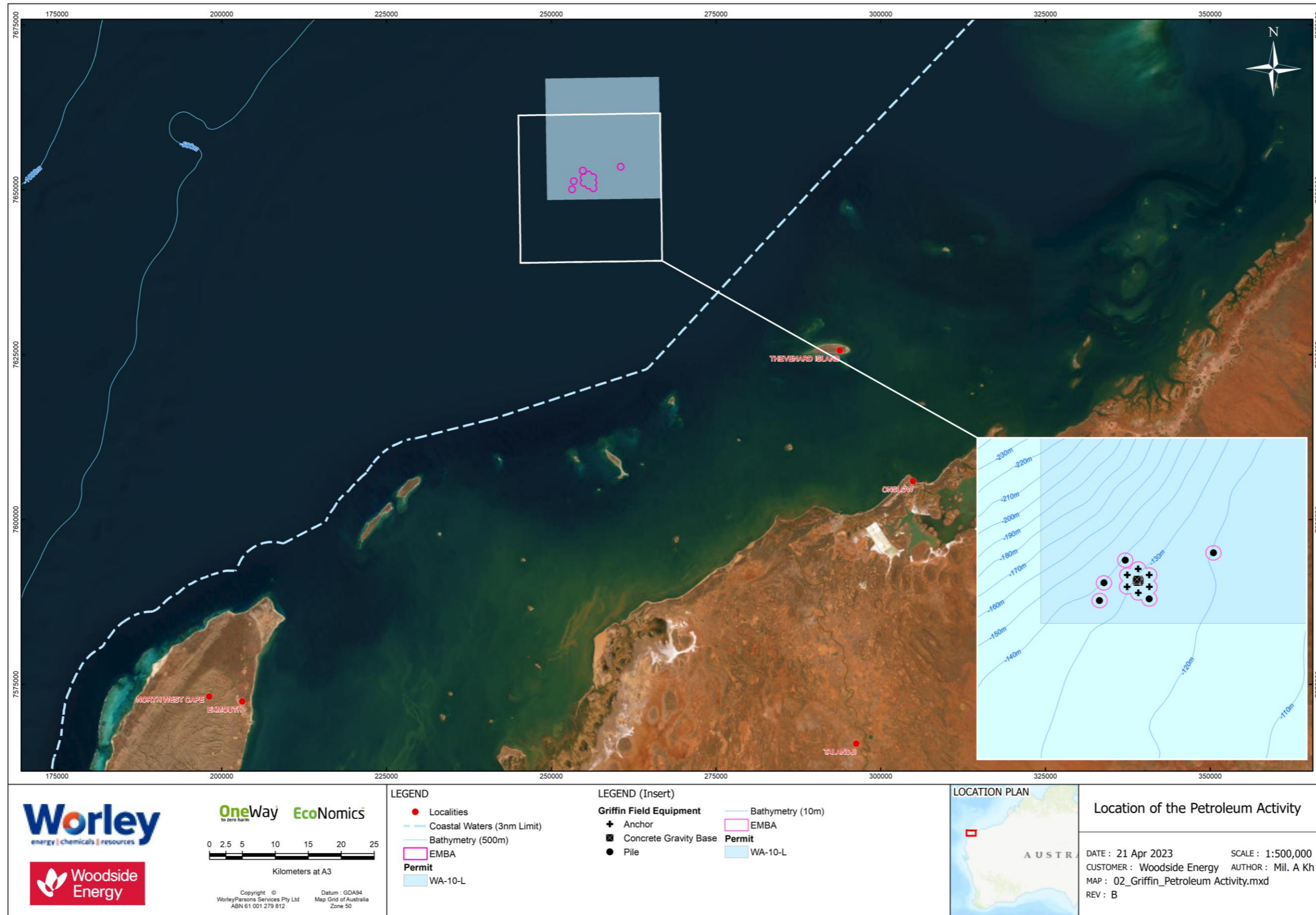


Figure 4-1: Location of the Petroleum Activity and EMBA

## 4.4 Timing

The proposed petroleum activity involves the permanent *in situ* decommissioning of the RTM anchors, piled foundations and MDB concrete gravity bases as described in **Section 0**. No field activities are proposed under the scope of this EP.

Further details on the scheduling of the Griffin field decommissioning are provided in the Griffin Decommissioning and Field Management EP.

The petroleum activities in this EP will have been completed once the environmental performance standards within have been met and reported upon to NOPSEMA (**Section 10.5**).

## 4.5 Decommissioning Planning

Decommissioning planning for the Griffin field is underway, with scope of work and tender/contract documents in a mature state. Griffin infrastructure within the petroleum title WA-10-L and pipeline licence WA-3-PL is required to be removed before 31 December 2024, in accordance with General Direction 832, unless NOPSEMA approves and is satisfied that an alternative decommissioning approach delivers equal or better environmental, safety and well integrity outcomes compared with complete removal.

The activities being undertaken to meet the requirements of General Direction 832 (**Section 2.1.2**) are covered by three separate Environment Plans. The scope and indicative timing of each is detailed in **Table 4-2**. Details relating to decommissioning schedules and removal activities are addressed in the Griffin Decommissioning and Field Management EP.

The Griffin Decommissioning and Field Management EP is the overarching permissioning document under which the decommissioning requirements of General Direction 832 are captured. It is planned to be the final EP for the Griffin field and anticipated to remain in force until such time all decommissioning activities are completed, and the petroleum title can be relinquished.

**Table 4-2: Summary of EPs related to the decommissioning of the Griffin Field**

EP	Scope	EP Initiation	EP Termination	EP Status <sup>1</sup>
Griffin Development Cessation (GV-HSE-E-0001)	On-going operation of the Griffin Field subsea equipment in cessation phase until approval of decommissioning activities. Cessation phase include physical presence of remaining infrastructure, subsea inspections/ interventions of infrastructure and vessel operations associated with cessation activities.	Currently in force EP accepted by NOPSEMA on 17 April 2018.	On acceptance by NOPSEMA of the Griffin Decommissioning and Field Management EP	Ended
Griffin Decommissioning and Field Management EP (GV-HSE-E-0014)	Removal of subsea equipment in the field, excluding equipment for which left <i>in situ</i> has been accepted by NOPSEMA under the Griffin Field Decommissioning EP. Field management activities (e.g., inspections).	From acceptance of EP, covering infrastructure removal and field management activities.	The EP will end when Woodside notify NOPSEMA that petroleum activity has ended, and all of the obligations under the EP have been completed, and NOPSEMA has accepted the notification, in accordance with Regulation 46 of the Environment Regulations.	Accepted



EP	Scope	EP Initiation	EP Termination	EP Status <sup>1</sup>
Griffin Gas Export Pipeline Decommissioning EP (00GA-BHPB-N00-0016)	Pigging, de-burial and removal of pipeline within Commonwealth waters mudline.	On notification to NOPSEMA for commencement of activities relating to removal of the Gas Export Pipeline in Commonwealth waters.	The EP will end when Woodside notify NOPSEMA that petroleum activity has ended, and all of the obligations under the EP have been completed, and NOPSEMA has accepted the notification, in accordance with Regulation 46 of the Environment Regulations.	Accepted
Griffin Field Decommissioning (00GA-BHPB-N00-0018) ( <i>This EP</i> )	<b>This EP</b> Details a left <i>in situ</i> case for Griffin RTM anchors, piled foundations and concrete gravity bases.	From acceptance of EP, covering left <i>in situ</i> of infrastructure (no activities required)	The EP will end when Woodside notify NOPSEMA that petroleum activity has ended, and all of the obligations under the EP have been completed, and NOPSEMA has accepted the notification, in accordance with Regulation 46 of the Environment Regulations.  Refer to compliance reporting in <b>Section 10.5.1</b> .	Under assessment (this EP)

1. Status as of December 2023

## 4.6 Surveys or Studies Undertaken to Support the Decommissioning Program

A baseline environmental survey was conducted in 2014 to inform background levels of contaminants in the sediment and water column (Gardline, 2015). These survey results will be utilised as a comparison basis for the post removal environmental survey. ROV surveys have also been completed to inform the equipment condition and removal methods.

Study work and execution strategies specific to the GEP is detailed in the Griffin Gas Export Pipeline EP.

Degradation studies as referenced within the EP have been conducted to assess the environmental impacts of all materials proposed to remain *in situ*.

Following cessation of production of the Griffin field, the subsea infrastructure has been the subject of surveys to establish status and condition and inform the decommissioning approach. The following reports contain details of the survey results:

- DOF Subsea Griffin Field Left Survey Report 2014 (DOF Subsea, 2014)
- Griffin Field Pre-Left Environmental and ROV Survey 2015 (Gardline, 2015)
- RTM Stability Buoyancy 2014 (BHP, 2014)
- Griffin P&A End of Campaign Report 2017 (BHP, 2017a)
- Griffin Field & Export Pipeline 2017 Subsea Survey (BHP, 2017b)
- Griffin RTM Survey Field Report (Woodside, 2022)

## 4.7 Griffin Infrastructure Overview

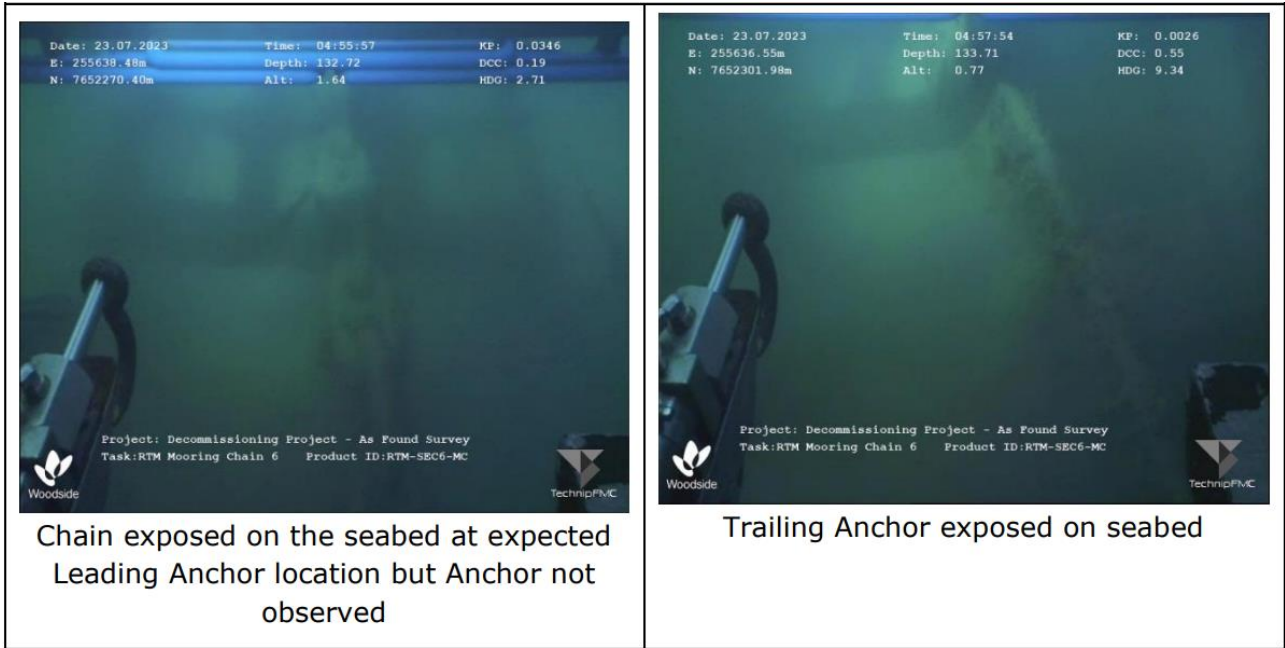
A pre-removal inspection campaign was conducted in July 2023 prior to the commencement of removal activities in the Griffin Field. The survey confirmed the status of all accessible subsea infrastructure within the Griffin Field and informed final engineering and planning for removal. The ROV survey was completed for all

subsea infrastructure where possible and accessible, and a pipe tracking tool will be utilised to confirm burial depth of the RTM anchors and associated mooring chain to up to 3 m below seabed.

The July 2023 ROV survey confirmed that 11 of the 12 anchors were buried. One of the anchors Mooring 6 trailing anchor was not buried and shown to be exposed on the seabed, see **Figure 4-2**. Removal of the Mooring 6 trailing anchor is proposed, with efforts also be made to remove the remaining eleven anchors and associated mooring chains. Only anchors and chain that are unable to be removed are proposed to be left *in situ*. Detail of the depth of burial for each of the twelve RTM anchors is outlined in **Table 4-3**.

**Table 4-3: Anchor positions and depths (eastings and northings in GDA94-MGA Zone 50)**

Mooring Leg Components	Eastings (m)	Northing (m)	Water depth (m)	Shallowest burial depth (m)	Deepest burial depth (m)
Mooring 1 Leading Anchor	256347.1	7651881.3	130	0.1	2.2
Mooring 1 Trailing Anchor	256369.6	7651893.6	130	0.3	2.1
Mooring 2 Leading Anchor	256350.2	7651078.1	127	0.5	1.9
Mooring 2 Trailing Anchor	256380.8	7651060.2	127	0.6	1.6
Mooring 3 Leading Anchor	255665.2	7650661.8	128	0.1	2.1
Mooring 3 Trailing Anchor	255666.0	7650633.2	128	0.4	2.4
Mooring 4 Leading Anchor	254963.0	7651051.2	131	0.2	1.8
Mooring 4 Trailing Anchor	254935.9	7651034.5	131	0.3	1.9
Mooring 5 Leading Anchor	254951.9	7651850.9	135	0.2	1.8
Mooring 5 Trailing Anchor	254927.8	7651865.1	135	0.2	1.8
Mooring 6 Leading Anchor	255638.2	7652269.7	131	0.3	2.0
Mooring 6 Trailing Anchor	255638.5	7652304.3	131	Exposed, see <b>Figure 4-2</b>	Exposed, see <b>Figure 4-2</b>



**Figure 4-2: Mooring 6 Trailing Anchor exposed on seabed.**

The July 2023 ROV survey found significant lengths of the mooring anchor chains have become buried over time, as shown in **Table 4-4** below. The main mooring chain is shallowly buried, efforts will be made to recover the majority of the chain and cut at or below the mudline as close as practicable to the anchor. Each of the six sections of 30 m interconnecting mooring chains between the leading and trailing anchors were buried. In addition, the leading RTM anchors connected to the main mooring chain were found to be buried between 0.1 and 2.2 metres below the surface. The calculated conservative estimate of burial lengths is 32 metres for each of the six mooring chains, which amounts of a total of 192 metres of mooring chain to remain *in situ*, see Table 4-4.

**Table 4-4: Anchor chain lengths and burial status**

Anchor Chain Components	Start of burial Kilometre Post (KP))	Leading anchor KP	Buried mooring chain length (m)	Buried interconnecting chain length (between leading and trailing anchor)	Total buried chain length (m)	Proposed chain length to remain <i>in situ</i> . (If anchors can't be removed)
Mooring Chain 1	0.6939	0.0160	678	30	708	32
Mooring Chain 2	0.3132	0.0292	284	30	314	32
Mooring Chain 3	0.7126	0.0255	687	30	717	32
Mooring Chain 4	0.7350	0.0332	702	30	732	32
Mooring Chain 5	0.7083	0.0230	685	30	715	32
Mooring Chain 6	0.6858	0.0378	648	30 meters of exposed chain	648	32

The subsea infrastructure, including the RTM anchors, piled foundations and MDB concrete gravity bases proposed for *in situ* left, is presented in **Table 4-5**, along with details of its current status and condition based on the information gathered from the above surveys. **Figure 4-1** presents the location of all infrastructure to be left *in situ*. The final number of anchors and length of chain to remain *in situ* will be determined after removal efforts have been made on RTM anchors and mooring chains, under the approved Griffin Decommissioning and Field Management EP.

Subsea surveys over the life of the Griffin development have demonstrated that the subsea infrastructure, particularly smaller items installed on the seabed, have become buried over time due to natural sedimentation. However, the top layer of the seabed sediment is mobile, and infrastructure may locally bury or become partially exposed over time, with burial status changing due to natural seabed processes.

The Griffin Decommissioning and Field Management EP includes a full inventory of subsea infrastructure relating to the Griffin Field as well as a holistic decommissioning schedule. Subsea infrastructure to be removed under the Griffin Decommissioning and Field Management EP includes:

- RTM
- RTM mooring lines (connecting lines from the RTM to the dual anchor system)
- wellheads and subsea trees
- flexible production flowlines and risers
- rigid production spools and flowlines
- electrohydraulic umbilicals and flying leads
- PLEM and partial removal of the PLEM piled foundations (planned to be cut below the mudline or as close to the mudline as possible (< 1 m above seabed))
- MDB mooring lines.
- distribution skids with attached electrical distribution units (EDUs) and partial removal of the distribution skid piled foundations (planned to be cut below the mudline or as close to the mudline as possible (<1 m above the seabed))
- ancillary structures and stabilisation materials (e.g., mud mats)

The Griffin Gas Export Pipeline Decommissioning EP covers the removal of the Griffin GEP in Commonwealth waters.

**Table 4-5: Summary of the subsea infrastructure to potentially be decommissioned *in situ*.**

Item	Quantity	Dimensions and Weight	Material	Status and Condition	Location <sup>6</sup>
<b>RTM Anchors</b>					
Anchors	Up to 11	Width: 7.06 m Height: 3.34 m Length: 6.55 m Weight: 17 tonnes (204 tonnes in total)	Mild steel comprising predominately of iron (99.68%), with trace amounts of carbon (0.22%), phosphorus (0.05%) and sulphur (0.05%).  Bitumen paint comprising bitumen and solvent. Approximately 40 kg total of Shipcoat Flintkote PF4 bitumenous based paint on RTM anchors	Eleven anchors are embedded in seabed, with Mooring 6 trailing anchor exposed.  Dual anchors (lead and lag anchor) remain connected via a 30m interconnecting anchor chain and the RTM mooring line.  Installed in 1993, 30 years old.	See anchor locations in <b>Table 4-3</b> above
Mooring and interconnecting chain	6	Interconnecting chain length: up to 30 m  Chain diameter = 84 mm Chain total width = 302 mm Chain weight = 154.5 kg/m = 27.81 Te total	Mild steel Grade K4 rig grade quality chain, lack of records with regards to exact composition. Assumed to be steel comprising predominately of iron (98.28%), with trace amounts of manganese (1.4%), carbon (0.26%), phosphorus (0.03%) and sulphur (0.03%) based on steel	The interconnecting chain between the dual anchors was found to be buried and will remain <i>in situ</i> .  The exposed mooring chain will be cut at or below the mudline as close as practicable to the anchor.  Installed in 1993, 30 years old.	See anchor chain lengths in Table 4-4 above

<sup>6</sup> Coordinates are provided in AGD84 TM 114 Deg East

Item	Quantity	Dimensions and Weight	Material	Status and Condition	Location <sup>6</sup>
			composition from similar mooring chains.		
<b>Piled Foundations</b>					
PLEM piled foundation <sup>7</sup>	1	Height: ~ 34 m below the mudline and up to ~ 1 m above the mudline. Diameter: 30" steel rod pile with ~3" of cement grout. Weight: 36.4 tonnes (estimated)	Steel comprising predominately of iron (98.28%), with trace amounts of manganese (1.4%), carbon (0.26%), phosphorus (0.03%) and sulphur (0.03%) Piles grouted with cement	The PLEM assembly sits over a steel and cement pile foundation. The PLEM will be removed, and the piled foundation will be cut as close to the mudline as practicable (a small portion that extends above the mudline may remain). These removal activities are covered under the Griffin Decommissioning and Field Management EP.  The remaining embedded portion of the piled foundation will remain <i>in situ</i> , with a small portion potentially extending above the mudline.  Installed in 1993, 30 years old.	Easting: 256393 m Northing: 7650218 m
Distribution skid piled foundations <sup>8</sup>	4	Height: ~ 34 m below the mudline and up to ~ 1 m above the mudline. Diameter: 30" steel rod pile with ~3" of cement grout. Weight: 36.5 tonnes per pile (estimated)	Steel comprising predominately of iron (98.28%), with trace amounts of carbon (0.26%), manganese (1.4%), phosphorus (0.03%) and sulphur (0.03%) Cement	The distribution skids sit over a steel and cement pile foundation, which is partially buried below the seabed. The distribution skids will be removed, and the piled foundations will be cut as close to the mudline as practicable (a small portion that extends above the mudline may remain). These removal activities are covered under the Griffin Decommissioning and Field Management EP.  The remaining embedded portion of the piled foundation will remain <i>in situ</i> , with a small portion potentially extending above the mudline.  Installed in 1993, 30 years old.	Distribution Skid 4 Easting: 253150 m, Northing: 7650065 m
					Distribution Skid 5 Easting: 253418 m, Northing: 7651297 m
					Distribution Skid 1 / 2 Easting: 260535 m, Northing: 7653488 m
					Distribution Skid 6 Easting: 254783 m, Northing: 7652896 m

<sup>7</sup> The PLEM and PLEM base structure that sit on top of the piled foundation will be removed as part of the Griffin subsea infrastructure removal campaign as defined in the Griffin Decommissioning and Field Management EP

<sup>8</sup> The distribution skids and distribution skid base structures that sit on top of the piled foundations will be removed as part of the Griffin subsea infrastructure removal campaign as defined in the Griffin Decommissioning and Field Management EP

Item	Quantity	Dimensions and Weight	Material	Status and Condition	Location <sup>6</sup>
<b>Concrete Gravity Bases</b>					
MDB Concrete Gravity Bases (CGB)	6	3 x CGBs: Length: 18 m Width: 4 m Height: 1.25 m 3 x H-shaped CGBs Length: 12 m Width: 15 m Height: 1.25 m Weight: 300 – 570 tonnes each (estimated)	Mild steel comprising predominately of iron (98.44%), with trace amounts of manganese (0.9%), silicon (0.4%), carbon (0.18%), phosphorus (0.04%) and sulphur (0.04%).  Concrete guide bases <sup>9</sup> have steel clump weights on top. Consist of aggregate Portland cement and reinforcing steel	All MDB concrete gravity bases are on the seabed and expected to be partially buried.  Installed in 1993, 30 years old.	Easting: 255715.4 m Northing: 7651572.3 m
					Easting: 255781.5 m Northing: 7651462.4 m
					Easting: 255716.9 m Northing: 7651350.7 m
					Easting: 255587.9 m Northing: 7651351.3 m
					Easting: 255527.0 m Northing: 7651458.8 m
					Easting: 255587.0 m Northing: 7651568.4 m

<sup>9</sup> laboratory analysis did not detect presence of plastics within the concrete (Section 4.7.2).

#### 4.7.1 Infrastructure Composition

The infrastructure proposed for *in situ* left is predominately comprised of steel. The total volume of materials left *in situ* by infrastructure are provided in **Table 4-6**. There are no residual chemicals, hydrocarbons or contamination associated with the infrastructure proposed for *in situ* left.

**Table 4-6: Breakdown of components of infrastructure proposed for *in situ* decommissioning.**

Infrastructure	Material	Total Volume / Weight per Item
RTM anchors (including interconnecting chains)	Steel	211 tonnes total
	Bitumen Paint	40 kg
PLEM piled foundation (partially removed)	Steel	22 tonnes
	Cement	13 tonnes
Distribution skid piled foundations (partially removed)	Steel	22 tonnes
	Cement	14.4 tonnes
MDB concrete gravity bases	Steel	145–290 tonnes
	Concrete	150–300 tonnes

#### 4.7.2 Residual Plastics

Plastics are not expected or known in the anchors or pile foundations. Woodside sampled the concrete clump weights used in the MDB concrete gravity bases to analyse for the presence of plastics. Results from independent laboratory analysis did not identify any plastic reinforcing fibres in the concrete; hence Woodside concludes that plastics are not expected to be present.



## 5 Description of the Environment

The purpose of this section is to address the requirements of Regulation 21(2) and 21(3) of the Environment Regulations through describing the existing environment, including values and sensitivities that may be affected by the petroleum activity.

The description of the environment applies to the EMBA (refer **Section 4.3**), the area encompassing a 500 m radius around the subsea infrastructure proposed to be abandoned *in situ*. All impacts from the petroleum activity are expected to be localised to the footprint of the infrastructure, there is no credible oil spill scenario and no vessel-based operations associated with the petroleum activity, and the EMBA has been defined accordingly. **Section 8** contains further information on the spatial extent of the potential impacts associated with the petroleum activity that have been used to inform the spatial EMBA.

The information contained in this section has been used to inform the evaluation and assessment of the environmental impacts and risks presented in **Section 8**. The level of detail is appropriate to the nature and scale of the impacts and risks to the particular values and sensitivities.

A detailed and comprehensive description of the environment within the EMBA is provided in **Appendix C**.

### 5.1 Relevant Values and Sensitivities of the Environment

Regulation 21(2) of OPGGS ((E) Regulations states that “*the environment plan must:*

- 21(2)(a) Describe the existing EMBA by the activity; and
- 21(2)(b) Include details of the particular relevant values and sensitivities (if any) of that environment”.

Regulation 21(3) of the OPGGS (E) Regulations states that “Without limiting paragraph 21(2)(b), particular relevant values and sensitivities may include any of the following:

- 21(3)(f) Any values and sensitivities that exist in, or in relation to, part or all of:
  - (i) A Commonwealth marine area within the meaning of that Act; or
  - (ii) Commonwealth land within the meaning of that Act”.

This section summarises environmental values and sensitivities, including physical, biological, socio-economic and cultural features in the marine and coastal environment that are relevant to the EMBA. Searches for matters of national environmental significance (MNES) and other matters protected by the EPBC Act were undertaken for the EMBA using the Protected Matters Search Tool (PMST). To avoid conducting multiple PMST searches to cover the spatial EMBA (500 m radius) for each piece of infrastructure, a conservative buffer encompassing a 1,500 m radius around the Griffin Subsea Infrastructure within WA-10-L was used.

A full description of the values and sensitivities relevant to the EMBA is provided in **Appendix C**, along with the PMST Search Reports.

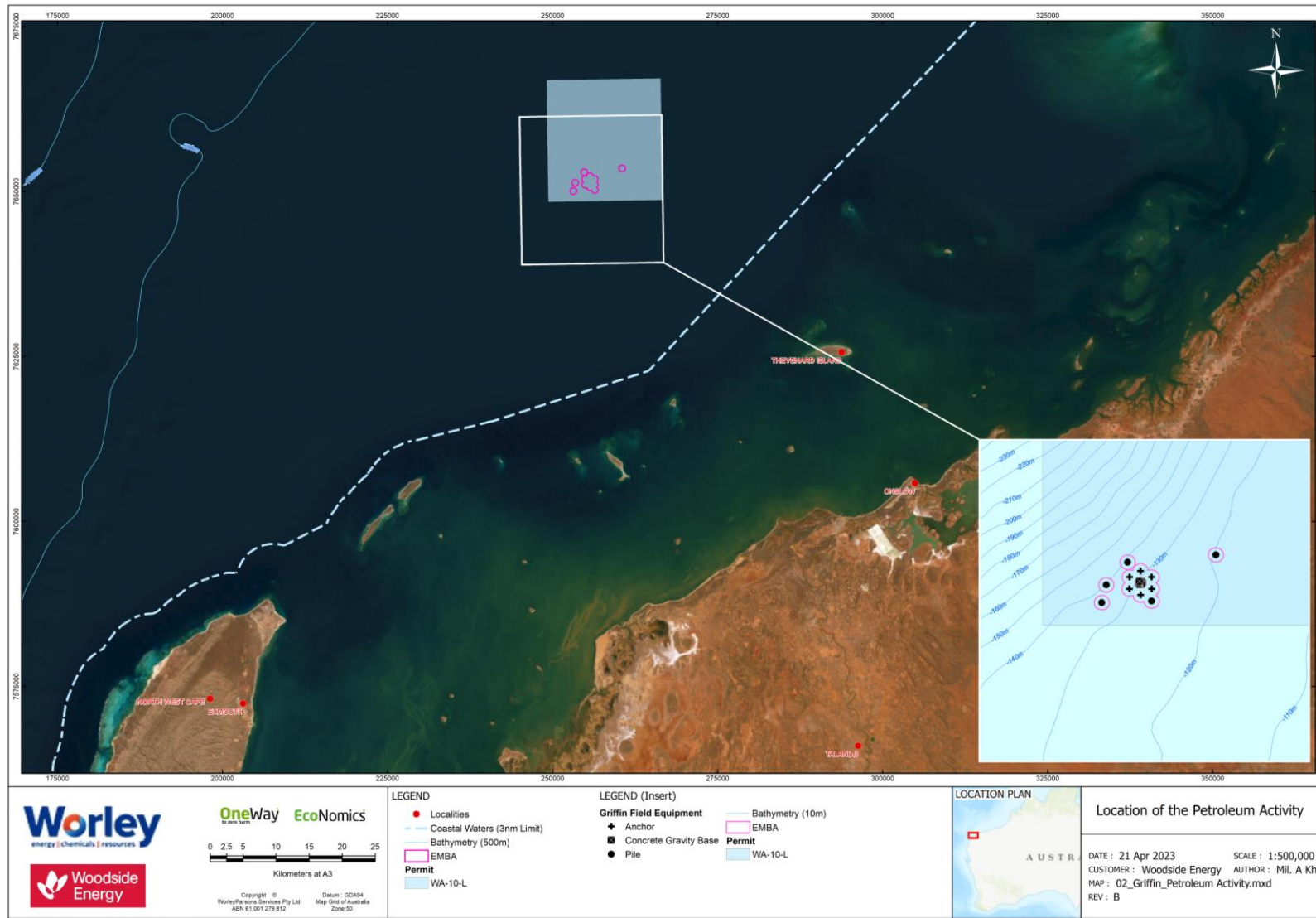


Figure 5-1: Environment that May Be Affected by the Petroleum Activity

### 5.1.1 Bioregions

The petroleum activity is located approximately 70 km North-West of Onslow, Western Australia and within Commonwealth waters of the Integrated Marine and Coastal Regionalisation of Australia (IMCRA) Northwest Shelf Marine Provincial Bioregion. **Appendix C** summarises the characteristics of this provincial bioregion.

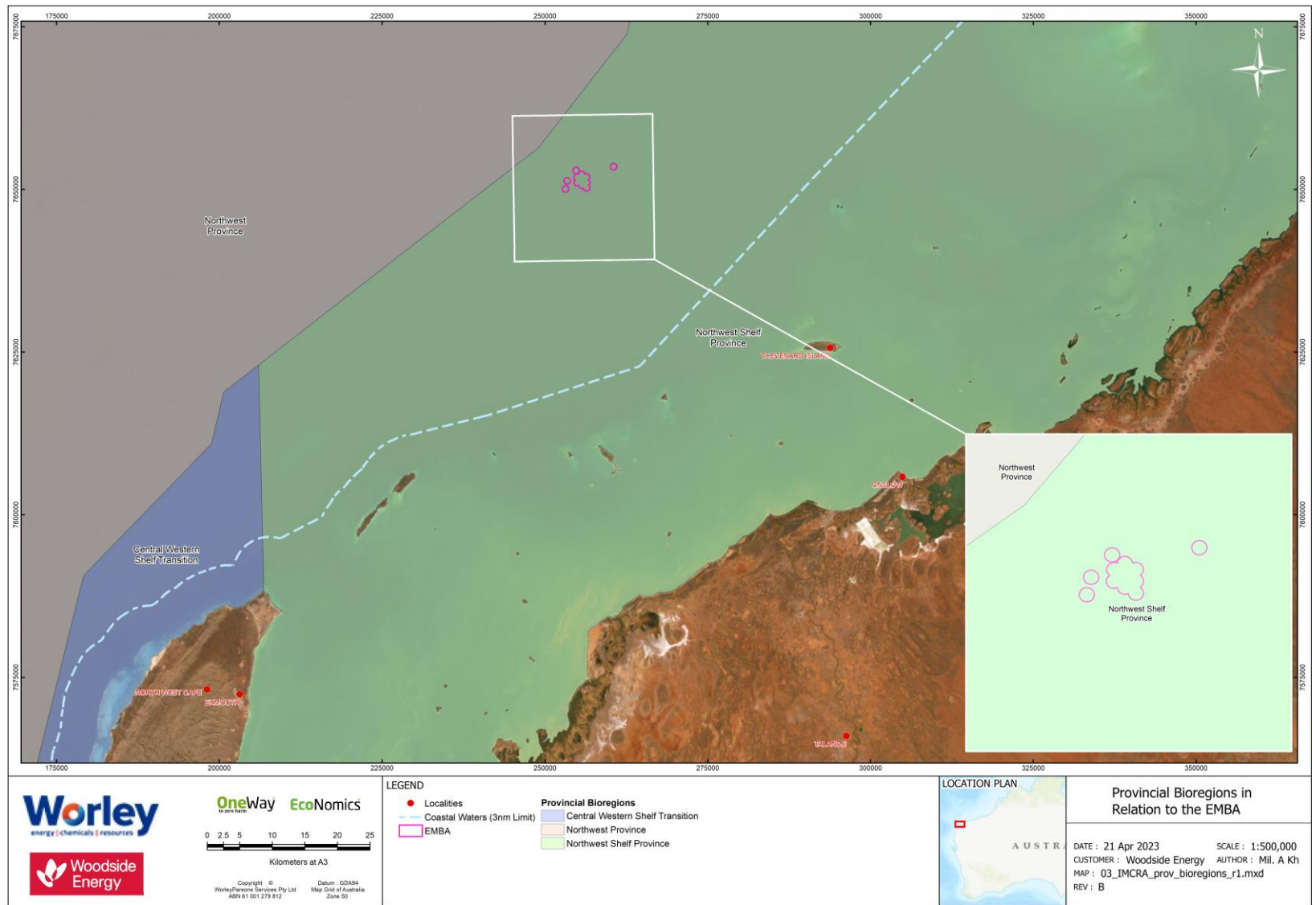


Figure 5-2: Provincial Bioregions within the EMBA

### 5.1.2 Matters of National Environmental Significance

**Table 5-1** summarise the MNES identified as potentially occurring within the EMBA, as determined by the PMST results (**Appendix C**).

Additional information on identified MNES are provided throughout this section and in **Appendix C**.

**Table 5-1: Summary of MNES within the EMBA**

MNES	Number	Relevant Section
World Heritage Properties	None	Not applicable
National Heritage Places	None	Not applicable
Wetlands of International Importance (Ramsar)	None	Not applicable
Marine Parks	None	Not applicable
Listed Threatened Ecological Communities <sup>1</sup>	None	Not applicable
Listed Threatened Species	25	<b>Section 5.5.1</b>
Listed Migratory Species <sup>2</sup>	40	<b>Section 5.5.1</b>

1. Terrestrial species (such as terrestrial mammals, reptiles and bird species) that appear in the PMST results of the EMBA and are not relevant to the petroleum activity impacts and risks have not been included in these numbers.
2. The EPBC Act categorise migratory and threatened species independently, therefore migratory spp. can also be threatened.

## 5.2 Griffin Field Environmental Surveys

The Griffin field has been the subject of a number of environmental surveys and research studies to understand the fish assemblages and seabed habitat (**Table 5-2**). Where relevant these studies have been referenced within this Section and throughout the EP.

**Table 5-2: Environmental Surveys and Studies relevant to the Griffin field**

Study / Research	Description
Griffin Field Pre-Left Environmental and ROV Survey (Gardline, 2015)	<p>The survey was conducted within the Griffin field, in water depths between 115 m and 215 m in October 2014. A total of sixteen 0.1 m<sup>2</sup> day grab stations were selected in the field and eight water sampling stations (water quality and profiling).</p> <p>To inform decommissioning, samples were collected to determine the physico-chemical and benthic infaunal characteristics surrounding infrastructure in the Griffin field. Additionally, a remotely operated vehicle (ROV) was deployed for the capture of digital stills and video footage of the subsea infrastructure, to allow for a visual flora and fauna assessment on the structures at seabed.</p> <p>Sediments and waters hydrocarbons and metals were compared to 'background concentrations' in the wider area of the NW Shelf of Australia. In the absence of any background reference data for the region the Australian and New Zealand Environment and Conservation Council (ANZECC), the Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ) Water Quality Guidelines (ANZECC, 2000) Simpson et al. (2013) Sediment Quality Guidelines (SQG) are referenced to establish trigger value exceedances.</p> <p><b>Appendix D</b> provides the Griffin Field infrastructure layout and environmental target locations.</p>
Analysis of Benthic Invertebrates, Sediment Chemistry and Water Quality in the Griffin Field (Cardno, 2015)	<p>Investigates the spatial patterns in the distribution of physico-chemical characteristics, including contaminants, in sediment and in the water column and in infauna in relation to their proximity to the Griffin Oil Field wells and other infrastructure. Includes an assessment of the relationship between spatial patterns</p>

Study / Research	Description
	in the distribution of benthic invertebrates and physico-chemical characteristics of the sediment and water column.
DOF Subsea Griffin Field Left Survey Report 2014 (DOF Subsea, 2014) Griffin P&A End of Campaign Report 2017 (BHP, 2017a) Griffin Field & Export Pipeline 2017 Subsea Survey (BHP, 2017b)	Various environmental and ROV surveys investigating the status of Griffin field infrastructure.
Griffin Field Commercial Fisheries Assessment (GHD, 2015)	Provides an assessment of the commercial (state only) and recreational fishing interests that exist in, or in close proximity to, the Griffin field. Anecdotal evidence was obtained from several commercial fishers and recreational (game) fishers in the region to establish presence of commercial fisheries use.
The Ecology of The Griffin Field (UTS Decommissioning Ecology Group, 2020)	Desktop study using images taken from ROV in October 2014 to investigate the biodiversity value of the Griffin field. Specifically, to: <ul style="list-style-type: none"> <li>▪ determine the biodiversity value of Griffin Field infrastructure and determine how diversity varies with individual structure location and depth.</li> <li>▪ assess fisheries potential.</li> </ul>

## 5.3 Biological Environment

**Section 5.3.1** to **Section 5.3.3** summarise the results from the sediment and water quality and benthic infauna sampling program undertaken in the pre-left Griffin field in October 2014 (Gardline, 2015).

### 5.3.1 Sediments

#### 5.3.1.1 Sediment Characteristics

Analysis of particle size across the stations showed heterogeneity in sediment composition within the survey area (Griffin Field). Mean particle size varied between 15 µm and 530 µm, with sediments described as fine silt to medium sand (Gardline, 2015). A spatial gradient was observed within the distribution of the sediment composition, with significantly higher percentages of fines (30.0% to 80.0%; < 63 µm, silt and clay) towards the southeast of the survey area, whereas percentages of sand (≥ 63 µm to < 2 mm) and gravel (≥ 2 mm) significantly increased towards the northwest (> 50% and > 1% respectively).

Total organic carbon (TOC) concentrations did not indicate the presence of organic enrichment, which would be expected in cuttings piles due smothering and anoxic conditions, with all concentrations ≤ 0.53%. Finer sediments and associated higher TOC concentrations were found at shallower depths across the survey area. Spatial distribution of sediments was therefore attributed to natural depth variation and thought representative of the wider area of the North West Shelf marine region.

#### 5.3.1.2 Organotins, Polychlorinated Biphenyls and Radionuclides

Concentrations of sediment organotins (monobutyltin, dibutyltin and tributyltin; TBT) were < 0.5 µg Sn/kg and < 1.0 µg Sn/kg (TBT) at all sample locations within the Griffin field with the exception of the Griffin RTM location, where a maximum TBT concentration of 7.4 µg Sn/kg was recorded. When normalised to 1% TOC, this was slightly above the Sediment Quality Guideline Value (SQGV) of 9 µg Sn/kg provided in Simpson et al. (2013), but well below the SQG-High value of 70 µg Sn/kg. TBT was used in marine paints as a biocide to prevent fouling on subsea infrastructure until 2008. The RTM structure was coated in anti-foulant paint, and it was therefore the erosion of this paint which was thought potentially responsible for the elevated concentrations of TBT in the sediments nearby this location. Higher TBT concentration at this location could also have also resulted from an historic input from the Griffin Venture FPSO.

There was no evidence of PCBs contamination in the sediments across the survey area, with all concentrations < 5 mg/kg (i.e., below the laboratory limit of reporting) and consistent with the PCB concentrations in sediments in the wider region.

Gardline (2015) reported on sediment radioactivity of a suite of radionuclides sampled in the Griffin field. All radionuclides showed consistent levels of activity across the sites sampled (**Figure 5-3**). This is consistent with no contamination of sediments with NORM during the production and cessation of production phases of the Griffin field.

### 5.3.1.3 Hydrocarbons

Analyses across the survey area (Griffin Field) showed total recoverable hydrocarbons (TRH) concentrations to be composed mainly of petroleum hydrocarbons (TPH). Concentrations were generally low and representative of the wider area, varying between < 3 mg/kg (the laboratory limit or reporting) and 14 mg/kg at all stations, with the exception of Station GR5 (Griffin-5 well), which had considerably higher TRH and TPH concentrations of up to 66 mg/kg and 62 mg/kg respectively (**Figure 5-4**, **Figure 5-5** and **Figure 5-6**). These TRH and TPH fractions are concentrated in the range that are consistent with synthetic-based drilling fluids, which may be the source of the hydrocarbons in sediments from the GR5 sample. These concentrations were not expected to present a significant environmental impact defined at 50 mg/kg by Kjeilen-Eilertsen et al. (2004), with the exception of that of Station GR5. All TPH concentrations were found below the default guideline value of 280 mg/kg established by the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (Commonwealth of Australia and New Zealand Government, 2018).

Gas chromatograms revealed all stations, except Station GR5, to present highly weathered heavy weight petrogenic and biogenic hydrocarbons, with very low traces of ‘fresher’ hydrocarbons of the same sources. The hydrocarbons detected in sediments sampled at the GR5 site were “fresher”, which may indicate contamination of sediments with synthetic based drilling fluids. While synthetic based fluids have largely been replaced, they were relatively prevalent at the time the well Griffin-5 well was drilled in 1993.

Concentrations of total PAHs were below the 10 mg/kg default guideline value established by the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (Commonwealth of Australia and New Zealand Government, 2018) (**Figure 5-4**), with the exception of:

- one replicate sample at the heat exchanger (HEX), with a concentration of 14 mg/kg
- one replicate sample at the Griffin-5 well (GR5), with a concentration of 13 mg/kg

No concentrations of PAHs in sediments exceeding the 50 mg/kg GV-High were reported by Gardline (2015).

Concentrations of BTEX were below the laboratory limits of reporting at all stations.

### 5.3.1.4 Metals

Concentrations of metals across the survey area were found generally representative of the wider region, with concentrations of all metals below their respective SQGV (Simpson et al., 2013). Most metals concentrations were correlated to the sediment characteristics and depths across the survey area, and their variability was therefore attributed to the heterogeneous nature of the sediment and varying depth. Barium in the sediment was generally low, with concentrations ≤ 30 mg/kg at a number of stations, including reference stations and the RTM location (**Figure 5-7**). Relatively high concentrations of barium were observed at sites in close proximity to historical wells, which is consistent with the presence of barite in drilling muds as a weighing agent. Concentrations of barium reached up to 1,740 mg/kg at the SC3 site (near the Scindian-3 well).

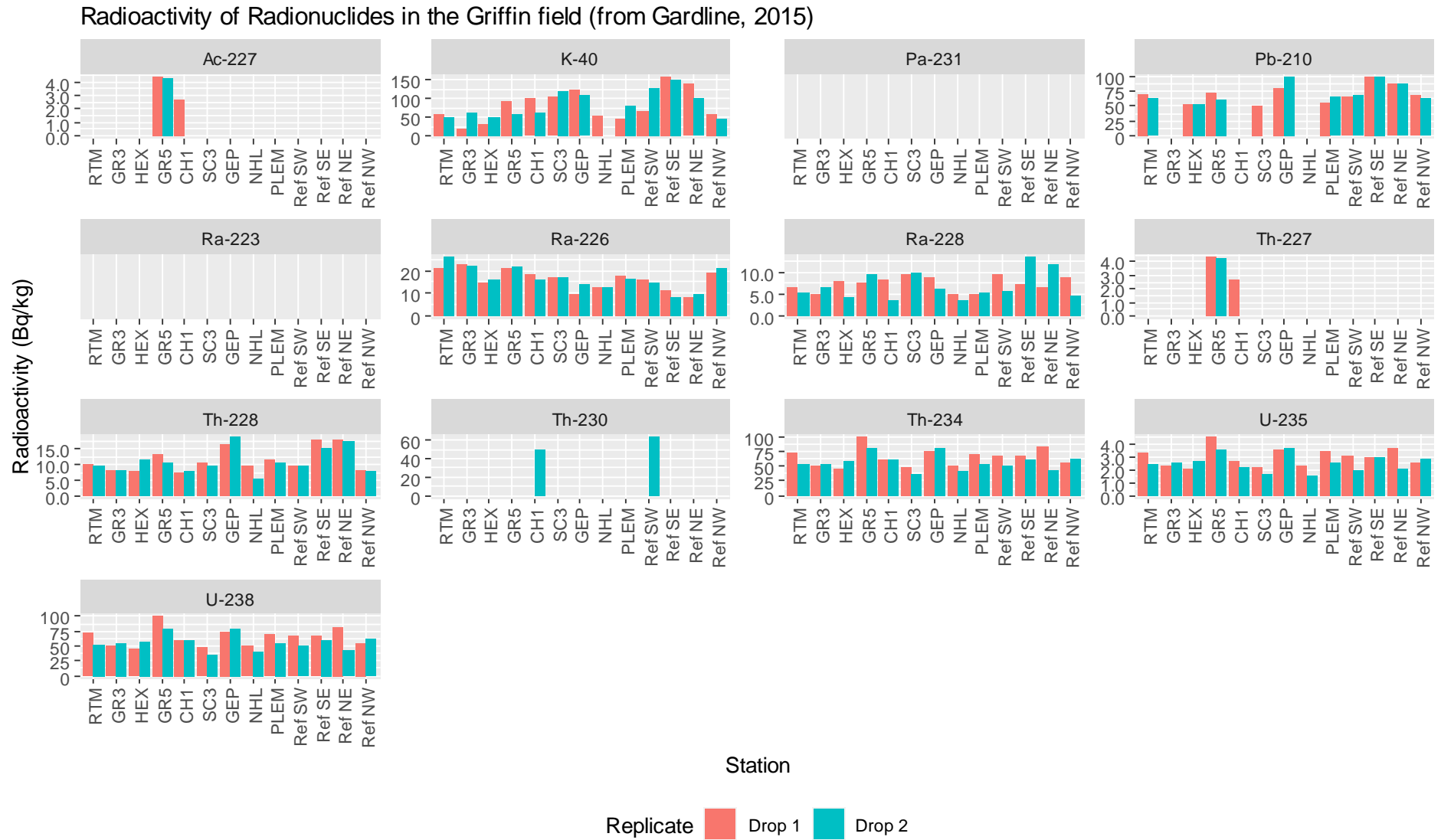


Figure 5-3: Radioactivity of radionuclides in sediments samples in the Griffin field (after Gardline, 2015)



PAH Concentrations in the Griffin field (from Gardline, 2015)

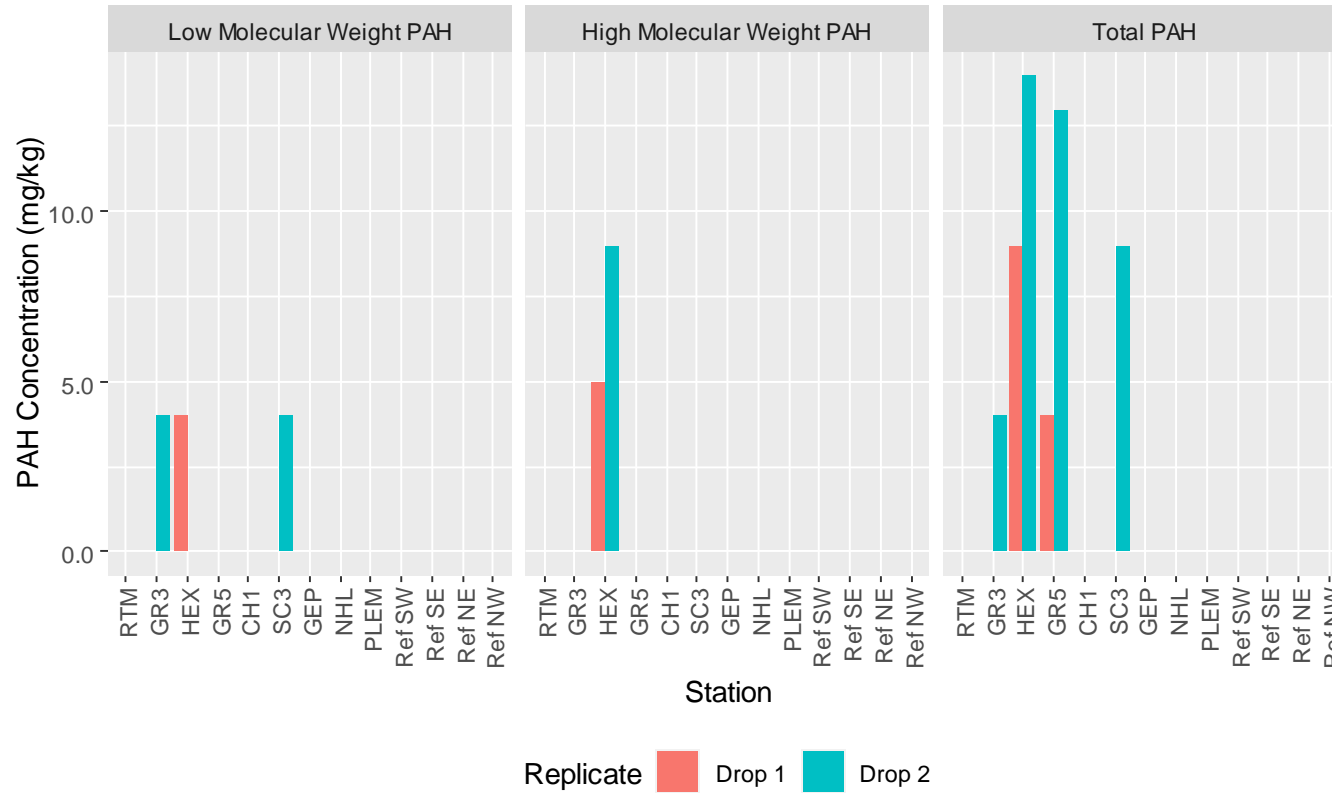


Figure 5-4: Concentrations of low molecular weight PAHs, high molecular weight PAHs and total PAHs in sediments samples in the Griffin field (after Gardline, 2015)

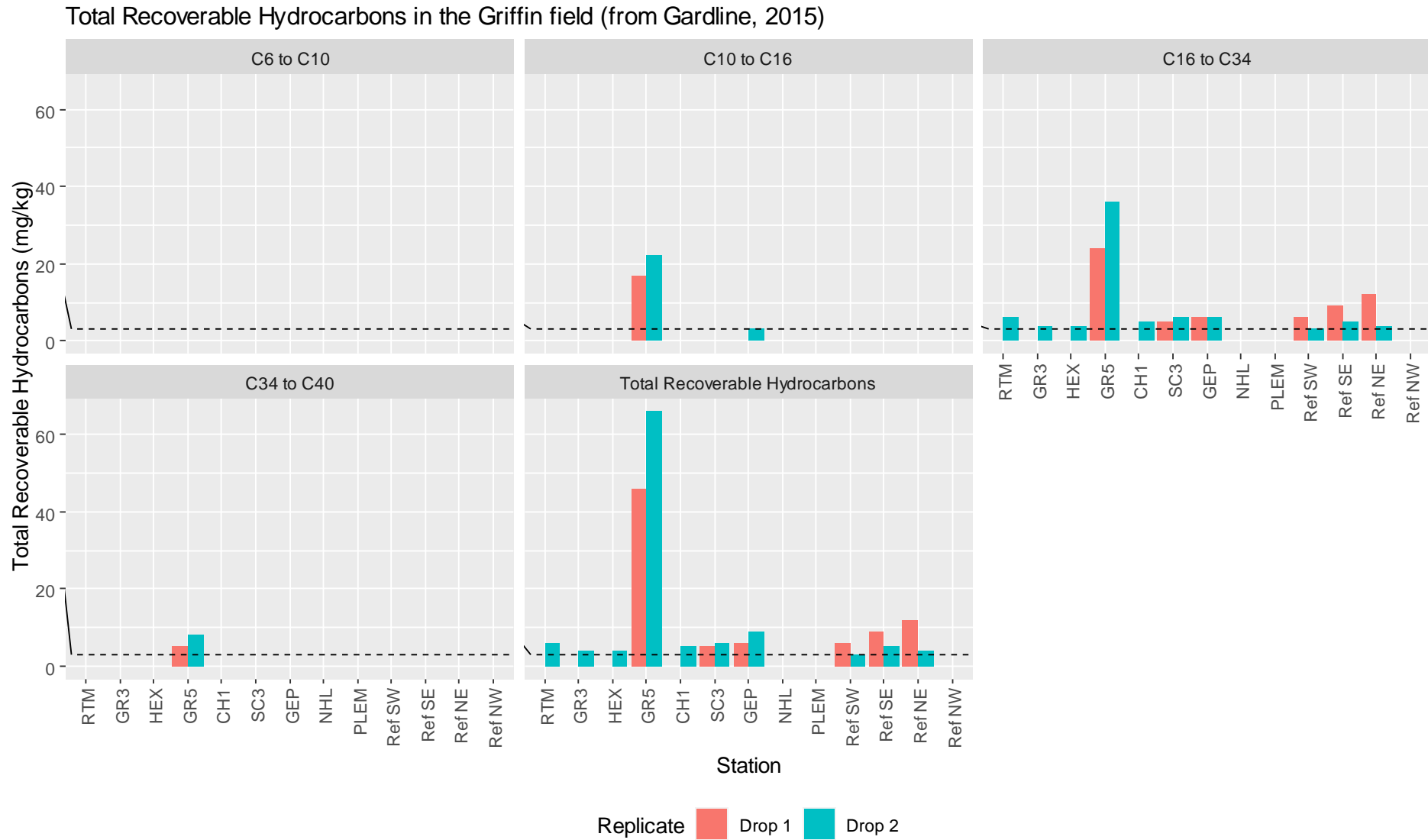


Figure 5-5: Total recoverable hydrocarbons in sediments samples in the Griffin field (after Gardline, 2015). Dashed line is laboratory limit of reporting.

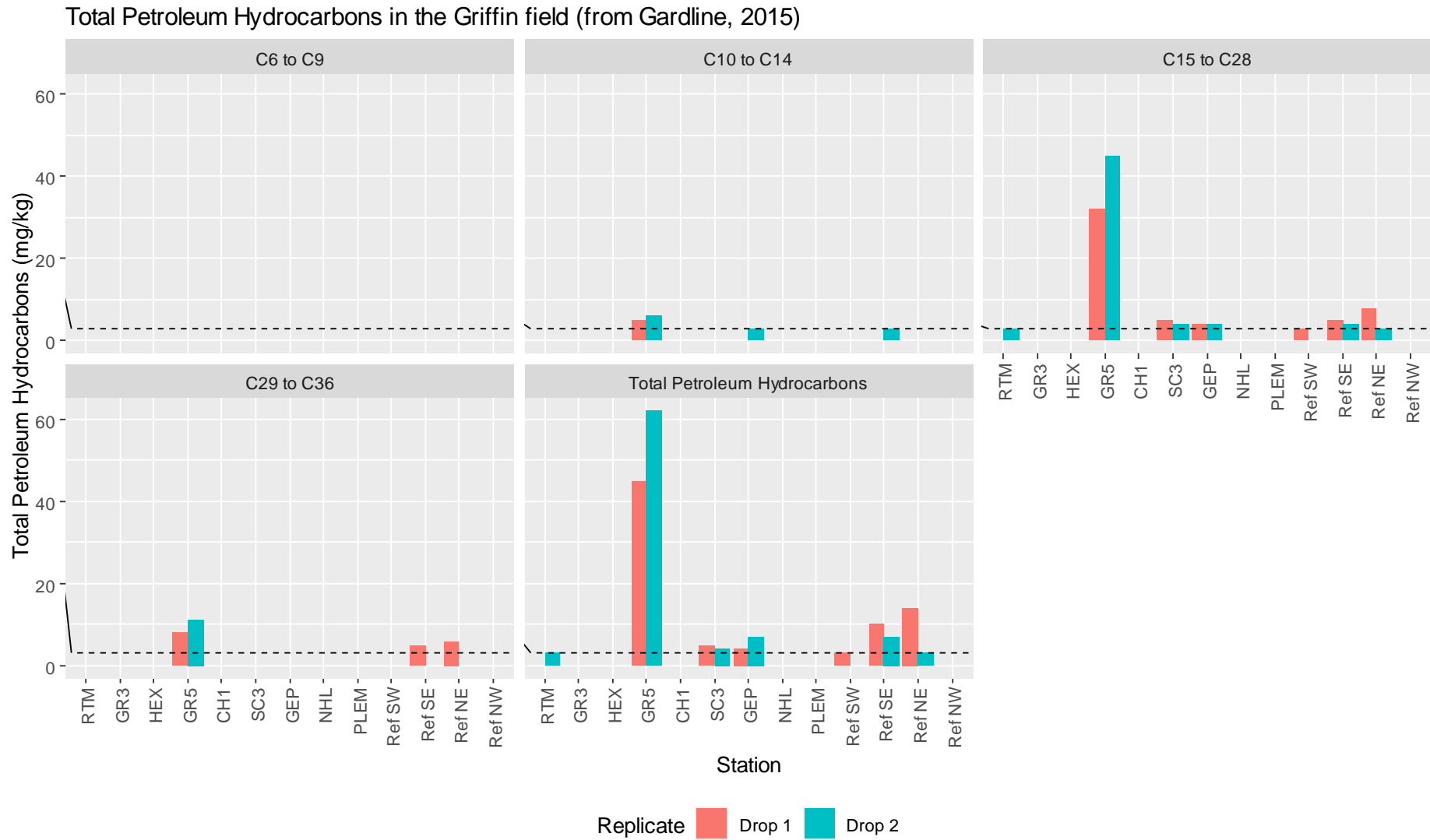


Figure 5-6: Total petroleum hydrocarbons in sediments samples in the Griffin field (after Gardline, 2015). Dashed line is laboratory limit of reporting.

Concentrations of Metals in the Griffin field (from Gardline, 2015)

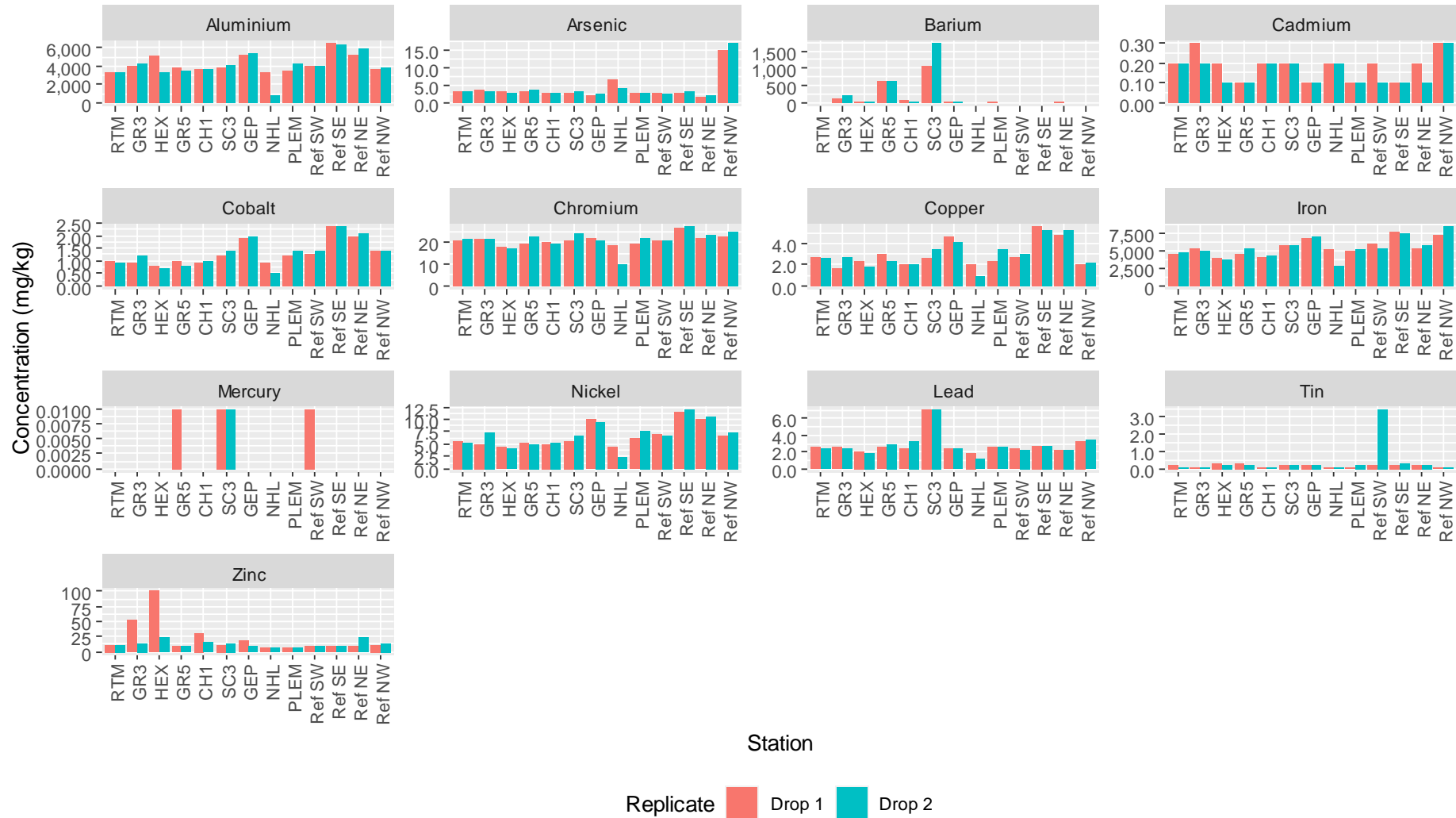
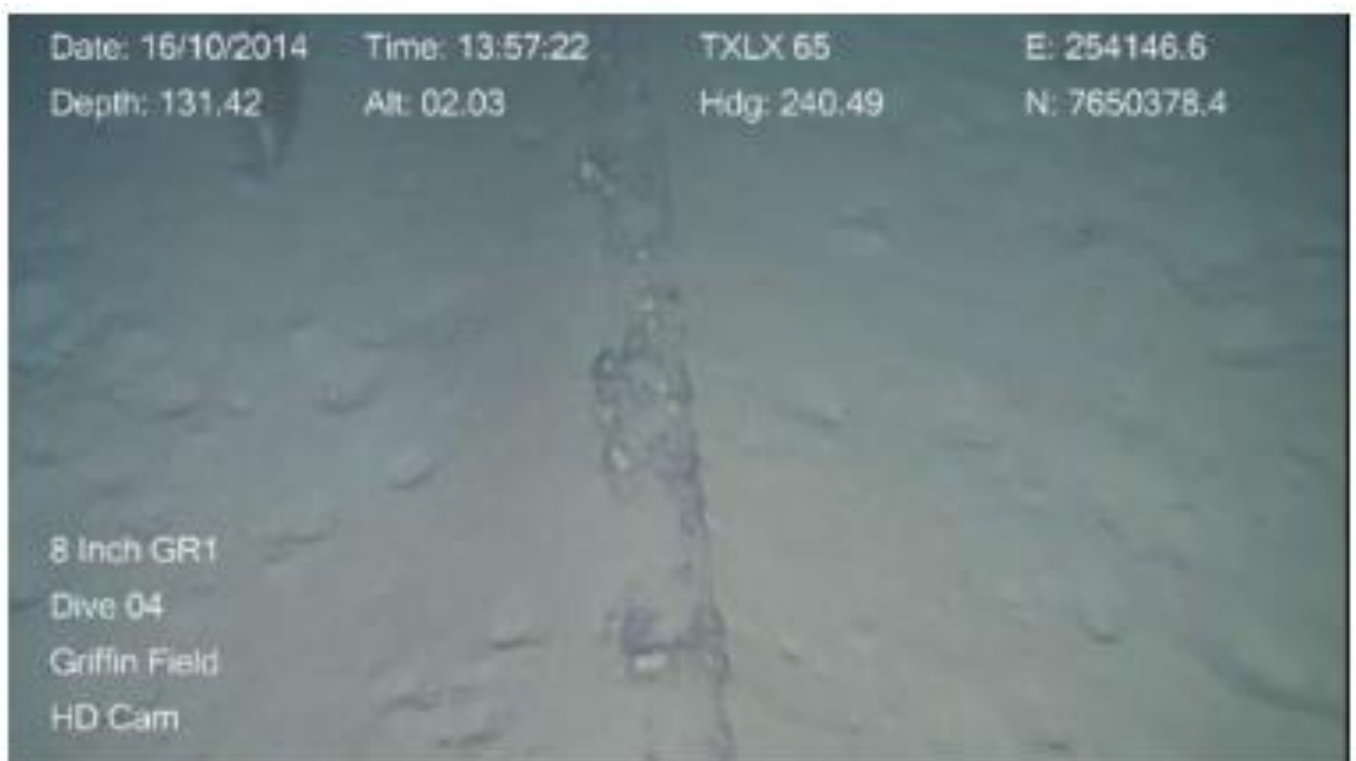


Figure 5-7: Concentrations of metals in sediments at sampling stations in the Griffin field (after Gardline, 2015)

### 5.3.2 Benthic Habitats and Infauna

The benthic habitats in the Griffin field are characterised by unconsolidated sediments, with mean grain size ranging from medium silt to coarse sand; samples were typically poorly or very poorly sorted (Gardline, 2015). Unconsolidated sediment habitat is the most common benthic habitat class in similar depths on the North West Shelf, with a strong trend of benthic organism's percent cover decreasing with increasing water depth (Fulton et al., 2006). Water depth at the location of the equipment proposed for left *in situ* is approximately 130 m, hence the benthic habitats around the equipment receive insufficient photosynthetically active radiation to support benthic primary producer habitats, such as zooxanthellate corals, macroalgae or seagrasses.

ROV surveys by Gardline (2015) showed very few epibenthic biota on the unconsolidated sediments in the Griffin field, with a range of sessile fauna attached to the Griffin equipment (hydroids, bryozoans, soft corals etc.). **Figure 5-8** shows the typical natural benthic habitat in the Griffin field, with the small depressions in the seabed indicative of bioturbation by infauna.



**Figure 5-8: Unconsolidated sediment habitat around a flowline in the Griffin field showing bioturbation (Gardline, 2015)**

Infaunal abundance of individuals and taxa was low across in the Griffin field with a total of 1,088 individuals representing 181 taxa from the 32 samples. The community was dominated by polychaetes and crustaceans representing 75% of the total abundance and 81% of the total number of species. The infauna samples were generally dominated by a small number of species of higher abundances at all stations, indicating a relatively low species diversity (Gardline, 2015). The abundance of some of the most dominant species across the survey area tended to increase with proximity to infrastructure, particularly the taxa classified as “Other” which was dominated by sipunculan and oligochaete worms (**Figure 5-9**). This pattern may show a potential influence of contamination over the infaunal communities across the Griffin field, with those species having a greater tolerance to certain contaminants found in higher concentrations near existing drilled wells/infrastructure, i.e., metals and hydrocarbons (Gardline, 2015). However, it is also possible that the physical presence of the infrastructure provides shelter and substrate for a number of species, therefore increasing the availability of food for infauna which could increase in density as a result. In both cases the infaunal community structure and density could be the result of an anthropogenic influence from the oil and gas activities across the survey area, whether due to the presence of infrastructure and/or some of the low-level contamination present around wells (Gardline, 2015).

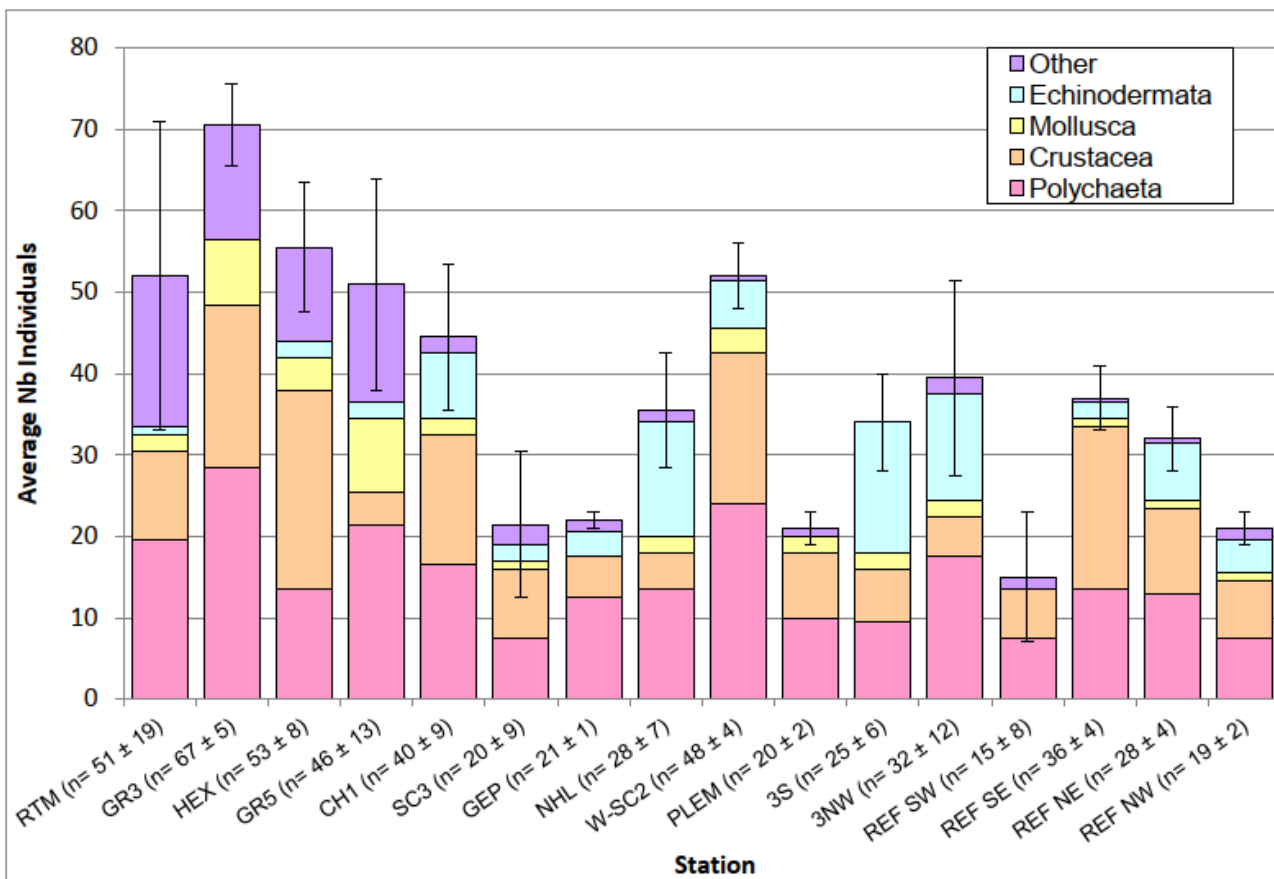


Figure 5-9: Average number of infaunae per site based on two replicate samples per site ± 1 standard error (Gardline, 2015)

### 5.3.3 Water Quality

Water profiling and sampling data were collected across the EMBA during the 2014 surveys by Gardline (2015). Analyses of total suspended solids, hydrocarbons, BTEX and radionuclides concentrations within the water column were mostly uniform and below the limit of reporting (LoR). Concentrations were found below the ANZECC (2000) trigger values for the protection of 99% and 95% of species, where available, in addition to being representative of the results in an adjacent survey undertaken in 2009 (Gardline, 2015) and of the conditions in the wider area of the North West Shelf. There were no discernible differences in the water contaminants measured at stations within the Griffin field, with most of the contaminants having concentrations below the chemical detection level (Cardno, 2015).

Concentrations of metals were generally low and uniform, with the exception of concentrations of nickel (Ni) found significantly higher at infrastructure stations than at reference stations. All concentrations were found below the ANZECC (2000) trigger values, with the exception of concentrations of copper (Cu) and zinc (Zn) truly exceeding ANZECC (2000) trigger values for the protection of 99% and/or 95% of species at one (Zn – Station RTM) to all detected stations (including reference stations – Cu). However, the concentrations of Cu were found homogeneous across the survey area, with no significant difference between infrastructure and reference stations, and therefore these concentrations were thought representative of the wider area. Higher concentrations of Zn at Station RTM, notably at the bottom of the water column, may be attributed to the presence of anodes at the seabed, potentially leaching Zn into the water column. Concentrations of all metals, with the exception of Zn at Station RTM, were therefore found representative of background conditions for the wider area (Gardline, 2009).

## 5.4 Protected or Significant Areas

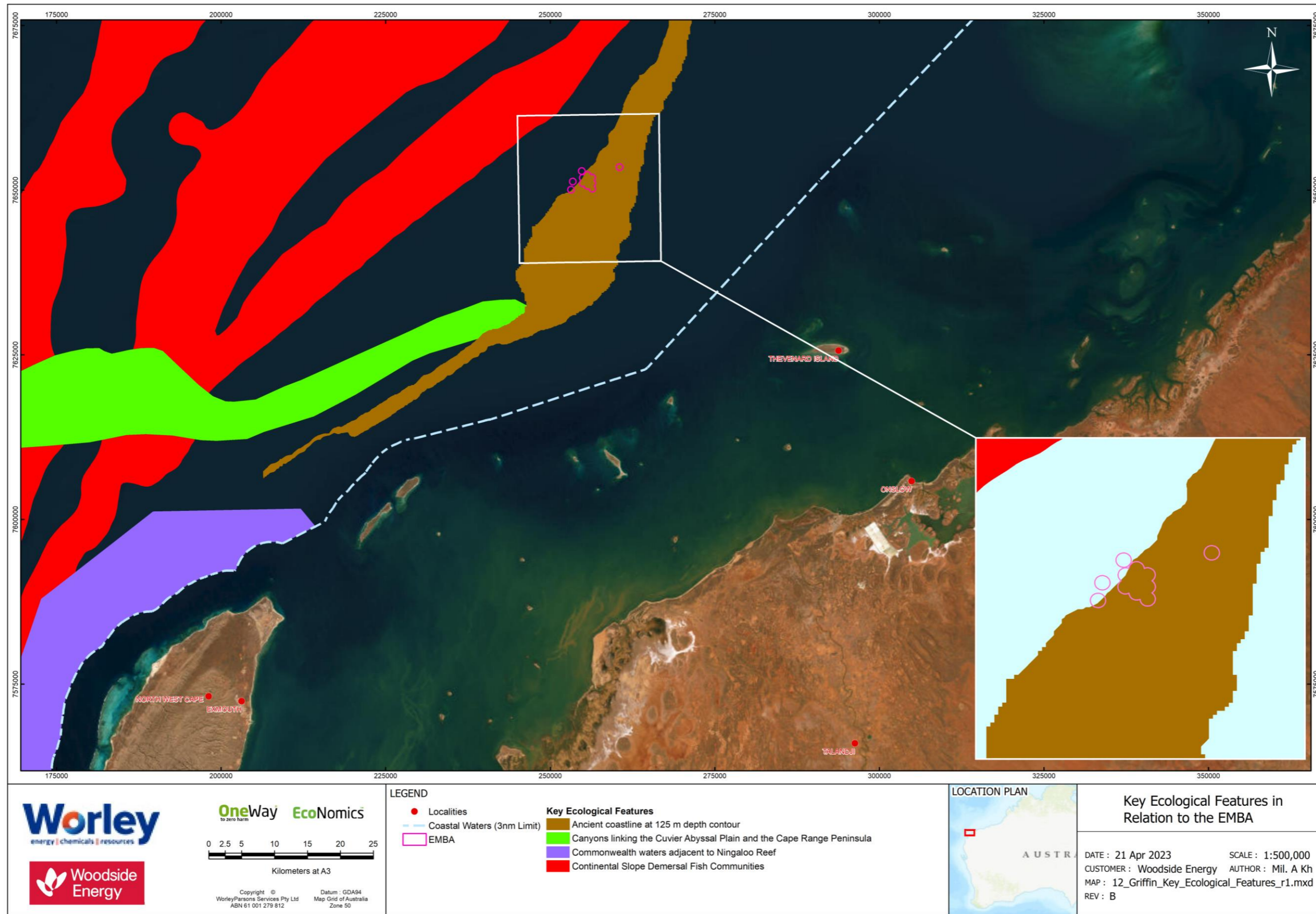
### 5.4.1 Key Ecological Features

Key Ecological Features (KEFs) are areas of regional importance for either biodiversity or ecosystem function and integrity within the Commonwealth marine environment and have been identified through the marine bioregional planning process.

The presence of KEFs within the EMBA are summarised in **Table 5-3** and a detailed description of these KEFs is provided in **Appendix C**. KEFs within the EMBA are presented in **Figure 5-10**.

**Table 5-3: Key Ecological Features in the EMBA**

KEF	EMBA	Distance from EMBA (km)
Ancient coastline at 125 m depth contour	✓	N/A
Continental slope demersal fish communities	x	5 km
Canyons linking the Cuvier Abyssal Plain and the Cape Range Peninsula	x	14 km
Commonwealth waters adjacent to Ningaloo Reef	x	59 km
Exmouth Plateau	x	109 km
Glomar Shoals	x	253 km



Location: C:\Adhoc\_Jobs\Aaron\\_SKT\Griffin\mxd\_20230420\12\_Griffin\_Key\_Ecological\_Features\_r1.mxd

Figure 5-10: Key Ecological Features within the EMBA



### 5.4.2 World Heritage Properties

World Heritage Properties represent the best examples of the world's cultural and natural heritage. There are no World Heritage Properties within the EMBA.

### 5.4.3 National Heritage Properties

Australia's national heritage comprises exceptional natural and cultural places that contribute to Australia's national identity. There are no National Heritage Places within the EMBA.

### 5.4.4 Commonwealth Heritage Properties

The Commonwealth Heritage List is a list of Indigenous, historic and natural heritage places owned or controlled by the Australian Government. There are no Commonwealth Heritage Places within the EMBA.

### 5.4.5 Marine Protected Areas

There are no Australian or State Marine Parks located in the EMBA.

For reference, Australian and State Marine Parks distances to the EMBA are presented in **Table 5-4** and [Error! Reference source not found.](#)

**Table 5-4: Australian and State Marine Parks in relation to the EMBA**

Marine Protected Areas	IUCN Category or Relevant Park Zone	EMBA	Distance from EMBA (km)
<b>Australian Marine Parks</b>			
Gascoyne	Habitat Protection Zone (IUCN Category IV)	-	75 km
	Multiple Use Zone (IUCN Category VI)		
Montebello Marine Park	Multiple Use Zone (IUCN Category VI)	-	67 km
Ningaloo	National Park Zone (IUCN Category II)	-	60 km
	Recreational Use Zone (IUCN Category IV)		
<b>State Marine Parks and Marine Management Areas</b>			
Muiron Islands Marine Management Area	Habitat / Species Management Area (IUCV Category IV)	-	41 km
Barrow Island Marine Management Area	Habitat / Species Management Area (IUCV Category IV)	-	64 km
Ningaloo Marine Park	Managed Resource Protection Area (IUCN Category VI)	-	60 km
Barrow Island Marine Park	Managed Resource Protection Area (IUCN Category VI)	-	73 km

## 5.5 Marine Fauna

### 5.5.1 Threatened and Migratory Species

**Table 5-5** presents the threatened and migratory species within the EMBA. These include all relevant MNES protected under the EPBC Act, as identified in the PMST search for the EMBA (PMST search results are provided in **Appendix C**). For each species identified, the extent of likely presence is noted.

The PMST results identified 25 marine fauna species listed as 'threatened' species and 37 marine fauna species listed as 'migratory' within the EMBA. A description of the identified threatened and migratory species is included in **Appendix C**.

Species with designated Biologically Important Areas (BIAs) and Habitat Critical to their Survival (Habitat Critical) overlapping the EMBA have been identified in **Table 5-6** and **Table 5-7**.

Table 5-5: Threatened and Migratory Species Predicted to Occur within the EMBA

Value/Sensitivity Common Name	Scientific Name	Threatened Status	Migratory Status	EMBA Presence	Sensitivities within EMBA
<b><i>Fish, Sharks, and Rays</i></b>					
Grey nurse shark (west coast population)	<i>Carcharias taurus</i>	Vulnerable	-	✓	Species or species habitat known to occur within area
White shark	<i>Carcharodon carcharias</i>	Vulnerable	Migratory	✓	Species or species habitat may occur within area
Dwarf sawfish	<i>Pristis clavata</i>	Vulnerable	Migratory	✓	Species or species habitat known to occur within area
Green sawfish	<i>Pristis zijsron</i>	Vulnerable	Migratory	✓	Species or species habitat known to occur within area
Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish	<i>Pristis pristis</i>	Vulnerable	Migratory	✓	Species or species habitat known to occur within area
Whale shark	<i>Rhincodon typus</i>	Vulnerable	Migratory	✓	Foraging, feeding, or related behaviour known to occur within area
Scalloped Hammerhead	<i>Sphyrna lewini</i>	Conservation Dependent	-	✓	Species or species habitat known to occur within area
Southern Bluefin Tuna	<i>Thunnus maccoyii</i>	Conservation Dependent	-	✓	Species or species habitat likely to occur within area
Narrow sawfish	<i>Anoxypristis cuspidata</i>	-	Migratory	✓	Species or species habitat likely to occur within area
Shortfin mako	<i>Isurus oxyrinchus</i>	-	Migratory	✓	Species or species habitat likely to occur within area
Longfin mako	<i>Isurus paucus</i>	-	Migratory	✓	Species or species habitat likely to occur within area
Giant manta ray	<i>Manta birostris</i>	-	Migratory	✓	Species or species habitat likely to occur within area

Value/Sensitivity Common Name	Scientific Name	Threatened Status	Migratory Status	EMBA Presence	Sensitivities within EMBA
Reef manta ray	<i>Manta alfredi</i>	-	Migratory	✓	Species or habitat known to occur to occur within area
Oceanic whitetip shark	<i>Carcharhinus longimanus</i>	-	Migratory	✓	Species or species habitat likely to occur within area
<b>Marine Mammals</b>					
Sei whale	<i>Balaenoptera borealis</i>	Vulnerable	Migratory	✓	Species or species habitat likely occur within area
Blue whale	<i>Balaenoptera musculus</i>	Endangered	Migratory	✓	Species or species habitat likely to occur within area
Fin whale	<i>Balaenoptera physalus</i>	Vulnerable	Migratory	✓	Species or species habitat likely to occur within area
Southern right whale	<i>Eubalaena australis</i>	Endangered	Migratory	✓	Species or species habitat may occur within area
Humpback whale	<i>Megaptera novaeangliae</i>	-	Migratory	✓	Breeding known to occur within area
Australian Snubfin Dolphin	<i>Orcaella heinsohni</i> as <i>Orcaella brevirostris</i>	-	Migratory	✓	Breeding known to occur within area
Sperm whale	<i>Physeter macrocephalus</i>	-	Migratory	✓	Species or species habitat may occur within area
Killer whale	<i>Orcinus orca</i>	-	Migratory	✓	Species or species habitat may occur within area
Spotted bottlenose dolphin	<i>Turdiops aduncus</i>	-	Migratory	✓	Species or species habitat known to occur within area
Bryde's whale	<i>Balaenoptera edeni</i>	-	Migratory	✓	Species or species habitat likely to occur within area
Australian Humpback Dolphin	<i>Sousa sahalensis</i> as <i>Sousa chinensis</i>	-	Migratory	✓	Species or species habitat may occur within area
Dugong	<i>Dugong dugong</i>	-	Migratory	✓	Species or species habitat likely to occur within area

Value/Sensitivity Common Name	Scientific Name	Threatened Status	Migratory Status	EMBA Presence	Sensitivities within EMBA
<b>Marine Reptiles</b>					
Loggerhead turtle	<i>Caretta caretta</i>	Endangered	Migratory	✓	Species or species habitat known to occur within area
Green turtle	<i>Chelonia mydas</i>	Vulnerable	Migratory	✓	Species or species habitat known to occur within area
Leatherback turtle	<i>Dermochelys coriacea</i>	Endangered	Migratory	✓	Species or species habitat likely to occur within area
Hawksbill turtle	<i>Eretmochelys imbricata</i>	Vulnerable	Migratory	✓	Species or species habitat known to occur within area
Flatback turtle	<i>Natator depressus</i>	Vulnerable	Migratory	✓	Congregation or aggregation known to occur within area
Short-nosed Seasnake	<i>Aipysurus apraefrontalis</i>	Critically Endangered	-	✓	Species or species habitat likely to occur within area
Leaf-scaled Seasnake	<i>Aipysurus foliosquama</i>	Critically Endangered	-	✓	Species or species habitat likely to occur within area
<b>Marine Birds</b>					
Red knot	<i>Calidris canutus</i>	Endangered	Migratory	✓	Species or species habitat may occur within area
Curlew sandpiper	<i>Calidris ferruginea</i>	Critically Endangered	Migratory	✓	Species or species habitat may occur within area
Southern giant petrel	<i>Macronectes giganteus</i>	Endangered	Migratory	✓	Species or species habitat may occur within area
White-tailed Tropicbird	<i>Phaethon lepturus</i>		Migratory	✓	Species or species habitat may occur within area
Eastern curlew	<i>Numenius madagascariensis</i>	Critically Endangered	Migratory	✓	Species or species habitat may occur within area
Australian fairy tern	<i>Sternula nereis nereis</i>	Vulnerable	-	✓	Breeding known to occur within area

Value/Sensitivity Common Name	Scientific Name	Threatened Status	Migratory Status	EMBA Presence	Sensitivities within EMBA
Indian, Yellow-nosed Albatross	<i>Thalassarche carteri</i>	Vulnerable	Migratory	✓	Species or species habitat may occur within area
Common noddy	<i>Anous stolidus</i>	-	Migratory	✓	Species or species habitat may occur within area
Streaked shearwater	<i>Calonectris leucomelas</i>	-	Migratory	✓	Species or species habitat likely to occur within area
Lesser frigatebird	<i>Fregata ariel</i>	-	Migratory	✓	Species or species habitat likely to occur within area

### 5.5.2 Biologically Important Areas and Critical Habitats

Biologically important areas (BIAs) are those locations where aggregations of members of a species are known to undertake biologically important behaviours, such as breeding, resting, foraging or migration. BIAs have been identified using expert scientific knowledge about species abundance, distribution, and behaviours.

Relevant BIA's and Critical Habitat areas identified within the EMBA are presented in **Table 5-6** and **Table 5-7** respectively. **Figure 5-11**, **Figure 5-12**, **Figure 5-13**, **Figure 5-15**, **Figure 5-14**, **Figure 5-16** and **Figure 5-17** show the spatial overlap with relevant BIAs and Habitat Critical areas in relation to the EMBA.

**Table 5-6: Biologically Important Areas within the EMBA**

Value / Sensitivity	BIA Type	EMBA
<b><i>Marine Mammals</i></b>		
Humpback Whale	Migration (north and south)	✓
Pygmy Blue Whale	Distribution	✓
<b><i>Fish, Sharks, and Rays</i></b>		
Whale Shark	Foraging	✓
<b><i>Marine Turtles</i></b>		
Flatback Turtle	Interesting buffer	✓
<b><i>Seabirds</i></b>		
Wedge-tailed Shearwater	Breeding	✓

**Table 5-7: Habitat Critical Areas within the EMBA**

Value / Sensitivity	Critical Habitat Type	EMBA
Flatback Turtle	Interesting	✓

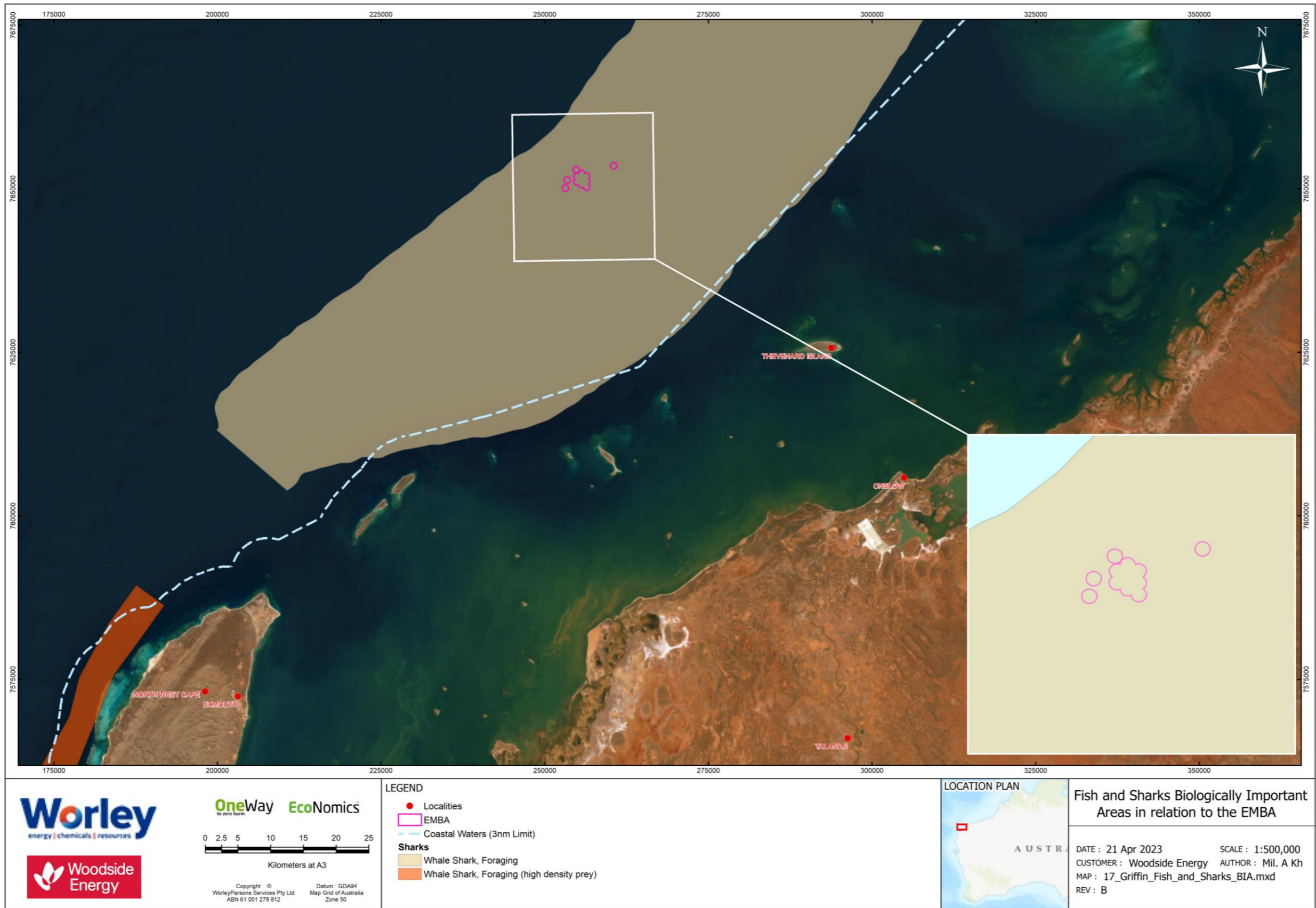


Figure 5-11: Whale Shark Biologically Important Area within the EMBA



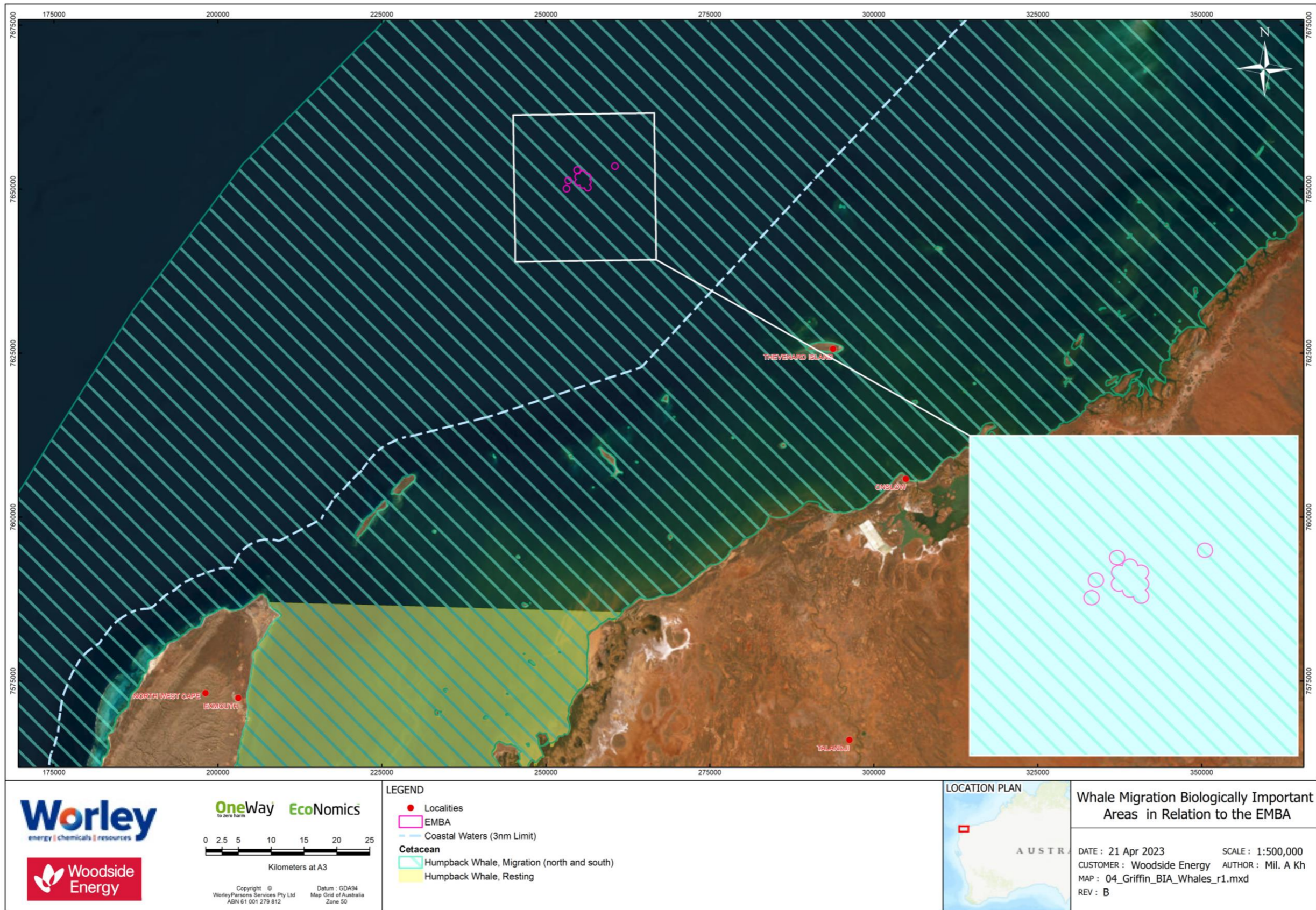


Figure 5-12: Humpback Whale Biologically Important Area within the EMBA

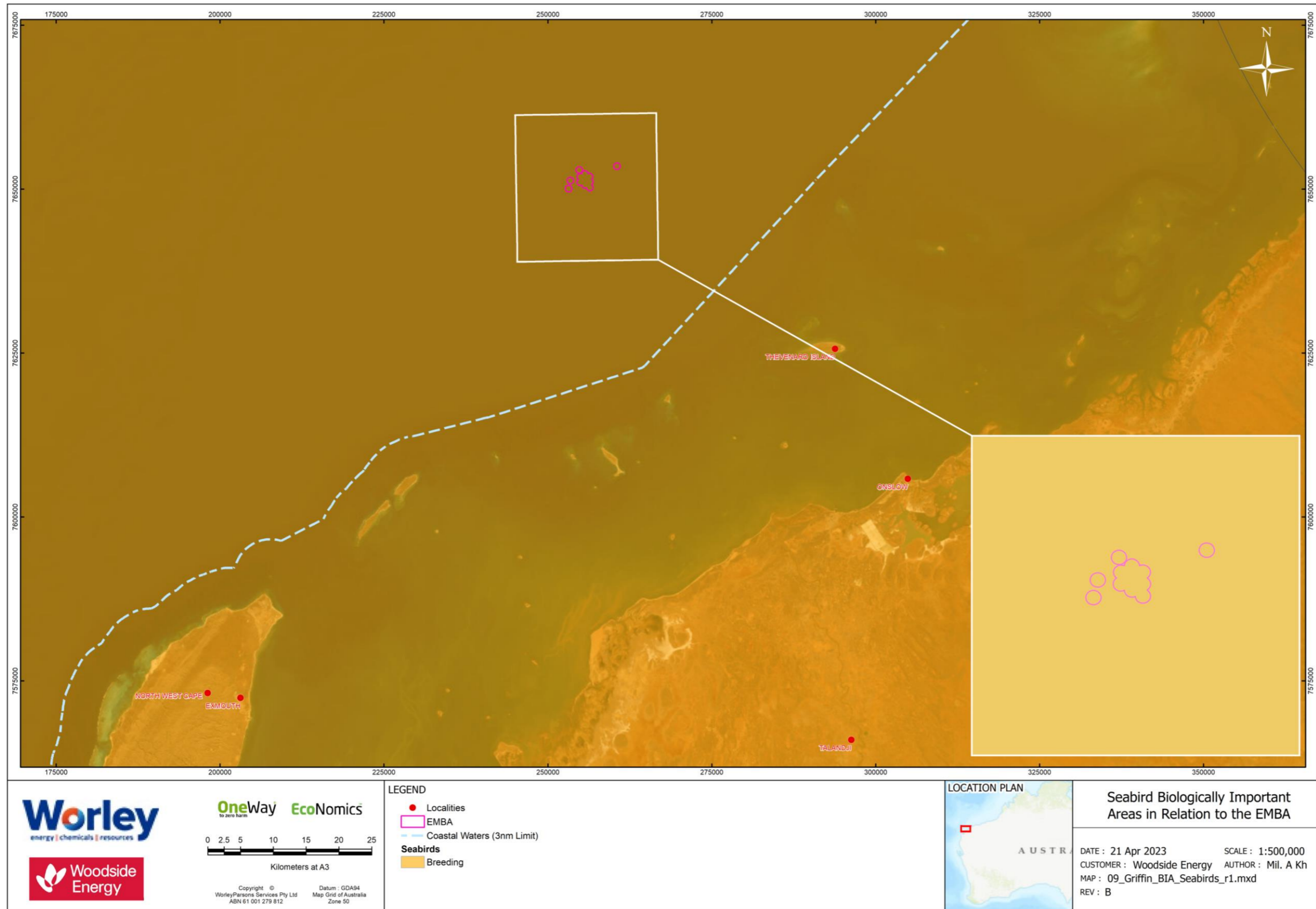


Figure 5-13: Wedge Tail Shearwater Seabird Biologically Important Area within the EMBA

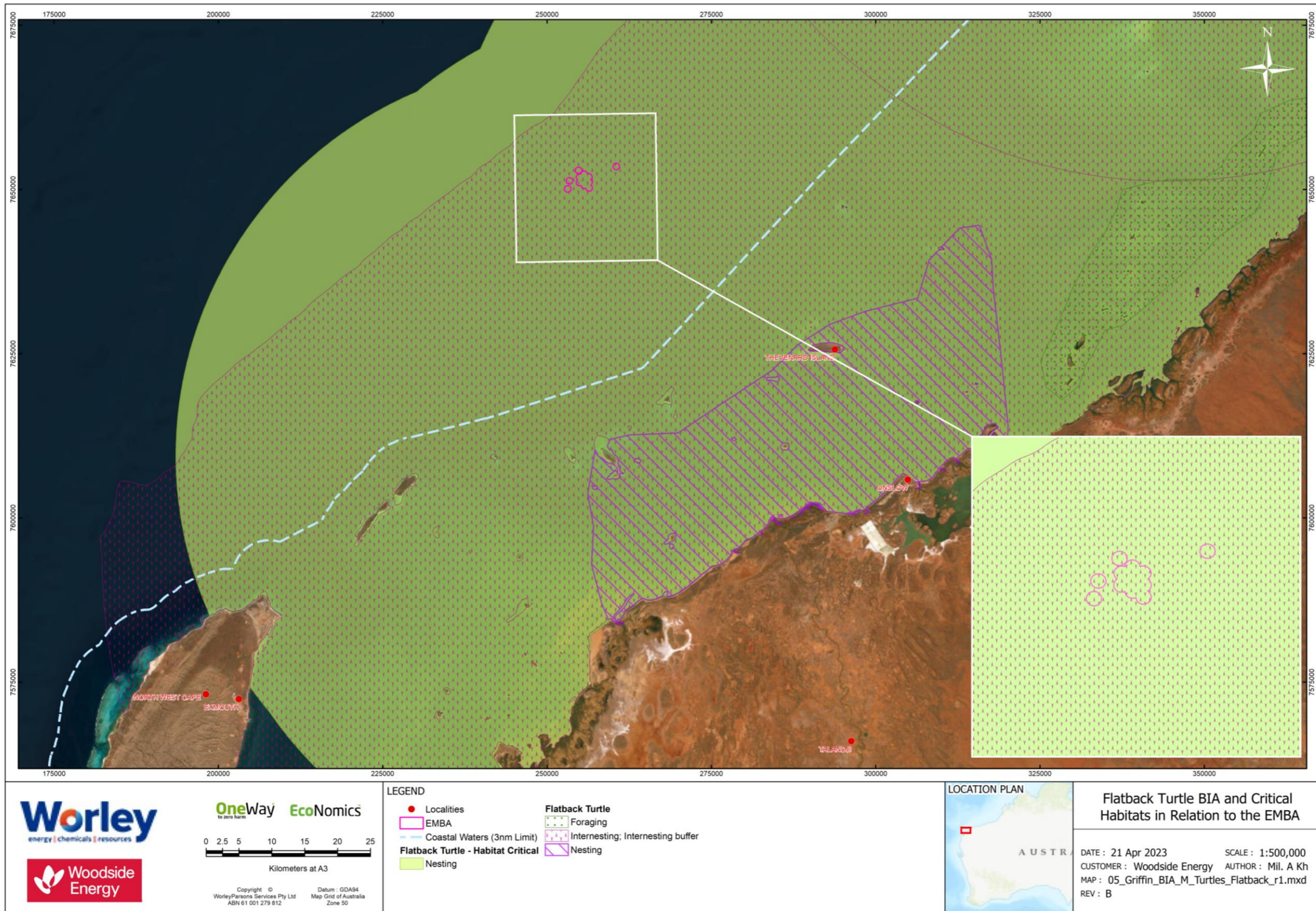


Figure 5-14: Flatback Turtle Biologically Important Areas and Critical Habitats within the EMBA

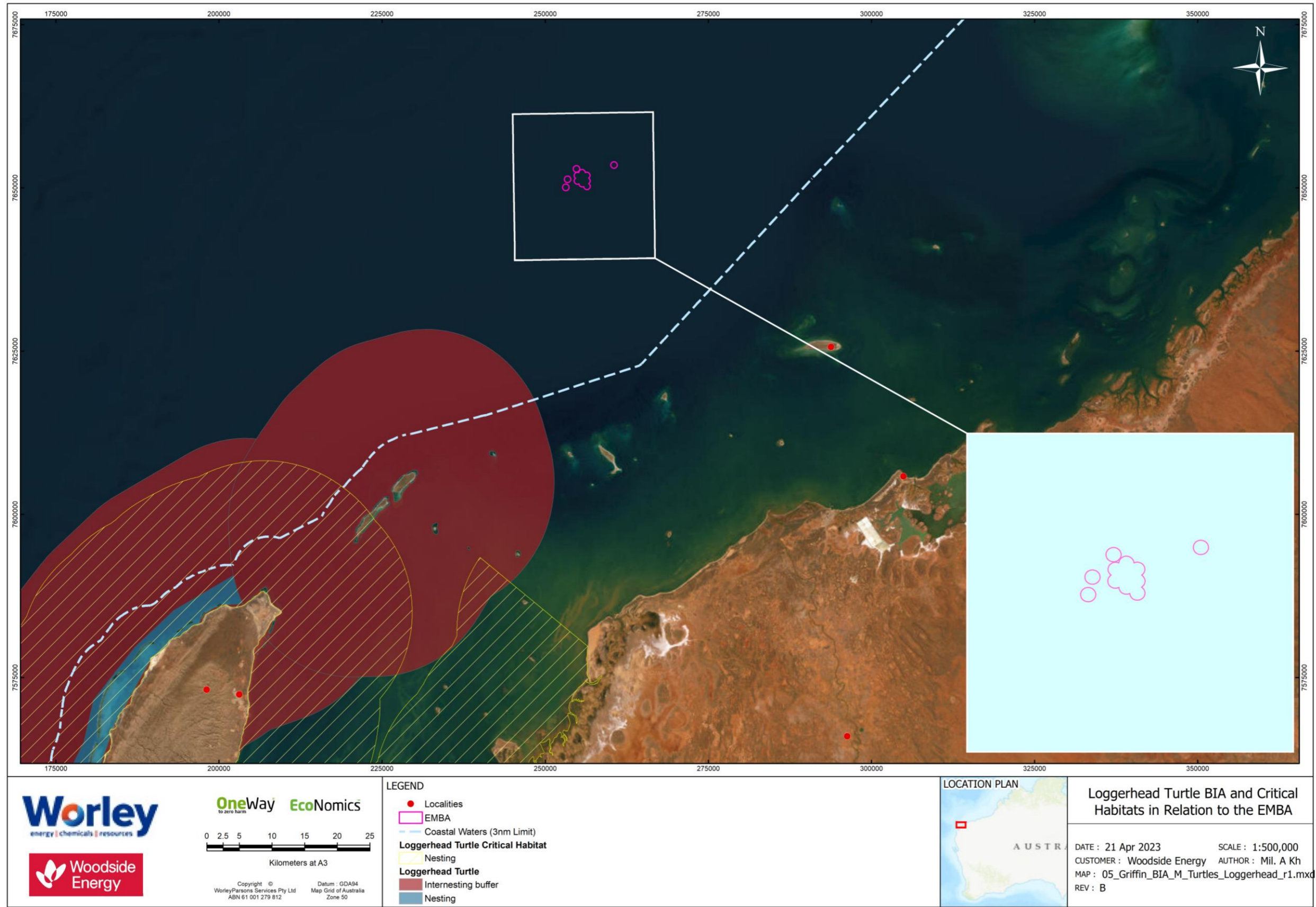


Figure 5-15: Loggerhead Turtle Biologically Important Areas and Critical Habitats in relation to the EMBA

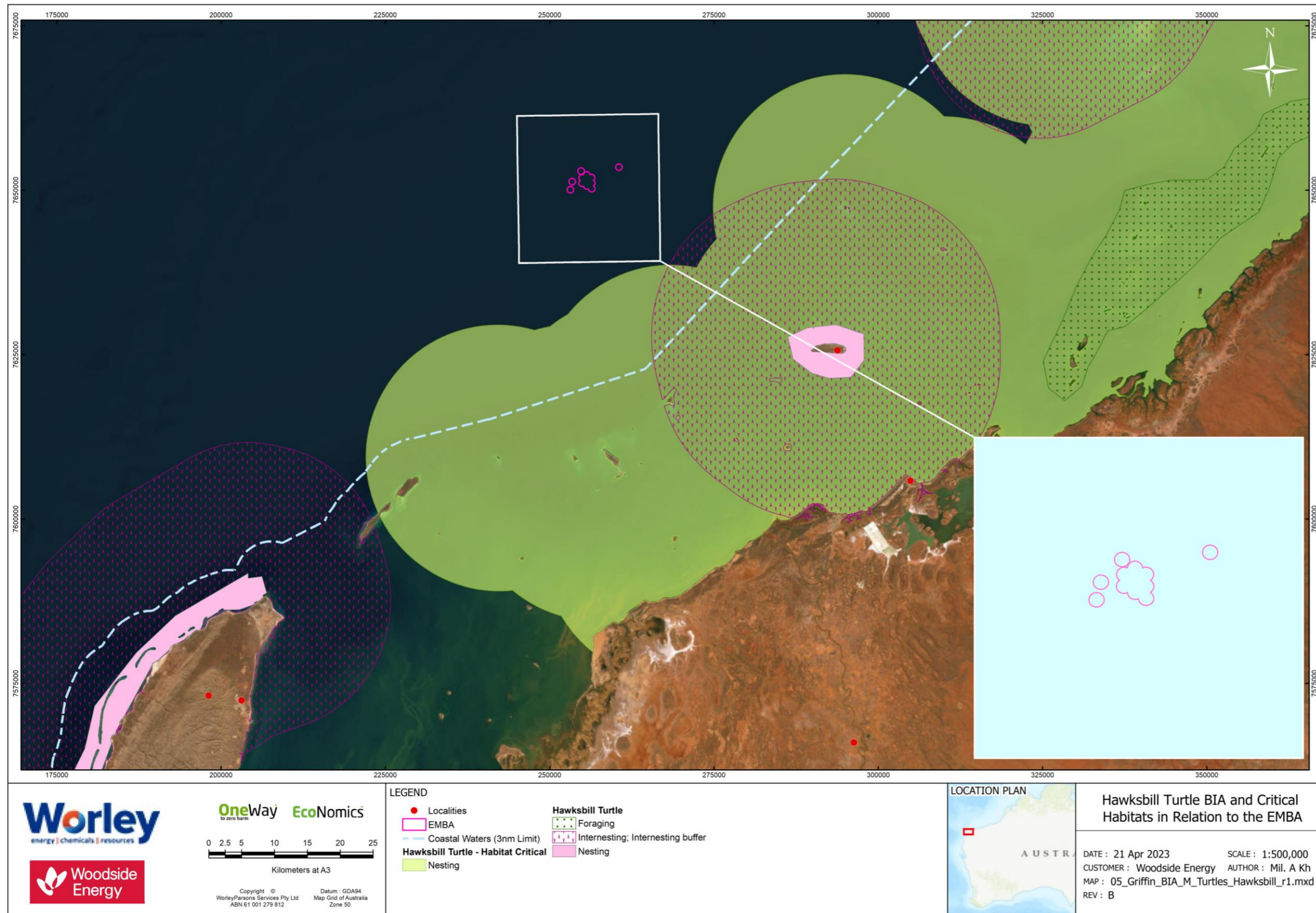
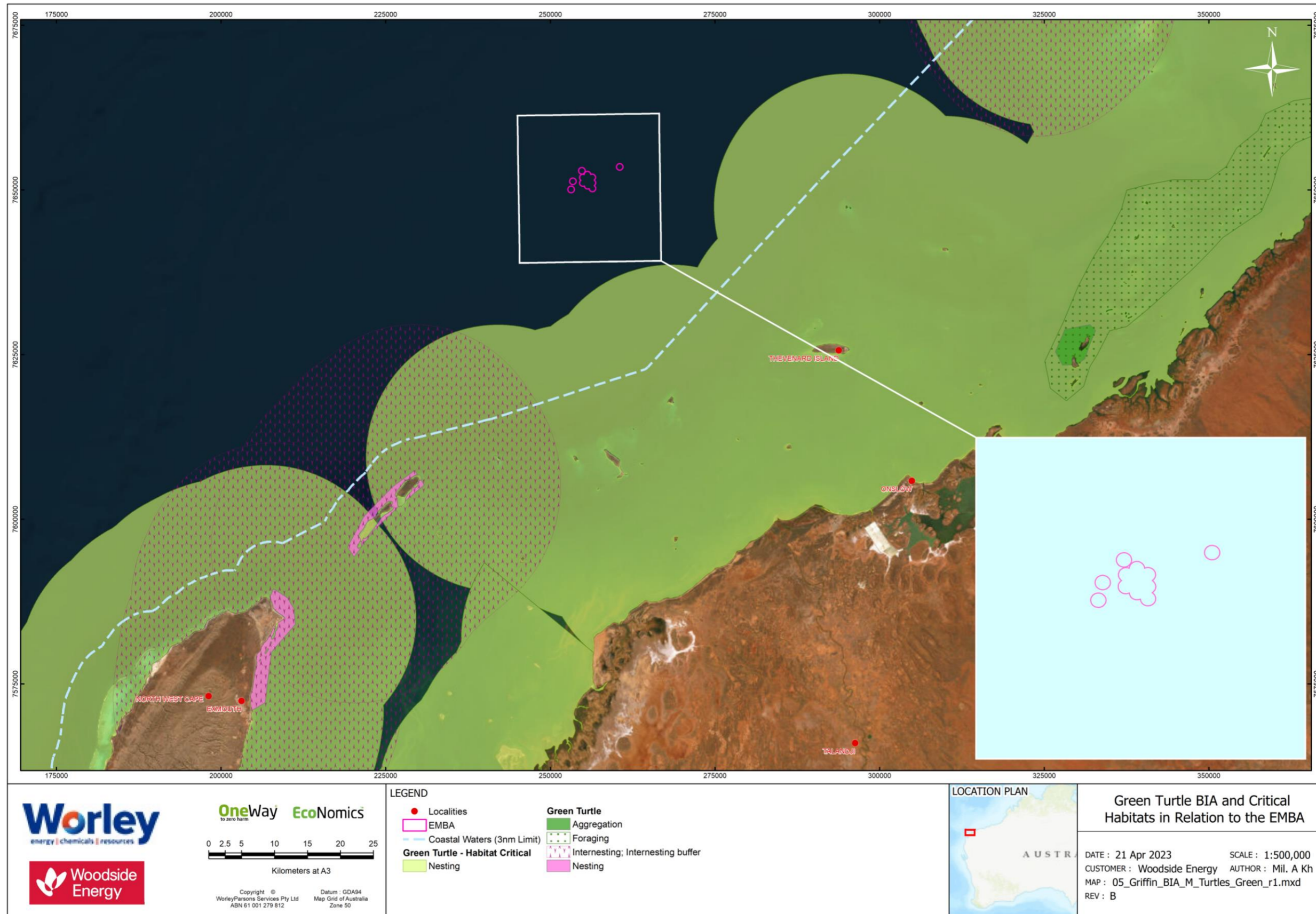


Figure 5-16: Hawksbill Turtle Biologically Important Areas and Critical Habitats in relation to the EMBA



Location: C:\Adhoc\_Jobs\Aaron\_SKT\Griffin\mxd\_20230420\05\_Griffin\_BIA\_M\_Turtles\_Green\_r1.mxd

Figure 5-17: Green Turtle Biologically Important Areas and Critical Habitats in relation to the EMBA

## 5.6 Socio-economic Environment

### 5.6.1 Cultural Value and Heritage

#### 5.6.1.1 Background

Woodside recognises the ‘environment’ for the purposes of the evaluation required under the environment regulations include:

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

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

In line with The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance (Australia 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 (Australia ICOMOS 2013)

Through consultation with relevant persons, Woodside recognizes the deep spiritual and cultural connection to the environment that First Nations peoples hold.

#### 5.6.1.2 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 (defined in **Section 6.3**), as well as native title claimants applications (claims), native title 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, native title determinations and ILUAs are defined under the *Native Title Act 1993* (Cth) (Native Title Act). 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 land and/or waters at the time of British annexation and that there is a continuous system of law and custom that gives rights to the land and or waters, and that this has been handed down from generation to generation. The 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. The National Native Title Register holds information about the determination of claimant applications.

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 also 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 are no native title claims or determinations or ILUAs overlapping the EMBA (see **Figure 5-18**). Therefore, Woodside understands that no native title rights or interests will be impacted by the activity. A summary of native title claims, determinations and ILUAs which are coastally adjacent to the EMBA is set out in Table 5-8. Claims and determinations have not been differentiated in this table, as it is acknowledged that rights and interests may exist within either of these.

### 5.6.1.3 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). However, Woodside considers native title claims, determinations and Indigenous Land Use Agreements coastally adjacent to the EMBA in determining relevant persons (see **Table 6-3**) and consultation with these groups may identify heritage values and cultural features beyond those addressed in a native title context.

That said, Woodside understands from engagement with stakeholders 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 5-8. 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.



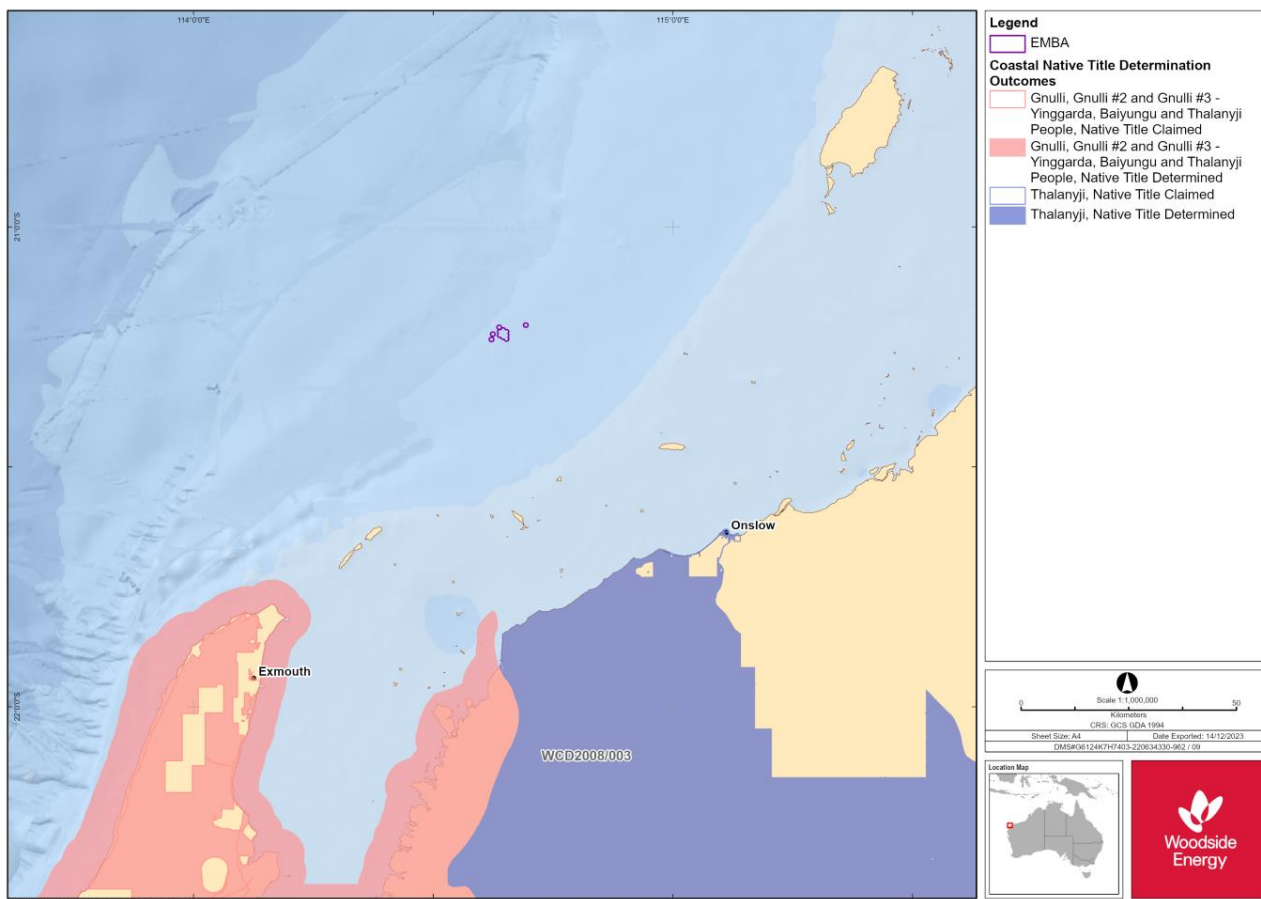


Figure 5-18: The EMBA in relation to native title claims, determinations and ILUAs

Table 5-8: Summary of Native Title Claim or Determination and ILUA EMBA overlap and coastally adjacent.

Claim / Determination / ILUA	Registered Native Title Body Corporate	Overlap with EMBA	Coastally Adjacent to the EMBA
<b>Claim / Determination</b>			
Thalanyji	Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	No	Yes
Gnulli, Gnulli #2 and Gnulli #3 – Yinggarda, Baiyungu and Thalanyji People	Nganhurra Thanardi Garrbu Aboriginal Corporation (NTGAC), Yinggarda Aboriginal Corporation (YAC)	No	No
<b>ILUA</b>			
Macedon ILUA	BTAC	No	Yes

### 5.6.1.4 Marine Parks

Woodside acknowledges that Commonwealth and State Marine Park Management Plans have sought to recognise cultural values of Indigenous 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 marine parks, we take values into account’. 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 of EMBA overlaps an AMP. Woodside considers the management plans of marine parks that overlap the EMBA to determine whether cultural values have been identified or whether there are specified Traditional Custodians or representative bodies referenced to contact regarding potential cultural features and heritage values.

The EMBA do not overlap any Commonwealth Marine Parks or State Marine Parks.

#### 5.6.1.5 Sea Country Values

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. 20–30 km 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 100 km 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 is set out in **Section 6.5**. 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 (e.g., humpback whales, turtles and dugongs) that may travel many thousands of kilometres through areas with similar cultural values to multiple Indigenous language groups. For example, a humpback whale may travel 5,000 km from Antarctica to the Kimberley region of Western Australia (Double et al., 2010, 2012), passing Indigenous language groups along the entire west coast of Australia.

As set out above, an impact to marine ecosystems has the potential to impact cultural values where the impact is detectable within Sea Country. Woodside considers that impact to cultural values of marine species will be adequately managed in areas of traditional Sea Country, and therefore management of the environmental values will preserve the cultural values of environmental receptors, as assessed in **Section 8**.

Woodside is triggered to consult on cultural values where Traditional Custodians or representative institutions are identified, or self-identify, as relevant persons.

#### 5.6.1.6 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 Aboriginal 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 Indigenous occupation, and areas that were once inhabited are now submerged on the continental shelf (Veth et al., 2019; UWA, 2021). Woodside also understands that, at its lowest level during Indigenous occupation, sea level was between 125 m (O’Leary et al., 2020, Veth et al., 2019, Williams et al., 2018) and 130 m below current levels (Benjamin et al., 2020, Benjamin et al., 2023; 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, 2020; Benjamin et al 2023; see Ward et al 2021 for an opposing view).

In recognition of this, Woodside considers the Ancient Landscape between the mainland and the Ancient Coastline KEF (**Figure 5-10**) as an area where potential Indigenous archaeological material may exist on the seabed, as this covers the full extent of this possible Indigenous occupation. There is overlap of EMBA with the Ancient Landscape but no potential for seabed disturbance from planned activities and therefore no potential for impacts to archaeological material.

Known Indigenous heritage places including archaeological sites may be protected, subject to declarations, 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 Indigenous 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 areas subject to declarations or prescriptions under these Acts are located within the EMBA.

For this EP, a search of DPLH's Aboriginal Heritage Inquiry System was undertaken, which showed no Registered Aboriginal Sites or Other Heritage Places in the EMBA. The EMBA intersects part of the Ancient Landscape but also extends beyond the furthest extent of the Ancient Landscape.

Archaeological material on the Ancient Landscape is a relevant matter for the proposed activity as there is overlap between the EMBA and the Ancient Landscape, and potential for seabed disturbance from planned activities and therefore potential for impacts to archaeological material.

The Pilbara inshore islands nature reserves and proposed additions draft management plan 2020 notes several known examples of Aboriginal heritage within the areas subject to the plan, which include:

- One Other Heritage Place on Thevenard Island recorded in the Aboriginal Heritage Inquiry System, being “*a midden scatter with three baler shell containers*”.
- Surveys of cultural heritage since 2014 identifying Aboriginal cultural heritage on 17 islands including a burial site, stone and glass flakes, burnt shell and bone and baler shells. Possible small occupation sites were found on five other islands, containing materials sourced from the mainland, possible fireplaces, grinding stones and evidence of shell tool manufacture.
- Fossiliferous chert from Doole Island which must have been introduced by Aboriginal people as there is no source rock located within the Pilbara Region

No archaeological sites within the EMBA were identified by Traditional Custodians during the course of preparing the EP.

#### **5.6.1.7 Feedback Received via Consultation to Inform Existing Environment Description**

Indigenous 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 with relevant persons, Registered Native Title Bodies Corporate have identified or raised topics relating to environmental values of cultural interest. These include a broad interest in the marine fauna, including whales and turtles (see **Appendix F**, Table 1).

During consultation, BTAC advised they have a cultural obligation to care for the environmental values of sea country (see **Appendix F**). BTAC has not provided further detail regarding cultural values of the EMBA.

Some persons or organisations who identified as a relevant person in relation to First Nations cultural heritage in other Woodside EPs, have indicated knowledge of cultural features or heritage values potentially affected by the activities described in this EP.

For completeness in describing the Existing Environment this feedback on potential cultural features and heritage values is identified below:

- whales (including migration patterns)
- whale sharks
- turtles
- dugongs
- plankton
- seagrass
- energy lines (unspecified)
- songlines and dreaming (unspecified)
- where saltwater and freshwater meet.

### 5.6.1.8 Intangible Cultural Features

Intangible cultural heritage may be culturally important to First Nations communities. 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).

Beyond references to unspecified songlines and energy lines in relation to activities subject to other EPs, no intangible cultural heritage has been identified as potentially overlapping the project area. For completeness, however, it is recognised that common categories of intangible cultural heritage in Australia include:

- **Songlines:** Oral Songlines are often described by Aboriginal people as the law of the land and make up part of the Dreaming (Neale and Kelly, 2020). Songlines are viewed in Western academia as a framework for relating people to land and consist of a series of invisible, interconnected routes along the landscape that mark significant sites for Aboriginal people (Higgins, 2021). Songlines demonstrate Aboriginal peoples' strong connections to land by revealing sacred knowledge that is place-specific (Roberts, 2023). 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). Songlines can become lost, fragmented or broken when there is a loss of Country or forced removal from Country (Neale and Kelly, 2020). Physical sites that have been identified as comprising a component of a songline are important to protect in order to prevent the fragmenting or breaking apart of songlines and loss of sacred cultural knowledge. While no specific details of songlines have been provided by relevant persons during consultation for this Activity, it can be confirmed that no landforms typical of songlines have been identified or are anticipated to be impacted by the Activity.

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). 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). Songlines can also be used as proof of long-standing connection to land and support a legal entitlement to land rights (Higgins, 2021). 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).

- 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. Caring for Country may 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.
- 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. 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.
- 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. Access is also a value in its own right, as a continuation of traditional Sea Country access and use.
- Resource collection: In addition to their immediate value as sustenance, the gathering and preparation of 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.

#### 5.6.1.9 Historic Sites of Significance

There are no known sites of historic heritage significance within the EMBA.

#### 5.6.1.10 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 does not contain records with the EMBA. The closest Underwater Cultural Heritage site is the wreck of the Lady Ann, described lies approximately 50 km west of the EMBA.

#### 5.6.1.11 World, National and Commonwealth Heritage Listed Places

No listed world, national or commonwealth heritage places overlap the EMBA.

### 5.6.2 Commercial Fisheries

To understand whether there is potential for interactions between these fisheries and the petroleum activity Woodside have undertaken an assessment using FishCube and ABARES data, as well as anecdotal evidence collected through ROV footage of the Griffin field. A summary of the fisheries overlapping the EMBA, and Woodside's assessment of the likelihood of interaction is outlined in **Table 5-9**.

A number of State and Commonwealth fisheries overlap the EMBA. ROV footage from infrastructure surveys conducted in the Griffin field and anecdotal evidence from commercial and recreational fishers in the region confirm that the Griffin subsea infrastructure attracts a diverse population of fish, including many species of economic (commercial and recreational) importance (GHD, 2015). Fishers that use trap or line equipment are generally positive about its presence and support the concept that the Griffin subsea infrastructure provides enhancement of the fish populations in the area. A commercial fisher commented that a diverse range of fish have been found on the subsea infrastructure, presumed to be resident populations, with typical catch including red emperor, trevallies, saddle tail snapper, moses snapper, sea bream, goldband snapper and mangrove jack. Dominant and established species associated with the infrastructure are red emperor, coral trout, crimson snapper and some large cod species (GHD, 2015). The Griffin Decommissioning and Field Management EP

includes removal of the majority of Griffin field infrastructure, therefore the remaining infrastructure covered under this EP is likely to provide a significantly less fish habitat to that previously observed.

A number of Commonwealth and State fishery management areas are located within the petroleum activity EMBA. FishCube and ABARES data were requested to analyse the potential for interaction of fisheries within the EMBA. **Table 5-9** identifies the Commonwealth and State commercial fisheries overlapping the EMBA and provides an assessment of the potential interaction based on the nature of the fishery and historic DPIRD catch data.

**Table 5-9: Commonwealth and State Commercial Fisheries Overlapping the EMBA and Potential for Interaction with the Petroleum Activity**

Fishery Name	Interaction Potential with the Petroleum Activity	
<b>Commonwealth Fisheries</b>		
Western Tuna and Billfish	No	In 2020 there were three active fishing vessels. Fishing effort has concentrated off south-west Western Australia, with occasional activity off South Australia (Patterson et al, 2021). Whilst there is an overlap with the fishery management area, there is no potential for interaction given the current distribution of fishing effort.
Western Skipjack Tuna	No	Historically, effort in the Western Skipjack Tuna has been low and was 885 t in 2007–08. There has been no fishing in the since 2008–09 (Patterson et al, 2021). Whilst the EMBA overlaps with the fishery management area, there is no potential for interaction given the current distribution of fishing effort.
Southern Bluefin Tuna Fishery	No	Fishing effort for the Southern Bluefin Tuna Fishery occurs in the Great Australian Bight and north east of Eden in New South Wales (Patterson et al, 2021). Whilst the EMBA overlap with the fishery management area, there is no potential for interaction given the current distribution of fishing effort.
<b>State Fisheries</b>		
Pilbara Line Fishery	Yes	<p>The Pilbara Line Fishery encompasses all of the 'Pilbara waters', extending from a line commencing at the intersection of 21°56'S latitude and the boundary of the Australian Fishing Zone and north to longitude 120°E. There are no stated depth limits of the fishery. The fishing vessels primarily target goldband snapper.</p> <p>Records show there has been up to six active Pilbara Line Fishery vessels that operate annually within the 10 NM blocks that cover the EMBA. These vessels have operated there within the past four years (DPIRD, 2021). Given the known Pilbara Line Fishery fishing effort, it is possible that vessels may be operating within the vicinity of the surface waters of the EMBA, and therefore it is possible for interactions between the fishery and any subsea infrastructure protruding from the seabed.</p> <p>Eighty-eight fish species have been observed at Griffin field, most of which have recreational and commercial value, including 8-10 of each of the <i>Lutjanidae</i> (tropical snappers) and <i>Epinephalidae</i> (groupers), as well as jacks and dhufish (UTS Decommissioning Ecology Group, 2020).</p>
Pilbara Trap Managed Fishery	Yes	<p>The Pilbara Trap Managed Fishery covers the area from Exmouth northwards and eastwards to the 120° line of longitude, and offshore as far as the 200 m isobath. The fishery targets high value species such as <i>Lutjanus sebae</i> (red emperor) and <i>Pristipomoides multidens</i> (goldband snapper).</p> <p>Records show there were less than three Pilbara Trap Managed Fishery vessels operating annually within the 10 NM blocks that cover the EMBA. These vessels have operated there within the past four years; however, no catch has been recorded (DPIRD, 2021). Given the known Pilbara Line Fishery fishing effort, it is possible that vessels may be operating within the vicinity of the surface waters if the EMBA and therefore there is potential for interaction between the fishery and any subsea infrastructure protruding from the seabed.</p>

Fishery Name	Interaction Potential with the Petroleum Activity	
Pilbara Trawl Managed Fishery	No	The Pilbara Trawl Managed Fishery is divided into two zones and waters inside of the 50 m isobath are permanently closed to fish trawling. The EMBA is located within Schedule 2 (Zone 1), which has been closed to fish trawling since 1998 (DPIRD, 2021). Only if this fishery was to reopen would there be any potential for interaction.
Mackerel Managed Fishery	No	<p>The Mackerel Managed Fishery targets Spanish mackerel (<i>Scomberomorus commerson</i>) using near-surface trawling gear from small vessels in coastal areas around reefs, shoals and headlands. The commercial fishery extends from Geraldton to the Northern Territory border.</p> <p>Records show there were less than three Mackerel Managed Fishery vessels operating annually within the 10 NM blocks that cover the EMBA. These vessels have operated there within the past four years; however, no catch has been recorded (DPIRD, 2021). No interaction is expected on the basis that the target species are pelagic and fishing equipment is not likely to interact with the seabed and infrastructure on the seabed.</p>
Onslow Prawn Managed Fishery	No	<p>The Onslow Prawn Managed Fishery encompasses a portion of the continental shelf off the Pilbara. The fishery targets a range of penaeids (primarily king prawns) which typically inhabit soft sediments &lt;45 m water depth. Fishing is carried out using trawl gear over unconsolidated sediments (sand and mud).</p> <p>Records show there were no Onslow Prawn Managed Fishery vessels operating annually within the 10 NM blocks that cover the EMBA. Water depths in the EMBA are not conducive for this fishery, no interaction is expected.</p>
Marine Aquarium Fish Managed Fishery	No	<p>The Marine Aquarium Managed Fishery operates within Western Australian waters. The fishery is primarily a dive-based fishery that uses hand-held nets to capture the desired target species and is restricted to safe diving depths (typically &lt; 30 m). The fishery is typically active from Esperance to Broome, with popular areas including the coastal waters of the Cape Leeuwin/Cape Naturaliste region, Dampier and Exmouth.</p> <p>The fishery has not been active in the EMBA within the last four years (DPIRD, 2021). Water depths in the are not conducive for this fishery.</p>
Specimen Shell Managed Fishery	No	<p>The Specimen Shell Managed Fishery can be conducted anywhere within Western Australia waters and targets the collection of specimen shells for display, collection, cataloguing and sale. The Specimen Shell Managed Fishery encompasses the entire WA coastline, but effort is concentrated in areas adjacent to the largest population centres such as: Broome, Karratha, Shark Bay, Mandurah, Exmouth, Capes area, Albany and Perth.</p> <p>The fishery has not been active in the EMBA within the last four years (DPIRD, 2021). Water depths in the EMBA are typically not conducive for this fishery</p>
Pearl Oyster Managed Fishery	No	<p>The Western Australian Pearl Oyster Fishery is the only remaining significant wild-stock fishery for pearl oysters in the world. Pearl oysters (<i>Pinctada maxima</i>) are collected by divers in shallow coastal waters (&gt; 23 m) along the North West Shelf and Kimberley, which are mainly for use in the culture of pearls.</p> <p>The fishery has not been active in the EMBA within the last four years (DPIRD, 2021). Water depths in the EMBA are not conducive for this fishery.</p>
Abalone	No	<p>The Western Australian abalone fishery includes all coastal waters from the Western Australian and South Australian border to the Western Australian and Northern Territory border. The fishery is concentrated on the south coast (greenlip and brownlip abalone) and the west coast (Roe's abalone). Abalone are harvested by divers, limiting the fishery to shallow waters (typically &lt; 30 m).</p> <p>The fishery has not been active in the EMBA within the last four years (DPIRD, 2021). Water depths in the EMBA are not conducive for this fishery.</p>
Pilbara Crab Fishery	No	<p>Blue swimmer crabs are targeted by the Pilbara Crab Managed Fishery using hourglass traps, primarily within inshore waters around Nickol Bay and Dampier.</p> <p>The fishery has not been active in the EMBA within the last four years (DPIRD, 2021). Water depths in the EMBA are not conducive for this fishery.</p>

Fishery Name	Interaction Potential with the Petroleum Activity	
West Coast Deep Sea Crustacean	No	The West Coast Deep Sea Crustacean Fishery is a 'pot' fishery using baited pots operated in a long-line formation in the shelf edge waters (> 150 m) of the West Coast and Gascoyne Bioregions. The fishery primarily targets crystal crabs. The fishery has not been active in the EMBA within the last four years (DPIRD, 2021). Water depths in the EMBA are not conducive for this fishery.
South West Coast Salmon	No	The commercial salmon fishery use beach seine net to catch fish. There are two commercial salmon fisheries operating in Western Australia they include the South Coast Salmon Managed Fishery (SCSMF) and South West Coast Salmon Managed Fishery (SWCSMF). There are currently 18 SCSMF licenses, and six SWCSMF Licences. The fishery has not been active in the EMBA within the last four years (DPIRD, 2021). Water depths in the EMBA are not conducive for this fishery.

### 5.6.3 Traditional Fisheries

There are no traditional, or customary fisheries within the EMBA, as these are typically restricted to shallow coastal waters and/or areas with structures such as reefs. However, it is recognised that Barrow Island, Montebello Islands, Exmouth, Ningaloo Reef and the adjacent foreshores have a known history of fishing when areas were occupied (as from historical records).

Areas that are covered by registered native title claims are likely to practice Aboriginal fishing techniques at various sections of the WA coastline.

### 5.6.4 Tourism and Recreation

The depth of the water in the EMBA and the distance from shore make it an unlikely location for tourism and recreation activities to regularly occur.

During consultation it was noted that the Griffin GEP (which falls outside the scope of this EP) is targeted by recreational fishing communities from Ashburton/Onslow from time to time. This is the closest known recreational activity to the EMBA.

The Griffin Field Commercial Fish Assessment (GHD, 2015) assessed the likelihood of recreational fishers utilizing the field. Anecdotal evidence from a prominent game fishing club in the North West region made reference to the fact that the numbers of larger fishing boats is on the increase, enabling game and recreational fishing further offshore (GHD, 2015). Therefore, over time it may be possible that tourism and recreation in the EMBA increases.

### 5.6.5 Oil and Gas Activities

The NWS is Australia's most prolific oil and gas production area, largely responsible for WA accounting for 66% of the country's oil production, 76% of the country's condensate production and 37% of the country's gas production in 2013 (APPEA, 2014).

Oil and gas activities close to the EMBA include:

- Woodside's Pyrenees Development (Pyrenees Venture floating production, storage and offloading vessel (FPSO)) within WA-42-L
- Woodside's Vincent Development (Maersk Ngujima-Yin FPSO) in production licence WA-38-L,
- Santos' Ningaloo Vision Development (Ningaloo Vision FPSO) in production licence WA-35-L,

Other oil and gas activities in the region include production areas located on Barrow, Thevenard and Varanus islands.

### 5.6.6 Commercial Shipping

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



There are no recognised shipping routes in or near the EMBA, with the nearest shipping fairway designated by AMSA located over 80 km to the north-west (**Figure 5-19**).

### 5.6.7 Defence

Military exercise areas are located at Exmouth associated with Royal Australian Air Force Base Learmonth, approximately 149 km to the southwest of the EMBA. The EMBA is within the North Western Training Area and military restricted airspace (R8541A) a designated defence exercise area which encompasses waters and airspace off the North West Cape (**Figure 5-20**). When activated by a 'Notice to Airmen', the restricted airspace can operate down to sea level.

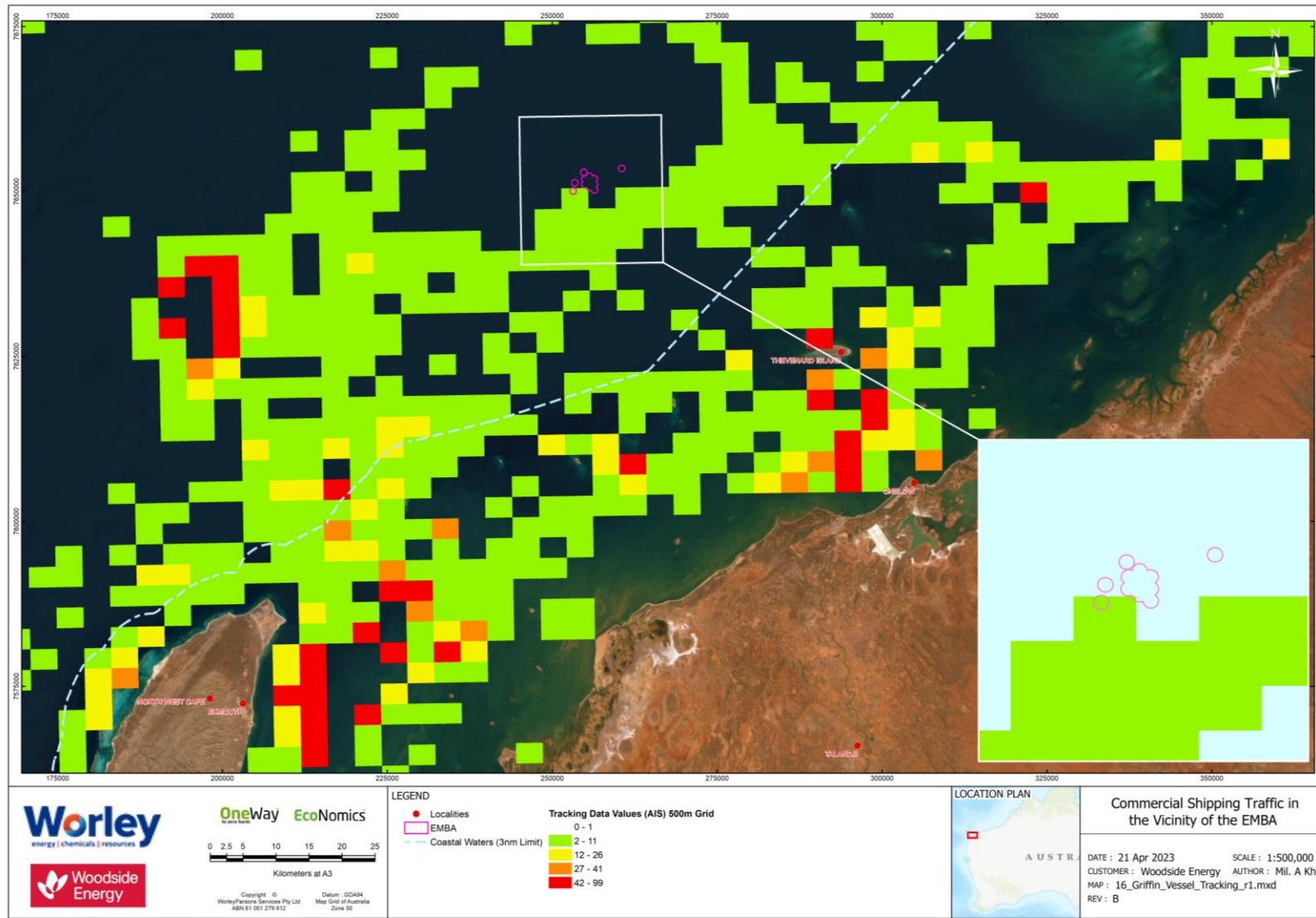


Figure 5-19: Commercial Shipping Traffic in the vicinity of the EMBA

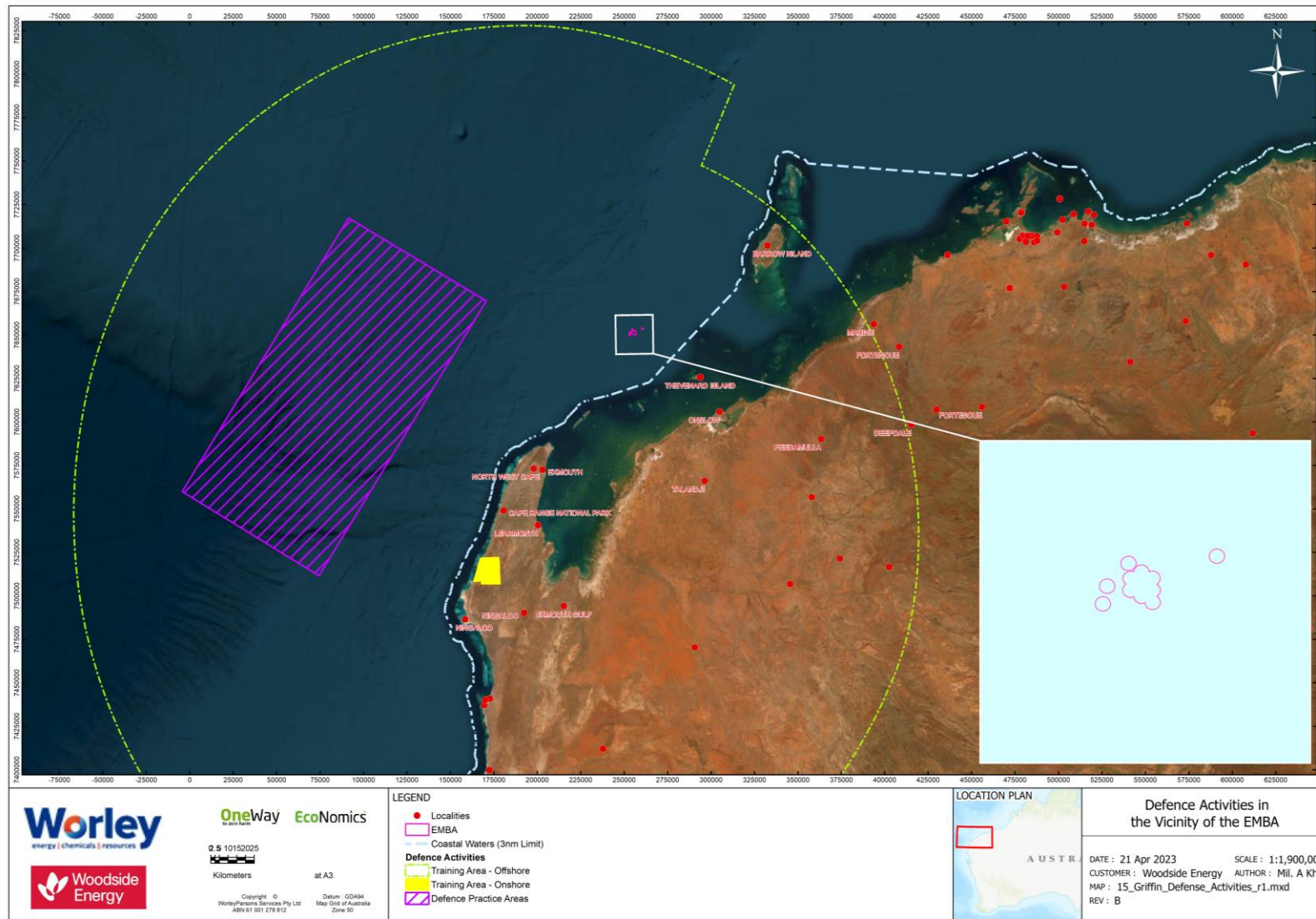


Figure 5-20: Defence Activities in the vicinity of the EMBA

## 6 Consultation

### 6.1 Summary

Woodside consults relevant persons in the course of preparing an environment plan (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 **Sections 6.2** and **6.5.1**) delivered on 2 December 2022.

For this Petroleum Activity, as no planned operations are proposed, an Operational Area has not been defined. Woodside has considered the EMBA in undertaking consultation (see further discussion in **Section 6.2**). The broadest extent of the EMBA has been determined by reference to an area around the subsea infrastructure proposed to be decommissioned *in situ*, where environmental impacts have the potential to occur (see **Section 4**).

Woodside's consultation methodology is divided into three parts:

- The first section (**Sections 6.2 to 6.7**) 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 6.8**) explains Woodside's application of the consultation methodology and Woodside's assessment of relevant persons for this EP.
- The third section (**Section 6.9**) details the:
  - opportunities provided to persons or organisations to be aware of Woodside's proposed EP and participate in consultation, including individual Traditional Custodians.
  - consultation information provided to relevant persons, feedback received and Woodside's assessment of the merit of each objection or claim.
  - engagement with persons or organisations that Woodside chose to contact who are not relevant persons for the purposes of regulation 25(1) of the Environment Regulations (see **Section 6.3.4**).

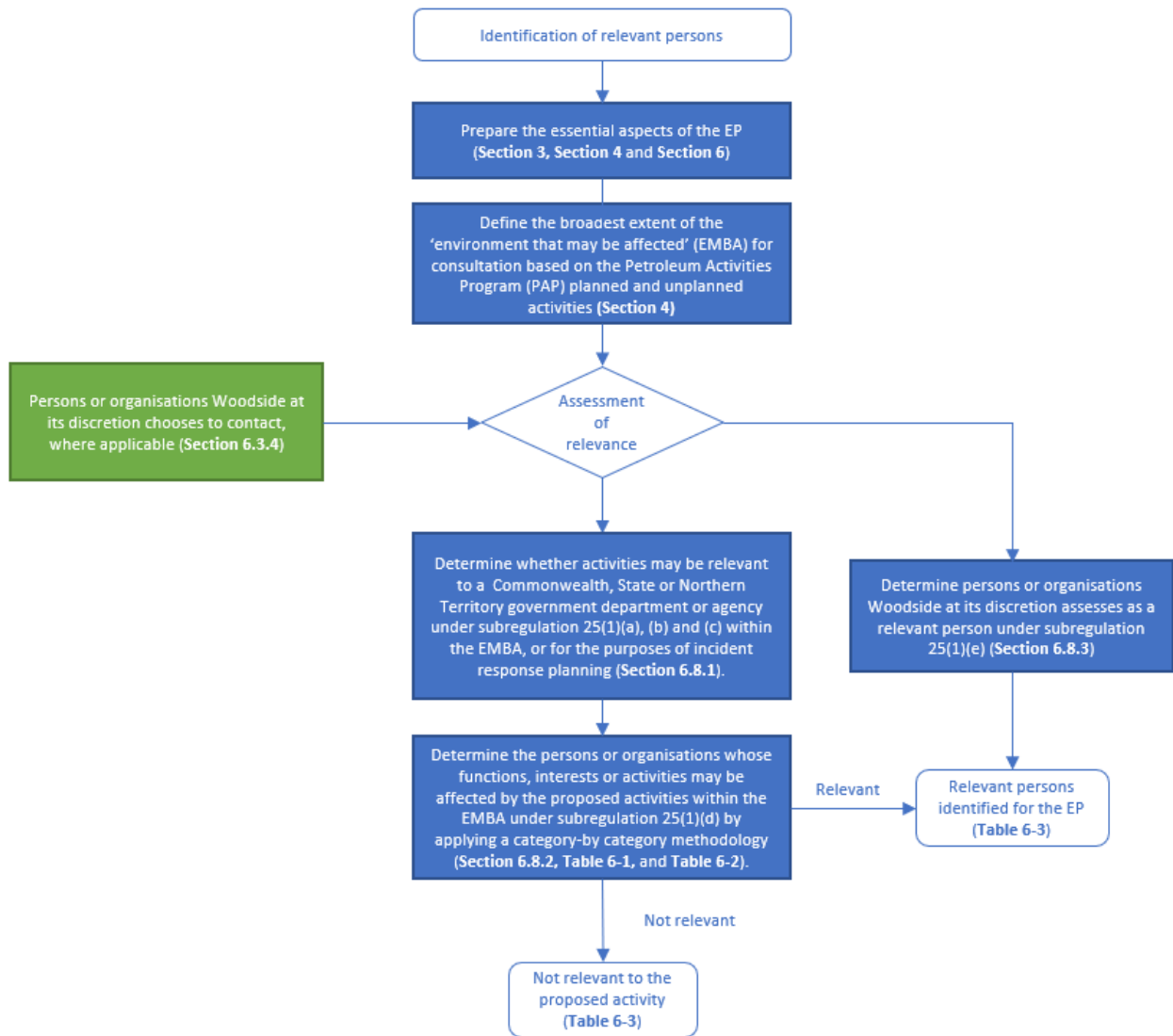


Figure 6-1: Overview of Woodside’s methodology to identify relevant persons.

## 6.2 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 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 periodically reviewed and updated.

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 6.9.2**).

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 6.3**). 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 the geographical extent to which the environment may be affected (EMBA) by risks and impacts from our activities (see **Sections 4 and 8**).

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 EP:
  - 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(1)(2))
- allow a relevant person a reasonable period for the consultation (Regulation 25(1)(3))
- 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(1)(4)).

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

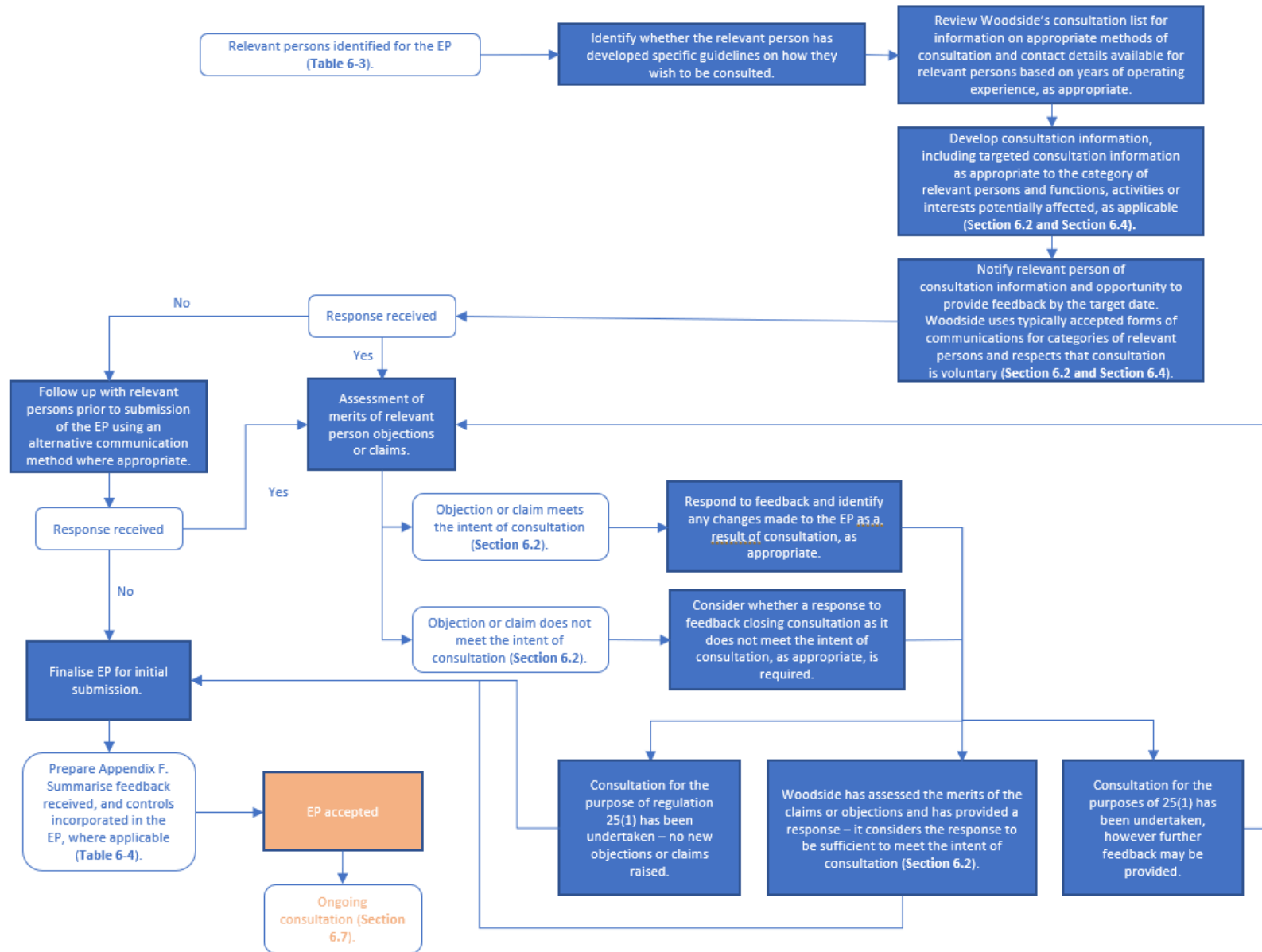
- is consistent with the principles of ecologically sustainable development (ESD) set out in section 3A of the EPBC Act – see **Section 2.1.3**
- is intended to reduce the environmental impacts and risks from the activity to ALARP.
- seeks to ensure that the environmental impacts and risks of the activity will be of an acceptable level.

- 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.
- provides opportunities for relevant persons to provide feedback throughout the life of the EP through its ongoing consultation process (refer to **Sections 6.7** and **10.6**).

An overview of Woodside's consultation approach is outlined in **Figure 6-2**.







**Figure 6-2: 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](#)
- [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](#)

## 6.3 Identification of Relevant Persons for Consultation

### 6.3.1 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. These government departments and agencies relevant to this EP are listed in **Table 6-3** below. In accordance with regulation 25(1)(b), Woodside consults with the department of the relevant State Minister.

### 6.3.2 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 59) 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):

<b>Functions</b>	Refers to a power or duty to do something.
<b>Interests</b>	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.
<b>Activities</b>	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.

As discussed in **Section 6.1** and **Section 6.2**, 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 EMBA
- whether a person or organisation’s functions, interests or activities may be affected by Woodside’s proposed planned or unplanned activities.

### 6.3.3 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).

### 6.3.4 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 6-1** and **Section 6.8**). The result of Woodside’s assessment of relevance during the development of the EP is outlined at **Table 6-3**.

Engagement undertaken with persons or organisations Woodside assessed as not relevant but chose to contact are summarised at **Appendix F, Table 2**.

## 6.4 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 6.2**, 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 petroleum activity. Woodside recognises published guidance for good practice consultation relevant to different sectors and disciplines (see **Section 6.2**). 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.

#### 6.4.1 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 area where the activity will take place, the timing and duration of the activity, a location map and 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, for example as a result of temporary displacement due to exclusion zones, may require more targeted information relevant to their functions, interests or activities. 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 a selected local, state, and national newspaper. 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 6.8** 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
- 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.
- 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 <u>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.</u> Other forms of communication, such as phone calls, and meetings and/or presentation briefings are used where requested.
Government departments / agencies – environment	
Government departments / agencies – industry	
Commercial fisheries and peak representative bodies	<p><b>Commonwealth commercial fisheries:</b> 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 where requested.</p> <p><b>State commercial fisheries and recreational marine users:</b> The Western Australian Department of Primary Industries and Regional Development (DPIRD) has responsibility for managing the <i>Fish Resources Management Act 1994</i> and <i>Aquatic Resources Management Act 2016</i>, 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 where requested.</p> <p><b>Peak representative bodies:</b> 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 where requested.</p>
Recreational marine users and peak representative bodies	
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 where requested.
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 where requested.
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 where requested.
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 where requested.
Historical heritage groups or organisations	NOPSEMA’s guideline ( <u>GL1887 – Consultation with Commonwealth agencies with responsibilities in the marine area – January 2023</u> ) 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

Category of relevant person	Typically accepted form of communication
	forms of communication, such as phone calls, and meetings and/or presentation briefings are used where requested.
Local government and recognised local community reference/liaison groups or organisations	Local government: NOPSEMA's guideline ( <i>GL1887 – Consultation with Commonwealth agencies with responsibilities in the marine area – January 2023</i> ) for engagement with local government is used 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 where requested.
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 where requested.
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 where requested.

Information which is provided to relevant persons for the purposes of consultation on this EP is summarised at **Appendix F, Table 1**.

**Appendix F, Table 2** 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 (see **Section 6.3.4**).

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.

#### 6.4.2 Reasonable Period for Consultation

Woodside seeks to consult in order to support preparation of its EP. 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 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 the 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...”<sup>10</sup>*

Woodside seeks feedback in order to support preparation of its EP. 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 a 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 (see **Section 6.3.4**) 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.
- engaging in two-way dialogue with relevant persons or organisations where feedback is received.

**Appendix F, Table 1** and **Table 2** set 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 been provided and the consultation under regulation 25 is complete.

As detailed in **Section 6.7**, 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.

### 6.4.3 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 6.5.1**). Consultation is a “real world activity” and must be capable of reasonable discharge. The Full Federal Court referred to Native Title cases as an illustration that reasonable limits should be applied to consultation efforts to ensure the process is workable.

When the titleholder demonstrates that it has provided sufficient information and a reasonable period for consultation, the regulation 25 consultation requirements are met. 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.

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. A reasonable opportunity may not be every opportunity requested and is limited to reasonable opportunities to consult.

<sup>10</sup> Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC 193 at paragraph [136].



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 45. Woodside considers that consultation under Regulation 25 is complete.

**Appendix F, Table 1 and Table 2** 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 1 and Table 2** provide reasons specifically why Woodside considers consultation under Regulation 35 has been met in relation to that relevant person.

## 6.5 Context of Consultation Approach with First Nations

To comply with Regulation 25, Woodside identifies and consults Traditional Custodians whose functions, interests or activities may be affected by the activities under an EP.

### 6.5.1 Approach to Methodology - Woodside's Interpretation of Tipakalippa

Woodside has implemented a consultation methodology consistent with Regulation 25 and guidance provided in the Tipakalippa Appeal (**Section 6.2**). 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 Traditional Custodians whose functions, interests or activities may be affected by the activity described in this EP (**Section 6.5.2.1 to 6.5.2.3**).

Woodside notes that 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<sup>11</sup> 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."*<sup>12</sup>

*"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"*<sup>13</sup> (emphasis added).

*"There is no definition of what constitutes "consultation for the purpose of Reg 11 [now regulation 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"*<sup>14</sup> (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

<sup>11</sup> Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC 193 at paragraph [95], [98], [103]-[104] and [109].

<sup>12</sup> Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC 193 at paragraph [98].

<sup>13</sup> Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC 193 at paragraph [96].

<sup>14</sup> Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC 193 at paragraph [104].

or activities, and how the requisite consultation is undertaken.<sup>15</sup> 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 6.2**).

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.

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.

### 6.5.2 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.<sup>16</sup> 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 6.5.2.2**), and to provide feedback to inform the management of environmental impacts and risks.

Using these tools, Woodside communicates information about EPs 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.

<sup>15</sup> Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC 193 at paragraph [47] and [48].

<sup>16</sup> Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC 193 at paragraph [95],[104],[153].

- 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 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*” (Carlson and Frazer, 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)
- Woodside holds meetings on country at a place and time agreed with the Traditional Custodians and offering and providing financial assistance for meeting expenses (as appropriate)
- Woodside provides 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.

### 6.5.2.1 Identification of Relevant Persons

In order to undertake consultation, Woodside has developed a methodology for identifying all relevant persons, in accordance with regulation 25(1) of the Regulations. (**Sections 6.2 and 6.3**).

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 (**Sections 6.5.2.2 and 6.9.2**). 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 6.5.2.2** 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* (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* (Cth)<sup>17</sup>.

In this consultation, Woodside requested nominated representative corporations to identify any potential individual relevant persons for consultation, and 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.

### **6.5.2.2 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 (as described in **Section 6.8.2**) 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. Woodside's approach to providing individual Traditional Custodians the opportunity to self-identify and consult for an EP 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 a PBC 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.
- While Woodside has, in some cases, approached individual directors and elders outside of this process due to requirements imposed in EP 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.

<sup>17</sup> Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC 193, at [104]

### 6.5.2.3 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 may also depend on the degree to which a relevant person is affected.

Woodside produces a Consultation Information Sheet for each EP which is provided to relevant persons and organisations to give the opportunity for feedback on the activity (as described in **Section 6.4.1**). In response to Traditional Custodians feedback, Woodside has tailored effective consultation methods for its activities, specifically designed for Traditional Custodians, to ensure that information is provided in a form that is readily accessible and appropriate. The targeted Consultation Summary Sheet (as described in **Section 6.9.2**), developed and reviewed by Indigenous representatives to ensure 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 makes effort to provide relevant persons additional information, as appropriate, to meet relevant persons requests for additional information. A titleholder, however, can still be said to have provided sufficient information even where it has not provided all documents requested by a relevant person.

Woodside has sought to provide sufficient information to individual members of nominated representative corporations (such as PBCs) by providing information to representative bodies and suggesting 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.

### 6.5.2.4 Reasonable Period for Consultation

Woodside seeks feedback in order to support preparation of its EP. 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 6.4.2**).

## 6.6 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 EP 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 6.2**. 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 6.2**, 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 6.3.4**). 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.

## 6.7 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 10.6**), 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 (as set out in **Section 6.2**).

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 (see **Section 6.2**), Woodside will apply its Management of Change and Revision process as appropriate (see **Section 10.4.4**).

## 6.8 Woodside's Methodology to Identify Relevant Persons

### 6.8.1 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:

<b>Government departments / agencies – marine</b>	Agencies with legislated responsibilities for use of the marine environment.
<b>Government departments / agencies – environment</b>	Agencies with legislated responsibilities for the protection of the marine environment.
<b>Government departments / agencies – industry</b>	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 to determine 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 petroleum activity 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 petroleum activity, as applicable. Feedback received, if any, is assessed in accordance with the intended outcome of consultation (as set out in **Section 6.2**).
- The list of those government departments and agencies assessed as relevant is set out in **Table 6-3**.
- Feedback received, if any, is assessed in accordance with the intended outcome of consultation (as set out in **Section 6.2**) and summarised at **Appendix F, Table 1** and **Table 2** as appropriate to the relevance assessment.

Woodside does not consult with Departments or agencies with interests that do not overlap with risks and impacts specific to the proposed petroleum activity in the EMBA or would not be involved in incident response planning. For instance, in this EP, Woodside has not consulted with the department for the Minister of the Northern Territory because there is no overlap given that the proposed activities are in Commonwealth waters offshore of Western Australia.

### 6.8.2 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 4**).

To identify relevant persons who fall within regulation 25(1)(d), Woodside adopts the following methodology, and then undertakes consultation with relevant persons which is set out further in **Section 6.8**.

- 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 or that overlap with the EMBA
  - 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. For this EP, the broad categories are identified in **Table 6-1** below and identification methodology applied as set out in **Table 6-2**.

The list of those persons or organisations assessed as relevant and persons or organisations Woodside separately chose to contact is set out in **Table 6-3**.

Feedback received, if any, is assessed in accordance with the intended outcome of consultation (as set out in **Section 6.2**) and applying the categories of relevant persons methodology outlined in **Table 6-2**, as appropriate.

Feedback from relevant persons is summarised at **Appendix F, Table 1**. Feedback from persons assessed as not relevant but whom Woodside chooses to contact is summarised at **Appendix F, Table 2**.

**Table 6-1: Categories of relevant persons**

Category	Explanation
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.
Commercial fisheries and peak representative bodies	Commonwealth or State Commercial Fishery with a fishery <i>management plan recognised under the Commonwealth Fisheries Management Act 1991 (Cth) and Western Australian Fish Resources Management Act 1994 (WA)</i> , 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.
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.
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.
Nominated Representative Corporations	Nominated representative corporations are Traditional Custodians nominated representative institutions such as Prescribed Body Corporates (PBC). PBCs are established under the <i>Native Title Act 1993</i> 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.
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 <i>Local Government Act 1995 (WA)</i> which is responsible for representing the local community. Recognised local community reference/liaison group or organisation in relation to oil and gas matters.



Category	Explanation
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 6-2: Methodology for identifying relevant persons within the EMBA undertaken under subcategory 25 (1) (d) – by category.**

Category	Relevant person identification methodology
Commercial fisheries (Commonwealth and State) and peak representative bodies	<p>Woodside assesses relevance for commercial fisheries (Commonwealth and State) and their representative bodies using the following next steps in its methodology:</p> <ul style="list-style-type: none"> <li>▪ Defining the parameters having regard to timing, location and duration of the proposed petroleum activity.</li> <li>▪ Confirming whether the EMBA overlaps with the fisheries management area (i.e., the spatial area the fishery is legally permitted to fish in) (see <b>Section 5.6.2</b>)</li> <li>▪ Woodside acknowledges WAFIC’s consultation guidance<sup>18</sup> (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.</li> <li>▪ For Commonwealth and State commercial fisheries, Woodside assesses the potential spatial and temporal extent for interaction with the fishery by reviewing ABARES and DPIRD FishCube data within the EMBA (see <b>Section 5.6.2</b>).</li> </ul> <p>Assessment of relevance:</p> <ul style="list-style-type: none"> <li>▪ State commercial fisheries that have been assessed as having a potential for interaction within the EMBA (see <b>Section 5.6.2</b>) are assessed as relevant to the proposed activity. Woodside acknowledges WAFIC’s consultation guidance<sup>1</sup> (see above) and applies this by: <ul style="list-style-type: none"> <li>- directly consulting fishery licence holders that are assessed as having a potential for interaction in the Operational Area</li> <li>- consulting fisheries that are assessed as having a potential for interaction in the EMBA via WAFIC.</li> </ul> </li> <li>▪ Commonwealth commercial fisheries that have been assessed as having a potential for interaction within the EMBA (see <b>Section 5.6.2</b>) are assessed as relevant to the proposed activity.</li> <li>▪ If Woodside has identified that a Commonwealth or State fishery is a relevant person, then Woodside also consults the fishery’s 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.</li> </ul>
Recreational marine users and peak representative bodies	<p>Woodside assesses relevance for recreational marine users and peak representative bodies using the following next steps in its methodology:</p> <ul style="list-style-type: none"> <li>▪ From Woodside knowledge and operating experience, knowledge of recreational marine users in the area. This assessment is both activity and location based.</li> </ul>

<sup>18</sup> Consultation Approach for Unplanned Events - WAFIC

Category	Relevant person identification methodology
	<ul style="list-style-type: none"> <li>▪ Defining the parameters having regard to timing, location and duration of the proposed petroleum activity.</li> <li>▪ 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.</li> </ul> <p>Assessment of relevance:</p> <ul style="list-style-type: none"> <li>▪ 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.</li> <li>▪ 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.</li> </ul>
Titleholders and operators	<p>Woodside assesses relevance for other titleholders and operators using the following next steps in its methodology:</p> <ul style="list-style-type: none"> <li>▪ Using WA Petroleum Titles (DMIRS-011) to determine overlap with other Titleholders or Operators’ permit areas within the EMBA.</li> <li>▪ From Woodside knowledge and operating experience, knowledge of other operators in the area.</li> <li>▪ Woodside produces a map showing the outcome of this assessment.</li> </ul> <p>Assessment of relevance:</p> <ul style="list-style-type: none"> <li>▪ Titleholders and Operators whose permit areas are identified as having an overlap within the EMBA are assessed as relevant.</li> </ul>
Peak industry representative bodies	<p>Woodside assesses relevance for peak industry representative bodies using the following next steps in its methodology:</p> <ul style="list-style-type: none"> <li>▪ 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.</li> <li>▪ Review of Woodside’s existing consultation list.</li> <li>▪ 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.</li> </ul> <p>Assessment of relevance:</p> <ul style="list-style-type: none"> <li>▪ Peak industry representative bodies whose responsibilities are identified as having an overlap with Woodside’s proposed activities within the EMBA are assessed as relevant.</li> </ul>
Traditional Custodians (individuals and/or groups/entity) and Nominated Representative Corporations	<p>Consistent with its understanding of the matters discussed in <b>Section 5.6.1</b> and <b>6.5</b>, to identify Traditional Custodian groups or individuals, Woodside:</p> <ul style="list-style-type: none"> <li>▪ 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) (<b>Section 5.6.1</b>)</li> <li>▪ 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 (<b>Section 6.9.2</b>)</li> <li>▪ Requests the nominated representative body to forward the notifications and invitations to consult to their members (members are individual communal rights holders) (<b>Section 6.5.2.2</b>)</li> <li>▪ Requests advice as to other First Nations groups or individuals that should be consulted (<b>Section 6.5.2.1</b>)</li> </ul>

Category	Relevant person identification methodology
	<ul style="list-style-type: none"> <li>▪ Requests the nominated representative body to provide consultation materials to its members (<b>Section 6.5.2.1</b>)</li> <li>▪ Advertises widely so as to invite self-identification and consultation by First Nations groups and/or individuals (<b>Section 6.9.2</b>).</li> </ul> <p>Further detail to Woodsides methodology is as follows.</p> <p>Woodside uses the databases of the National Native Title Tribunal (<b>Section 6.5.2.1</b>):</p> <ul style="list-style-type: none"> <li>▪ to understand whether there are any Native Title Claims (historical or current) or determinations overlapping or coastally adjacent to the EMBA.</li> <li>▪ 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.</li> </ul> <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>In the WA context, any Aboriginal Corporation appointed as a Local Aboriginal Cultural Heritage Service (LACHS) under the Aboriginal Cultural Heritage Act 2021 for an area that overlaps the EMBA.</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> <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> <ul style="list-style-type: none"> <li>▪ 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.</li> </ul>
Native Title Representative Bodies	<p>Woodside assesses relevance for Native Title Representative Bodies using the following steps in its methodology:</p> <ul style="list-style-type: none"> <li>▪ 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.</li> <li>▪ Review of National Native Title Tribunal RATSIB areas that overlap or are coastally adjacent to the EMBA.</li> </ul>

Category	Relevant person identification methodology
	<p>Assessment of relevance:</p> <ul style="list-style-type: none"> <li>▪ 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.</li> </ul>
<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> <ul style="list-style-type: none"> <li>▪ Using the Australasian Underwater Cultural Heritage Database to assess any known records Maritime Cultural Heritage sites (shipwrecks, aircraft and relics) within the EMBA (see <b>Section 5.6.1.10</b>).</li> </ul> <p>Assessment of relevance:</p> <ul style="list-style-type: none"> <li>▪ 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.</li> </ul>
<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> <ul style="list-style-type: none"> <li>▪ 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.</li> <li>▪ 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.</li> <li>▪ 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).</li> </ul> <p>Assessment of relevance:</p> <ul style="list-style-type: none"> <li>▪ The local government whose defined area of responsibility overlaps the EMBA is assessed as relevant.</li> <li>▪ 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.</li> </ul>
<p>Other non-government groups or organisations</p>	<p>Woodside assesses relevance for other non-government groups or organisations using the following next steps in its methodology:</p> <ul style="list-style-type: none"> <li>▪ Review of Woodside’s existing consultation list.</li> <li>▪ 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.</li> <li>▪ Organisation has a publicly available mission statement (or purpose) that clearly describes their collective functions, interests or activities.</li> <li>▪ 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.</li> </ul>

Category	Relevant person identification methodology
	<p>Assessment of relevance:</p> <ul style="list-style-type: none"> <li>▪ 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 (as set out in <b>Section 6.2</b>) will be assessed as relevant.</li> </ul>
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> <ul style="list-style-type: none"> <li>▪ Review of Woodside's existing consultation list.</li> <li>▪ Website search for research institutes that may operate within the EMBA. This assessment is both activity and location based.</li> <li>▪ Website search for local conservation groups or organisations that regularly conduct conservation activities within the EMBA.</li> </ul> <p>Assessment of relevance:</p> <ul style="list-style-type: none"> <li>▪ 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.</li> <li>▪ 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.</li> </ul>

### 6.8.3 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).

### 6.8.4 Assessment of Relevant Persons and Additional Persons for the Proposed Activity

The result of Woodside's assessment of relevant persons in accordance with regulation 25(1) is outlined in **Table 6-3** and **Appendix F, Table 1**.

Persons or organisations that Woodside assessed as not relevant but nonetheless chose to contact at its discretion in accordance with **Section 6.3.4** or self-identified and Woodside assessed as not relevant are summarised in **Table 6-3** and **Appendix F, Table 2**.

Table 6-3: Assessment of Relevance

Person or Organisation	Summary of Responsibilities and/or Functions, Interests or Activities	Assessment of Relevance	Relevant Person
<b>Commonwealth and WA State Government Departments or Agencies – Marine</b>			
Australian Border Force (ABF)	Responsible for coordinating maritime security	Woodside has applied its methodology for 'Government departments / agencies – marine' under regulation 25(1)(a). ABF's responsibilities aren't relevant to the activity as there are no proposed vessel activities. Woodside chose to contact ABF at its discretion in line with <b>Section 6.3.4</b>	No
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). No Commonwealth fisheries have been assessed as relevant for the proposed activity. Under regulation 25(1)(e), Woodside at its discretion has chosen to assess AFMA as a relevant person.	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). AHO's responsibilities may be relevant to the activity as infrastructure is proposed to be left <i>in situ</i> requiring navigational chart updates.	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). AMSA – Marine Safety's responsibilities are not relevant to the activity as there are no proposed field activities. Woodside chose to contact AMSA – Marine Safety at its discretion in line with <b>Section 6.3.4</b> .	No
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). AMSA – Marine Pollution's responsibilities are not relevant to the activity as the proposed activity does not have a hydrocarbon spill risk which may require AMSA response in Commonwealth waters.	No

Person or Organisation	Summary of Responsibilities and/or Functions, Interests or Activities	Assessment of Relevance	Relevant Person
Department of Agriculture, Fisheries and Forestry (DAFF) – Fisheries (formerly DAWE)	Responsible for implementing Commonwealth policies and programs to support agriculture, fishery, food and forestry industries	Woodside has applied its methodology for ‘Government departments / agencies – marine’ under regulation 25(1)(a). No Commonwealth fisheries have been assessed as relevant for the proposed activity. Woodside chose to contact DAFF - Fisheries at its discretion in line with <b>Section 6.3.4</b> .	No
Department of Defence (DoD)	Responsible for defending Australia and its national interests.	Woodside has applied its methodology for ‘Government departments / agencies – marine’ under regulation 25(1)(a). DoD’s functions may be relevant to the activity as defence training areas lie within the EMBA.	Yes
Department of Primary Industries and Regional Development (DPIRD)	Responsible for managing State fisheries	Woodside has applied its methodology for ‘Government departments / agencies – marine’ under regulation 25(1)(b). The Pilbara Trap Fishery and Pilbara Line Fishery have been active in the EMBA within the last 5 years. DPIRD’s responsibilities may be relevant to the activity as the government department responsible for State fisheries.	Yes
Department of Transport (DoT)	Legislated responsibility for oil pollution response in State waters	Woodside has applied its methodology for ‘Government departments / agencies – marine’ under regulation 25(1)(b). The proposed activity does not have a hydrocarbon spill risk requiring DoT response in State waters.	No
Department of Planning, Lands and Heritage (DPLH)	Responsible for state level land use planning and management, and oversight of Aboriginal cultural heritage and built heritage matters.	Woodside has applied its methodology for ‘Government departments / agencies – marine’ under regulation 25(1)(b). There is no known Maritime Cultural Heritage overlapping the EMBA.	No
Pilbara Ports Authority	Responsible for the operation of the Port of Dampier.	Woodside has applied its methodology for ‘Government departments / agencies – marine’ under regulation 25(1)(b). 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.	No

Person or Organisation	Summary of Responsibilities and/or Functions, Interests or Activities	Assessment of Relevance	Relevant Person
<b>Commonwealth and WA State Government Departments or Agencies – Environment</b>			
Department of Agriculture, Fisheries and Forestry (DAFF) – Biosecurity (marine pests, vessels, aircraft and personnel) (formerly DAWE)	<p>DAFF administers, implements and enforces the <i>Biosecurity Act 2015</i>. 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).</p> <p>DAFF – Biosecurity’s (formerly DAWE) responsibilities are not relevant to the proposed activities as there are no proposed field activities.</p>	No
Department of Climate Change, Energy, the Environment and Water (DCCEEW) (formerly DAWE)	<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 <i>Underwater Cultural Heritage Act 2018</i> 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).</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 no known Maritime Cultural Heritage overlapping the EMBA.</p>	Yes
DCCEEW – Sea Dumping Branch (formerly DAWE)	Responsible for administering the <i>Environment Protection (Sea Dumping) Act 1981</i> (Sea Dumping Act).	<p>Woodside has applied its methodology for ‘Government departments / agencies – environment’ under regulation 25(1)(a).</p> <p>DCCEEW – Sea Dumping Branch (formerly DAWE) responsibilities may be relevant to the proposed activities as infrastructure is planned to be left <i>in situ</i>.</p>	Yes



Person or Organisation	Summary of Responsibilities and/or Functions, Interests or Activities	Assessment of Relevance	Relevant Person
Director of National Parks (DNP)	Responsible for the management of Commonwealth parks and conservation zones.	Woodside has applied its methodology for 'Government departments / agencies – environment' under regulation 25(1)(a). DNP's responsibilities are not relevant to the proposed activity as the proposed activity does not have a hydrocarbon spill risk which may require AMSA response in Commonwealth waters and proposed activities do not overlap any Australian Marine Parks (AMPs) or have the potential to impact on the values of any AMPs. Woodside chose to contact the DNP at its discretion in line with <b>Section 6.3.4</b> .	No
Ningaloo Coast World Heritage Advisory Committee (NCWHAC)	Supports the DBCA to manage the Ningaloo Coast World Heritage Area.	Woodside has applied its methodology for 'Government departments / agencies – environment' under regulation 25(1)(a). The NCWHAC's responsibilities are not relevant to the activity as the EMBA does not overlap the Ningaloo Marine Park. Woodside chose to contact the NCWHAC at its discretion in line with <b>Section 6.3.4</b> .	No
Department of Biodiversity, Conservation and Attractions (DBCA)	Responsible for managing WA's parks, forests and reserves to achieve wildlife conservation and provide sustainable recreation and tourism opportunities.	Woodside has applied its methodology for 'Government departments / agencies – environment' under regulation 25(1)(b). Although the EMBA does not overlap any WA parks, forests or reserves, activities may have the potential to impact DBCAs responsibilities as there is marine tourism in the EMBA.	Yes
<b>Commonwealth and State Government Departments or Agencies – Industry</b>			
Department of Industry, Science and Resources (DISR) <i>(formerly DISER)</i>	Department of relevant Commonwealth Minister.	Required to be consulted under regulation 25(1)(a).	Yes
Department of Energy Mines, Industry Regulation and Safety (DEMIRS) <i>(formerly DMIRS)</i>	Department of relevant State Minister	Required to be consulted under regulation 25(1)(c).	Yes

Person or Organisation	Summary of Responsibilities and/or Functions, Interests or Activities	Assessment of Relevance	Relevant Person
<b><i>Commonwealth Commercial Fisheries and Representative Bodies</i></b>			
North West Slope and Trawl Fishery	Commonwealth commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d). The fishery does not overlap the EMBA.	No
Southern Bluefin Tuna Fishery	Commonwealth commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d). Although the fishery overlaps the EMBA, it has not been active in the EMBA within the last 5 years. 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., 2021). 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).	No
Western Deepwater Trawl Fishery	Commonwealth commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d). The fishery does not overlap the EMBA.	No
Western Skipjack Fishery	Commonwealth commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d). Although the fishery overlaps the EMBA, it has not been active in the EMBA within the last 5 years. 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., 2021). In addition, interactions are not expected given the species' pelagic distribution fishing methods for species fished by licence holders.	No
Western Tuna and Billfish Fishery	Commonwealth commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d).	No

Person or Organisation	Summary of Responsibilities and/or Functions, Interests or Activities	Assessment of Relevance	Relevant Person
		Although the fishery overlaps the EMBA, it has not been active in the EMBA within the last 5 years.	
Commonwealth Fisheries Association (CFA)	Represents the interests of commercial fishers with licences in Commonwealth waters	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d). No Commonwealth fisheries have been assessed as relevant to the proposed activity. As the peak representative body for Commonwealth fisheries, the CFA has also been assessed as not relevant. Woodside has provided information to the CFA at its discretion in line with Section 6.3.4 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.	No
Australian Southern Bluefin Tuna Industry Association (ASBTIA)	Represents the interests of the Southern Bluefin Tuna Fishery and Western Skipjack Fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d). 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. Woodside has provided information to the ASBTIA at its discretion in line with <b>Section 6.3.4</b> 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.	No
Tuna Australia	Represents the interests of the Western Tuna and Billfish Fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d). 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. Woodside has provided information to Tuna Australia at its discretion in line with <b>Section 6.3.4</b> 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.	No
Pearl Producers Association (PPA)	Peak representative organisation of The Australian South Sea Pearling Industry,	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d).	No

Person or Organisation	Summary of Responsibilities and/or Functions, Interests or Activities	Assessment of Relevance	Relevant Person
	with members in Western Australia and the Northern Territory	The Pearl Oyster Managed Fishery has been assessed as not relevant to the proposed activity. As the peak representative body for the Pearl Oyster Managed Fishery, the PPA has also been assessed as not relevant. Woodside chose to contact the PPA at its discretion in line with <b>Section 6.3.4</b> .	
<b>State Commercial Fisheries and Representative Bodies</b>			
Marine Aquarium Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d). Although the fishery overlaps the EMBA it has not been active in the EMBA within the last 5 years. Woodside does not consider that the activity will present a risk to licence holders given the fishery generally collects fish in water depths less than 30 m. Further, the fishery is typically more active in waters south of Broome and higher levels of effort around the Capes region, Perth, Geraldton, Exmouth, Dampier and Broome.	No
South West Coast Salmon Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d). Although the fishery overlaps the EMBA the fishery has not been active in the EMBA within the last 5 years. 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 EMBA.	No
Mackerel Managed Fishery (Area 2)	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d). Although the fishery overlaps the EMBA, the fishery has not been active in the EMBA within the last 5 years. Woodside does not consider that the activity will present a risk to licence holders given the target species and gear type are pelagic.	No
Pilbara Crab Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d).	No

Person or Organisation	Summary of Responsibilities and/or Functions, Interests or Activities	Assessment of Relevance	Relevant Person
		<p>Although the fishery overlaps the EMBA, the fishery has not been active in the EMBA within the last 5 years.</p> <p>Woodside does not consider that the activity will present a risk to licence holders given target species is blue swimmer crab generally at less than 50 m water depth.</p>	
West Coast Deep Sea Crustacean 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).</p> <p>Although the fishery overlaps the EMBA, the fishery has not been active in the 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 is a 'pot' fishery using baited pots operated in a long-line formation in the shelf edge waters (&gt; 150 m) of the West Coast and Gascoyne Bioregions. The target species do not typically occur at the depths of the EMBA.</p>	No
Specimen Shell 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).</p> <p>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 that the activity will present a risk to licence holders given it is a dive and wade fishery, with collection by hand typically restricting effort to safe diving depths (less than 30 m).</p> <p>ROV collection could enable depths up to 300 m. In the past there has been one licence holder in the Specimen Shell Managed Fishery who has trialed ROV means of shell collection. WAFIC have provided advice that this fishery is no longer active.</p>	No
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).</p> <p>Although the fishery overlaps the EMBA, the fishery has not been active in the EMBA within the last 5 years.</p> <p>Woodside does not consider that the activity will present a risk to licence holders given it is a dive and wade fishery with activities generally restricted to waters less than 40 m deep (Department of Fisheries, 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).</p>	No

Person or Organisation	Summary of Responsibilities and/or Functions, Interests or Activities	Assessment of Relevance	Relevant Person
		<p>Although the fishery overlaps the EMBA, the fishery has not been active in the EMBA within the last 5 years.</p> <p>Woodside does not consider that the activity will present a risk to licence holders 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>	
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).</p> <p>Although the fishery overlaps the EMBA, the fishery has not been active in the EMBA within the last 5 years.</p> <p>Woodside does not consider that the activity will present a risk to licence holders given prawn trawling takes place in water depths of approximately 30 metres and less (previous licence holder feedback).</p>	No
Pilbara Trawl 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).</p> <p>Although the fishery overlaps the EMBA, the fishery has not been active in the EMBA within the last 5 years.</p> <p>The EMBA is located within Schedule 2 (Zone 1), which has been closed to fish trawling since 1998 (DPIRD, 2021). Woodside notes that Schedule 2 (Zone 1) may reopen which could result in the potential for future interaction due to snag risk.</p>	Yes
Pilbara Trap 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).</p> <p>The fishery overlaps the EMBA and has been active in the EMBA within the last 5 years.</p>	Yes
Pilbara Line 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).</p> <p>The fishery overlaps the EMBA and has been active in the EMBA within the last 5 years.</p>	Yes
Western Australian Fishing Industry Council (WAFIC)	Represents the interests of commercial fishers with licences in State waters.	<p>Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d).</p> <p>The Pilbara Trap Fishery and Pilbara Line Fishery have been active in the EMBA within the last 5 years. Woodside notes the potential for future interaction with the Pilbara Trawl Fishery in the event that Schedule 2 (Zone 1) reopens.</p>	Yes

Person or Organisation	Summary of Responsibilities and/or Functions, Interests or Activities	Assessment of Relevance	Relevant Person
		WAFIC's functions may be relevant to the activity as the peak representative body for State fisheries.	
<b><i>Recreational Marine Users and Representative Bodies</i></b>			
<p>Gascoyne Recreational Marine Users</p> <p>Silverado Charters Pty Ltd, Reel Force Charters Pty Ltd, D &amp; 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, Brefjen Nominees Pty Ltd, W.A Maritime Investments Pty Ltd, Blue Juice Tours Pty Ltd, Surefire Marine Services Pty Ltd, Makalee Pty Ltd, L &amp; 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)</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).</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>

Person or Organisation	Summary of Responsibilities and/or Functions, Interests or Activities	Assessment of Relevance	Relevant Person
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.			
Karratha Recreational Marine Users Nickol Bay Sport Fishing Club, Archipelago Adventures, Hampton Harbour Boat & Sailing Club, King Bay Game Fishing Club, Marine Rescue Dampier, Port Walcott Volunteer Marine Rescue, Port Walcott Yacht Club, Reef Seeker Charters, West Pilbara Volunteer Sea Search and Rescue Group	Karratha-based dive, tourism and charter operators	Woodside has applied its methodology for 'Recreational marine users and representative bodies' under regulation 25(1)(d). Activities do not have the potential to impact Karratha-based dive, tourism and charter operator's functions, interests or activities due to the location of activities which do not overlap the EMBA. Woodside chose to contact Karratha Recreational Marine Users at its discretion in line with <b>Section 6.3.4.</b>	No
Recfishwest	Represents the interests of recreational fishers in WA.	Woodside has applied its methodology for 'Recreational marine users and representative bodies' under regulation 25(1)(d).	Yes



Person or Organisation	Summary of Responsibilities and/or Functions, Interests or Activities	Assessment of Relevance	Relevant Person
		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.	
Marine Tourism WA	Represents the interests of marine tourism in WA.	Woodside has applied its methodology for 'Recreational marine users and representative bodies' under regulation 25(1)(d). 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.	Yes
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). 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
<b>Peak Industry Representative Bodies</b>			
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). AEP's responsibilities are identified as having an intersect with Woodside's planned activities in the EMBA.	Yes
<b>Traditional Custodians and Nominated Representative Corporations</b>			
Nganhurra Thanardi Garrbu Aboriginal Corporation (NTGAC)	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and nominated representative corporations' under regulation 25(1)(d). The Gnulli, Gnulli #2 and Gnulli #3 - Yinggarda, Baiyungu and Thalanyji People native title claim does not overlap the EMBA. The claim is coastally adjacent to the EMBA, which the NTGAC and YAC are the Registered Native Title Body Corporates for, holding native title on behalf of the Baiyungu, Thalanyji and Yinggarda people. 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.	Yes

Person or Organisation	Summary of Responsibilities and/or Functions, Interests or Activities	Assessment of Relevance	Relevant Person
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and nominated representative corporations' under regulation 25(1)(d). The Thalanyji native title claim does not overlap the EMBA. The claim is coastally adjacent to the EMBA, which BTAC is the Registered Native Title Body Corporate for. BTAC is also party to Macedon ILUA which is coastally adjacent to the EMBA.	Yes
Yinggarda Aboriginal Corporation (YAC)	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and nominated representative corporations' under regulation 25(1)(d). The Gnulli, Gnulli #2 and Gnulli #3 - Yinggarda, Baiyungu and Thalanyji People native title claim does not overlap the EMBA. The claim is coastally adjacent to the EMBA, which the NTGAC and YAC are the Registered Native Title Body Corporates for, holding native title on behalf of the Baiyungu, Thalanyji and Yinggarda people. The YAC nominated representative was the YMAC and the YAC executive officer and contact officer pursuant to the Corporations (Aboriginal and Torres Strait Islander) Act 2006 is employed by YMAC. Woodside therefore consulted YAC, via YMAC. Woodside was advised that as of late April 2023, the nominated representative for YAC was now Gumala Aboriginal Corporation.	Yes
<b>Native Title Representative Bodies</b>			
Yamatji Marlpa Aboriginal Corporation (YMAC)	Native Title Representative Body	Woodside has applied its methodology for 'Native Title Representative Bodies' under regulation 25(1)(d). 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 rights and interests of an Indigenous Community but exist to assist native title claimants and holders. The NTGAC nominated representative is 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. 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. 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.	Yes

Person or Organisation	Summary of Responsibilities and/or Functions, Interests or Activities	Assessment of Relevance	Relevant Person
		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.	
<b>Historical Cultural Heritage Groups or Organisations</b>			
Western Australian Museum	Manages 200 shipwreck sites of the 1,500 known to be located off the Western Australian coast.	Woodside has applied its methodology for 'Historical cultural heritage groups or organisations' under regulation 25(1)(d). There are no known shipwrecks overlapping the EMBA which the Western Australian Museum may be responsible for.	No
<b>Local Government and Community Representative Groups or Organisations</b>			
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). The Shire of Ashburton's area of responsibility overlaps the EMBA.	Yes
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). The Shire of Exmouth's area of responsibility does not overlap the EMBA. Woodside chose to contact the Shire of Exmouth at its discretion in line with <b>Section 6.3.4</b>	No
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). The Onslow Chamber of Commerce and Industry's interests have the potential to be impacted by the proposed activities.	Yes
Exmouth Community Liaison Group (CLG): <ul style="list-style-type: none"> <li>▪ Base Marine</li> <li>▪ Bgahwan Marine</li> <li>▪ Cape Conservation Group Inc.</li> </ul>	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). The Exmouth CLG's area of responsibility under its terms of reference does not overlap the EMBA. Woodside chose to contact the Exmouth CLG at its discretion in line with <b>Section 6.3.4</b> .	No

Person or Organisation	Summary of Responsibilities and/or Functions, Interests or Activities	Assessment of Relevance	Relevant Person
<ul style="list-style-type: none"> <li>▪ DBCA</li> <li>▪ Department of Defence</li> <li>▪ Department of Transport</li> <li>▪ Exmouth Bus Charter</li> <li>▪ Exmouth Chamber of Commerce and Industry</li> <li>▪ Exmouth District High School</li> <li>▪ Exmouth Freight and Logistics</li> <li>▪ Exmouth Game Fishing Club</li> <li>▪ Exmouth Tackle and Camping Supplies</li> <li>▪ Exmouth Visitors Centre</li> <li>▪ Exmouth Volunteer Marine Rescue</li> <li>▪ Fat Marine</li> <li>▪ Gascoyne Development Commission</li> <li>▪ Gun Marine Services</li> <li>▪ Ningaloo Lodge</li> <li>▪ Offshore Unlimited</li> <li>▪ Shire of Exmouth</li> </ul>			

Person or Organisation	Summary of Responsibilities and/or Functions, Interests or Activities	Assessment of Relevance	Relevant Person
<ul style="list-style-type: none"> <li>▪ BHP Petroleum (Woodside)</li> <li>▪ Santos</li> <li>▪ Community Member</li> </ul>			
<b>Other Non-government Groups or Organisations</b>			
Australian Conservation Foundation (ACF)	Non-government organisation	Woodside has applied its methodology for 'Other non-government groups or organisations' under regulation 25(1)(d) to determine ACF's relevance for the proposed activity. 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 <b>Section 6.2</b> ). Woodside chose to contact ACF at its discretion in line with <b>Section 6.3.4</b> .	No
Conservation Council of Western Australia (CCWA)	Non-government organisation	Woodside has applied its methodology for 'Other non-government groups or organisations' under regulation 25(1)(d) to determine CCWA's relevance for the proposed activity. 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 <b>Section 6.2</b> ). Woodside chose to contact CCWA at its discretion in line with <b>Section 6.3.4</b> .	No
Greenpeace Australia Pacific (GAP)	Non-government organisation	Woodside has applied its methodology for 'Other non-government groups or organisations' under regulation 25(1)(d) to determine GAP's relevance for the proposed activity. Woodside has assessed that GAP's feedback demonstrates an interest with the potential risks and impacts associated with planned activities in accordance with the intended outcome of consultation (as set out in <b>Section 6.2</b> ).	Yes
Friends of the Earth Australia	Non-government organisation	Woodside has applied its methodology for 'Other non-government groups or organisations' under regulation 25(1)(d) to determine Friends of the Earth Australia's relevance for the proposed activity. Woodside has assessed that Friends of the Earth Australia's feedback demonstrates an interest with the potential risks and impacts associated with planned activities in accordance with the intended outcome of consultation (as set out in <b>Section 6.2</b> ).	Yes

Person or Organisation	Summary of Responsibilities and/or Functions, Interests or Activities	Assessment of Relevance	Relevant Person
Maritime Union of Australia (MUA)	Union representing members in the maritime industries	Woodside has applied its methodology for 'Other non-government groups or organisations' under regulation 25(1)(d) to determine MUA's relevance for the proposed activity. Woodside has assessed that the MUA's feedback demonstrates an intersect with potential risks and impacts specific to the proposed petroleum activity and is in accordance with the intended outcome of consultation (as set out in <b>Section 6.2</b> ).	Yes
<b>Research Institutes and Local Conservation Groups or Organisations</b>			
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) to determine CCG's relevance for the proposed activity. CCG's conservation activities do not have the potential to intersect with the EMBA as the EMBA does not overlap the North West Cape. Woodside chose to contact CCG at its discretion in line with <b>Section 6.3.4</b> .	No
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) to determine Protect Ningaloo's relevance for the proposed activity. Protect Ningaloo's conservation activities do not have the potential to intersect with the EMBA as the EMBA does not overlap the North West Cape. Woodside chose to contact Protect Ningaloo at its discretion in line with <b>Section 6.3.4</b> .	No
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) to determine UWA's relevance for the proposed activity. 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 <b>Section 6.3.4</b> .	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) to determine WAMSI's relevance for the proposed activity. 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 <b>Section 6.3.4</b> .	No

Person or Organisation	Summary of Responsibilities and/or Functions, Interests or Activities	Assessment of Relevance	Relevant Person
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) to determine CSIRO's relevance for the proposed activity. 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 <b>Section 6.3.4</b> .	No
Australian Institute of Marine Science (AIMS)	Research institute	Woodside has applied its methodology for 'Research institutes and local conservation groups or organisations' under regulation 25(1)(d) to determine AIMS's relevance for the proposed activity. There is known research being undertaken by AIMS that intersects within the EMBA.	Yes

## 6.9 Consultation Activities and Additional Engagement for the Griffin Field Decommissioning (End State) Environment Plan

Woodside has been conducting extensive consultation with relevant persons and other parties for this EP since February 2022, 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 this EP. Consultation aims to be inclusive, transparent, voluntary, respectful, and two-way. Consultation was undertaken by email, letter, phone call and/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, North West Telegraph (15 February 2023) and Geraldton Times (17 February 2023) (see **Appendix F, reference 3.31**). 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 6.3.4**), which included details such as an activity overview, maps, a summary of key risks and/or impacts and management measures (**Appendix F, reference 1.1 and reference 2.1**).
- An activity update Consultation Information Sheet was provided to relevant persons and persons Woodside chose to contact (see), which included an update regarding planned activities, information regarding the EMBA's for this EP and additional information relating to mitigation and management measures for this EP (**Appendix F, reference 3.32**).
- Since the commencement of the initial consultation period (January 2022), the Stakeholder Consultation Information Sheet was available on BHP website and the activity update Consultation Information Sheets have been available on the Woodside website since July 2022 and September 2022 (**Appendix F, reference 2.1**) and February 2023 (**Appendix F, reference 3.32**). The Woodside Information Sheets include a toll-free 1800 phone number and Woodside's feedback email address ([feedback@woodside.com.au](mailto:feedback@woodside.com.au)).
- Additional targeted information was provided to relevant marine users including AHO and AMSA – Marine Safety (**Appendix F, reference 2.4, reference 2.41**). This 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 6.2**).
- Consultation activities undertaken with relevant persons are summarised at **Appendix F, Table 1**.
- Engagement undertaken with persons or organisations Woodside assessed as not relevant but chose to contact (see **Section 6.3.4**) or self-identified and Woodside assessed as not relevant are summarised at **Appendix F, Table 2**.
- From 3 May 2023, Woodside commenced a geotargeted sponsored social media campaign aimed at various local government authorities that are 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 (**Appendix F, reference 4.26**).

### 6.9.1 Community Information Sessions

- On 17 June 2023, a Community Information Session was held in Exmouth. Ahead of the event, Woodside advertised the session via the means below which provided the opportunity for local individuals to become aware of the event and have access to experts and information about the activity. The methods used to promote these consultation opportunities were developed with input from



Indigenous representatives and were adapted to incorporate culturally appropriate and accessible language to encourage engagement and understanding of Woodside's proposed activities:

- From 15 - 17 June 2023, Woodside commenced a geotargeted social media campaign in Exmouth and surrounding areas (**Appendix F, reference 4.27**) advertising of the Community Information Session.
- Representatives from Woodside, including project and environment personnel equipped to answer technical questions, attended the event. Copies of the Consultation Information Sheets and bespoke targeted Consultation Summary 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 their feedback.
- On 22 June 2023 and 19 July 2023, a Community Information Session was held in Roebourne. 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 (**Appendix F, reference 4.28**).
- On 28 and 29 June 2023, Community Information Sessions were held in Karratha. Woodside advertised the sessions via the means below providing the opportunity for local individuals to become aware of the event and have access to experts and information about the activity. The methods used to promote these consultation opportunities were developed with input from Indigenous representatives and were adapted to incorporate culturally appropriate and accessible language to encourage engagement and understanding of Woodside's proposed activities:
  - Ahead of the 28 June 2023 event, posting a story on its Facebook page (**Appendix F, reference 4.31**), 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.
  - Ahead of the 29 June 2023 event, advertising the community information session in the Pilbara News (**Appendix F, reference 4.29**), geotargeting a social media campaign in Karratha and surrounding areas and posting the event details on its Facebook page (**Appendix F, reference 4.30**).
  - Representatives from Woodside, including project and environment personnel equipped to answer technical questions, attended the event. Copies of the Consultation Information Sheets and bespoke targeted Consultation Summary 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 their feedback.
- On 5 and 6 August 2023, 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 EP activities. The stand included consultation information sheets for a number of EPs including the Griffin Decommissioning EPs. Woodside estimates that over 2,000 people visited the Woodside stand based on the number of consultation forms and questionnaires completed. The consultation opportunity was promoted prior to the Festival, in the Pilbara News on 2 August 2023 and a story appeared on the Woodside North West Facebook page on 2 August 2023 (**Appendix F, reference 4.33**).
- On 18 August 2023, Woodside consulted the community on Environment Plan activities at a stand at the Passion of the Pilbara festival in Onslow. Members of Woodside's Corporate Affairs actively engaged the community to discuss proposed Environment Plan activities. The stand included consultation information sheets for a number of Environment Plans. Woodside estimates that about 100 people visited the Woodside stand. The consultation opportunity was promoted prior to the Festival in a story on the Woodside North West Facebook page on 17 August 2023 (**Appendix F, reference 4.34**).
- From 18–20 September 2023, Woodside consulted the Karratha, Port Hedland and Roebourne Communities on EP activities. Members of Woodside's Corporate Affairs, First Nations and Environment teams actively engaged the community to discuss proposed EP activities, including this EP (**Appendix F, reference 4.35**).
  - 18 September 2023: Karratha Shopping Centre 8 am–12 pm; Red Earth Arts Precinct 3–6 pm. Estimated number of people consulted: 20.
  - 19 September 2023: Port Hedland, South Hedland Square 10 am–5 pm. Estimated number of people consulted: 20.

- 20 September 2023: Roebourne, Woodside Office 10 am–4 pm. Estimated number of people consulted: 0 (Sorry Business – multiple Aboriginal Corporation meetings, unknown at the time of scheduling/planning engagements).

These consultation opportunities were promoted prior to regional consultation in the Pilbara News on 13 September 2023, and via Facebook and Instagram social media campaigns from 6 to 16 September 2023. An EP consultation banner with a QR code linking to the Consultation Activities page on the Woodside website was displayed at Woodside’s stand along with current EP factsheets.

- On 16 and 17 October 2023, 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 (**Appendix F, reference 4.37**). Representatives from Woodside Project, Corporate Affairs and Environment teams were available to answer questions. Copies of the Consultation Information Sheet were available to attendees. Woodside advertised the sessions to enable individuals to self-identify, become aware of the community consultation, and provide feedback on proposed activities, through the following:
  - Advertisement in the Pilbara News on 4 October 2023
  - Geotargeted social media campaign advertising in Carnarvon and Denham and surrounding areas (+80 kms) from 9 to 16 October 2023
  - Directly inviting local Traditional Custodian groups (**Appendix F, Table 1**)
  - An EP consultation banner with QR code (linked to the Consultation Activities page on the Woodside website) was displayed along with current EP factsheet.
- On 23 October 2023, 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 (**Appendix F, reference 4.38**). Representatives from Woodside Project, Corporate Affairs, First Nations, Environment, and Biodiversity and Science teams were available to answer questions. Copies of the Consultation Information Sheet were available to attendees. 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:
  - Advertisement in the Pilbara News on 11 October 2023
  - Geotargeted social media campaign advertising in Exmouth and surrounding areas (+80 kms) from 2 to 9 October 2023
  - Directly inviting local Traditional Custodian groups (**Appendix F, Table 1**)
  - 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.

### 6.9.2 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 6.5**).

Consultation undertaken specifically with Traditional Custodians for this EP includes:

- Direct engagement with nominated representative bodies via the contact listed on the ORIC (Office of the Registrar of Indigenous Corporations) 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
  - A Summary Consultation Information Sheet, developed and reviewed by Indigenous representatives in collaboration with technical experts to ensure content is appropriate to (**Appendix F, reference 3.33**) 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
  - Ample opportunity for questions and feedback
  - Discussion about ongoing relationship development and opportunities
  - Distribution of hard-copy Consultation Information Sheets and bespoke targeted Consultation Summary Sheet
  - 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 to various communities that are coastally adjacent to the EMBA for the proposed activities (**Appendix F, reference 4.26**):
  - 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 reach of this campaign is shown in **Appendix F, reference 4.26**), providing the opportunity to consult via over 972,443 views to date across various regions.
  - 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 (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 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.

## 7 Environmental Risk Management Framework

Woodside has established a risk management governance framework with supporting processes and performance requirements that provide an overarching and consistent approach for identifying, assessing and managing risks. Woodside Policies have been formulated to comply with the intent of the Risk Management Policy and are consistent with the AS/ISO 31000-2009 Risk Management Principles and Guidance.

An integrated risk assessment and impact process is used to identify the most appropriate management strategy and relevant controls to reduce impacts and risks from planned (routine and non-routine) activities and unplanned (accidents/incidents) events to as low as reasonably practicable (ALARP) and acceptable levels (**Figure 7-1**). The process includes incorporating historic stakeholder and legal and environmental monitoring data for the relevant environmental impacts.

### 7.1 Evaluation of Impacts and Risks

A formal impact and risk assessment was completed for each environmental aspect and source of hazard for the activities described in **Section 4** using the Environmental Hazard Identification (ENVID) workshop process. The primary objective of the impact and risk assessment is to demonstrate that the identified impacts and risks associated with the Petroleum Activity are reduced to ALARP and are of an acceptable level. The environmental impact and risk assessment presented in this EP has been informed by recent and historic hazard identification studies and workshops (e.g., HAZID/ENVID), Process Safety Risk Assessment processes, reviews and associated desktop studies associated with the Petroleum Activity. Impacts, risks and potential consequences were identified based on planned and potential interaction with the activity (based on the description in **Section 4**), the existing environment (**Section 5**) and the outcomes of Woodside's stakeholder engagement process (**Section 6**).

An environment hazard identification (ENVID) workshop was conducted in February 2022 to support the impact and risk assessment and involved participants from the Woodside HSE, projects and engineering departments and specialist environmental consultants. Environmental impacts and risks are recorded in an environmental impacts and risk register. The output of the ENVID is used to present the risk assessment and forms the basis to develop performance outcomes, performance standards and measurement criteria.

The impact and risk assessment process is illustrated in **Figure 7-1** and considers planned (routine and non-routine) activities, unplanned (accidents/incidents) events and emergency conditions. The process considered previous risk assessments for similar activities, reviews of relevant studies, reviews of past performance, external stakeholder consultation feedback and a review of the existing environment. The process includes:

- confirming the sources of hazards for the planned activities and unplanned events
- identifying environmental impact and risk receptors
- analysing environmental impact and risk receptors
- identifying potential controls to reduce the impacts and risks.
- allocating a likelihood rating for all unplanned events
- allocating a severity rating for all planned activities and unplanned events
- accepting controls through an ALARP process
- assessing final acceptability of the risks and impacts using the Woodside acceptability criteria.

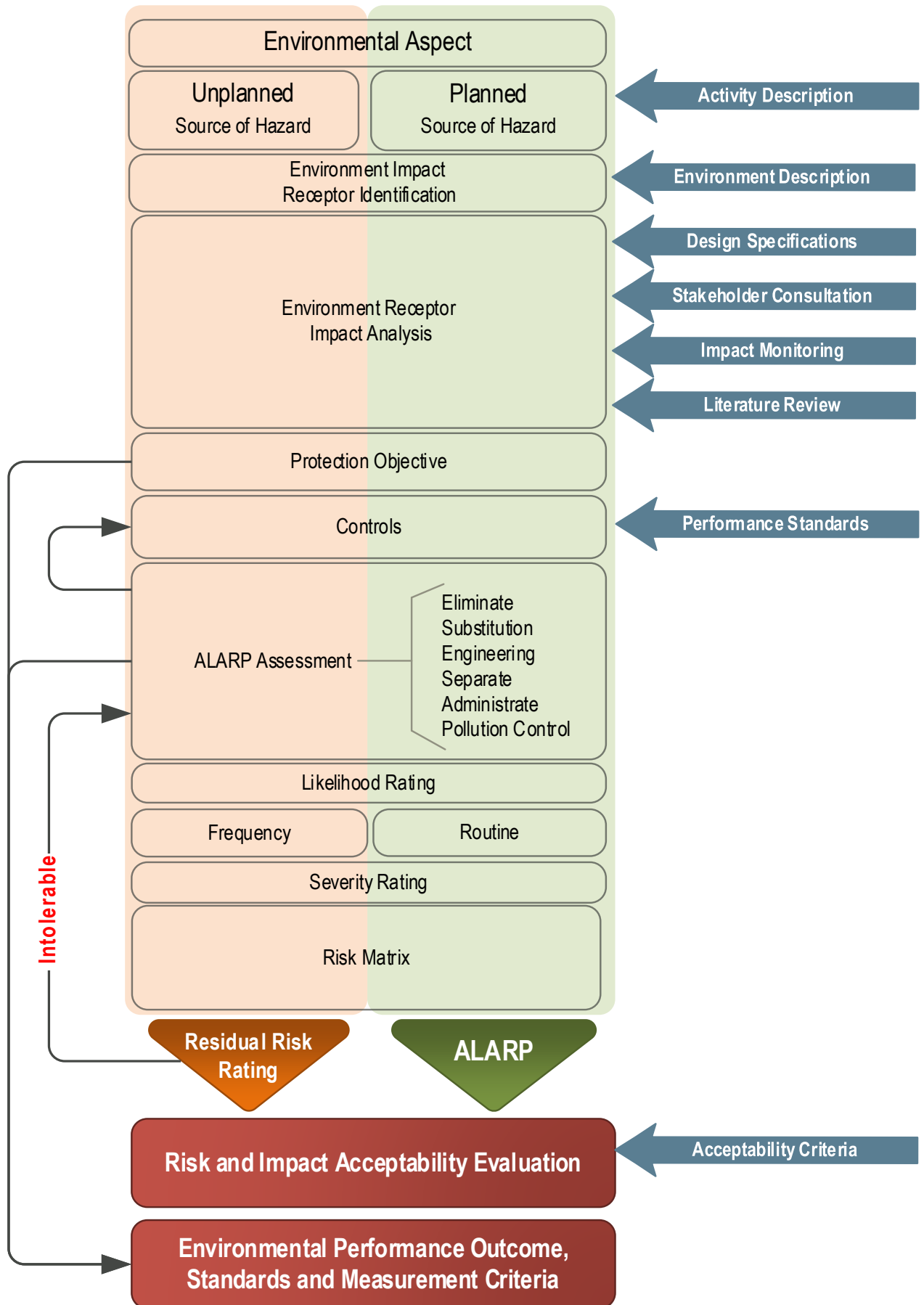


Figure 7-1: Environment Plan Integrated Impact and Risk Assessment Process

### 7.1.1 Decision Context

Consistent with the Guidance on Risk Related Decision Making (Oil and Gas UK, 2014), Woodside has applied decision criteria to determine whether impacts and risks created during the Petroleum Activity constitute ‘lower-order’ or ‘higher-order’ impacts and risks, and subsequently how each are managed to ALARP (**Section 7.2**) and acceptable levels (**Section 7.3**). This approach implies a level of proportionality wherein the principles of decision-making applied to each particular hazard are proportionate to the acceptability of environmental risk of that hazard.

The decision-making principles described in **Table 7-1** are consistent with the precautionary principle (as defined in the EPBC Act) and provide assurance that the environmental impacts and risks are reduced to ALARP and of an acceptable level.

**Table 7-1: Risk Related Decision-Making Framework**

Decision Type	Description
Decision Type A	<p>Woodside considers lower-order (or ‘Type A’) impacts or risks as those that are:</p> <ul style="list-style-type: none"> <li>▪ well understood and established practice, typically derived from standard, non-complex or routine operations familiar to Woodside.</li> <li>▪ there are clearly defined regulatory, corporate or industry (good practice) controls to manage the impact or risk.</li> <li>▪ have no concerns or objections from relevant persons.</li> <li>▪ have a ‘severity level’ for planned operations (impacts) and unplanned events (risks) that does not exceed ‘2’ based upon the severity level definition (<b>Table 7-3</b>)</li> <li>▪ have a ‘likelihood’ for unplanned events that is either ‘unlikely’ or ‘highly unlikely’ based upon the likelihood definitions (<b>Table 7-4</b>).</li> </ul>
Decision Type B	<p>Woodside considers higher-order (or ‘Type B’) impacts or risks as those that are:</p> <ul style="list-style-type: none"> <li>▪ not well understood or involve a level of uncertainty, typically derived from complex operations not routinely performed by Woodside.</li> <li>▪ have regulatory, corporate or industry (good practice) controls that require additional definition or validation.</li> <li>▪ have had some concerns or objections raised by relevant persons.</li> <li>▪ have a ‘severity level’ for planned operations (impacts) and unplanned events (risks) that is ‘3’ based upon the severity level definition (<b>Table 7-3</b>)</li> <li>▪ have a ‘likelihood’ for unplanned events that is considered ‘probable’ to ‘highly likely’ based upon the likelihood definitions (<b>Table 7-4</b>).</li> </ul>
Decision Type C	<p>Woodside considers highest-order (or ‘Type C’) impacts or risks as those that are:</p> <ul style="list-style-type: none"> <li>▪ not understood or there is a high degree of uncertainty, typically derived from operations not previously performed by Woodside.</li> <li>▪ have corporate or industry (good practice) controls that either do not exist or are insufficient to manage impacts or risks and therefore require adoption of the precautionary approach.</li> <li>▪ have had multiple concerns or objections raised by relevant persons or lobby groups.</li> <li>▪ have a ‘severity level’ for planned operations (impacts) and unplanned events (risks) that is equal to or exceeds ‘4’ based upon the severity level definition (<b>Table 7-3</b>)</li> <li>▪ have a ‘likelihood’ for unplanned events that is considered ‘probable’ to ‘highly likely’ based upon the likelihood definitions (<b>Table 7-4</b>).</li> </ul>

### 7.1.2 Environmental Impact Analysis

The environmental impact analysis is based on the environmental receptors identified in **Section 5**. Impact and risk descriptions are developed in an initial screening process that identifies the specific receptor that may be impacted. Quantitative or qualitative definition of the impact and risk may be completed to ensure an understanding of and to confirm the severity of the risk and impact.

### 7.1.3 Planned Activity Assessment

All planned activities were assessed as being a routine impact and defined as such in the ENVID. The description and degree of impact formed the basis for the severity rating applied, with a quantitative assessment of impact conducted where possible to ensure the impact was well understood and clearly categorised on the severity table. Where this was not possible, a robust qualitative assessment was completed and the severity rating assigned during the ENVID process in accordance with the Woodside (PetDW) HSE Risk Matrix, which is consistent with the Risk Management Severity Table (**Table 7-3**), taking into account any of the mitigative controls assigned. Given routine operations are planned, and impacts are mitigated by applying control measures, likelihood or residual risk ratings were not applied.

### 7.1.4 Unplanned Event Risk Assessment

Risk ranking of an unplanned event is the product of the consequence of an event (the severity) and the likelihood of that event occurring.

Likelihood and potential severity ratings were assigned in accordance with the Woodside (PetDW) HSE Risk Matrix (**Table 7-2**, **Table 7-3** and **Table 7-4**), which allowed the risk of individual events to be categorised in a methodical and structured process. This was completed based upon judgement by the ENVID assessment team, with detailed potential impact descriptions used to ensure a robust and comprehensive decision.

The likelihood rating was based on the frequency of the source of hazard actually occurring with all preventative controls taken into consideration. The potential severity rating was determined based on the potential impact that may occur once the source of hazard had occurred, taking into account any mitigative controls in place to reduce the impact.

**Table 7-2: Woodside (PetDW) HSE Risk matrix**

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

**Table 7-3: Woodside (PetDW) Severity Level Definitions**

Severity Level	Descriptor	Severity Factor
5	<ul style="list-style-type: none"> <li>Severe impact to the environment and where recovery of ecosystem function takes 10 years or more; or</li> <li>Severe impact on community lasting more than 12 months or a substantiated human rights violation impacting 6 or more people</li> </ul>	1000
4	<ul style="list-style-type: none"> <li>Serious impact to the environment, where recovery of ecosystem function takes between 3 and up to 10 years; or</li> <li>Serious impact on community lasting 6-12 months or a substantiated human rights violation impacting 1-5 persons</li> </ul>	300
3	<ul style="list-style-type: none"> <li>Substantial impact to the environment, where recovery of ecosystem function takes between 1 and up to 3 years; or</li> <li>Substantial impact on community lasting 2-6 months</li> </ul>	100
2	<ul style="list-style-type: none"> <li>Measurable but limited impact to the environment, where recovery of ecosystem function takes less than 1 year; or</li> <li>Measurable but limited community impact lasting less than one month</li> </ul>	30
1	<ul style="list-style-type: none"> <li>Minor, temporary impact to the environment, where the ecosystem recovers with little intervention; or</li> <li>Minor, temporary community impact that recovers with little intervention</li> </ul>	10

Table 7-4: Woodside (PetDW) Likelihood Definitions

Uncertainty	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
Probable	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

## 7.2 Demonstration of ALARP

Regulation 34(b) of the Environment Regulations requires demonstration that the environmental impacts and risks of the activity will be reduced to ALARP.

### 7.2.1 Planned Activity and Unplanned Event ALARP Evaluation

This section details the process for demonstrating ALARP for both planned routine operations and unplanned events. **Table 7-5** provides a description on how Woodside demonstrates different impacts and risks are ALARP based on their Decision Types identified.

Table 7-5: Summary of the criteria used for ALARP demonstration.

Decision Type	Demonstration of ALARP Description
Decision Type A	Demonstrating ALARP for <i>lower-order</i> ('Type A') impacts or risks



Decision Type	Demonstration of ALARP Description
	<ul style="list-style-type: none"> <li>▪ 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.</li> <li>▪ 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.</li> </ul>
Decision Type B	<p>Demonstrating ALARP for higher-order ('Type B') impacts or risks</p> <ul style="list-style-type: none"> <li>▪ In addition to relevant regulatory, corporate and industry good practice controls being implemented, alternate, additional or improved controls should be proposed and evaluated according to their feasibility, reasonableness and practicability to implement to further reduce the potential for impacts and risks associated with the activities.</li> <li>▪ 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.</li> </ul>
Decision Type C	<p>Demonstrating ALARP for highest-order ('Type C') impacts or risks</p> <ul style="list-style-type: none"> <li>▪ 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.</li> <li>▪ 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.</li> </ul>

When evaluating additional controls for higher order 'Type B' and 'Type C' impacts and risks, Woodside has applied the hierarchy of controls as defined below and illustrated in **Figure 7-2**:

- Eliminate – Remove the source preventing the impact; in other words, eliminate the hazard.
- Substitution – Replace the source preventing the impact.
- Engineer – Introduce engineering controls to prevent or control the source having an impact.
- Separate – Separate the source from the receptor preventing impact.
- Administrate – Procedures, competency and training implemented to minimise the source causing an impact.
- Pollution Control – Implement a pollution control system to reduce the impact.
- Contingency Planning – Mitigate control reducing the impact.
- Monitor – Program or system used to monitor the impact over time.

The general preference is to accept controls that are ranked in the Tier 1 categories of Eliminate, Substitute, Engineer and Separate as these controls provide a preventive means of reducing the likelihood of the hazard occurring over and above Tier 2 controls.

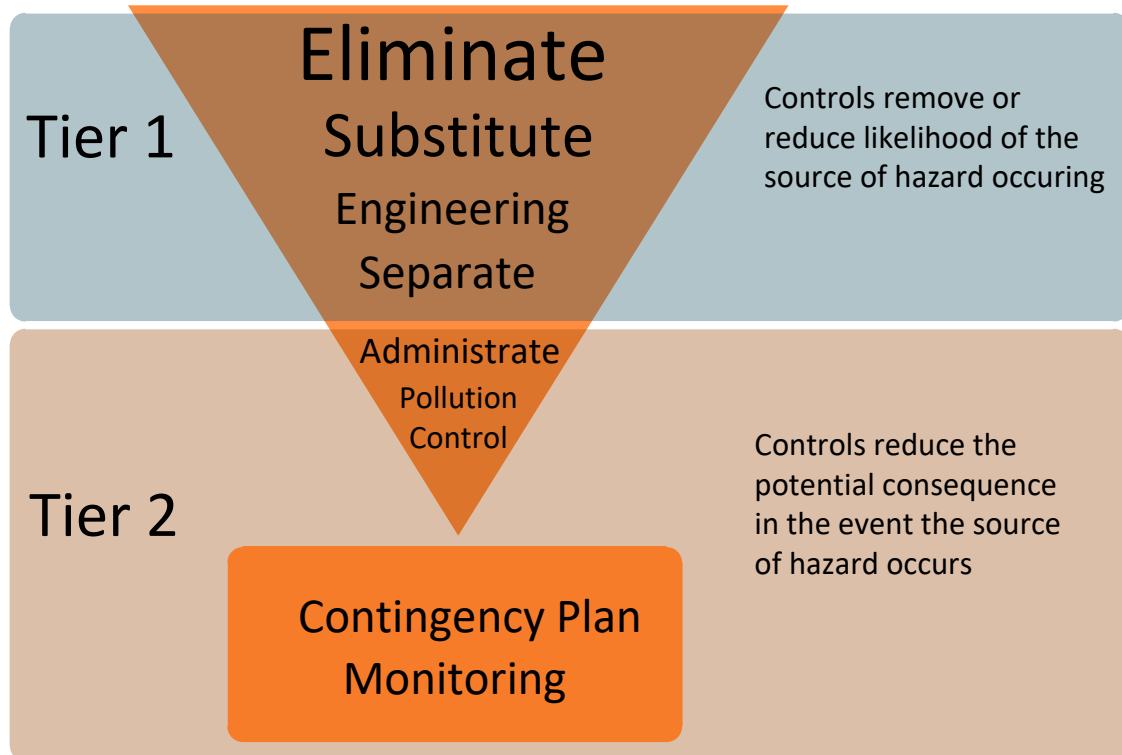


Figure 7-2: Hierarchy of control framework

### 7.3 Demonstration of Acceptability

Regulation 34(c) of the Environment Regulations requires demonstration that the environmental impacts and risks of the activity will be of an acceptable (tolerable) level.

The demonstration of acceptability is completed independently of the ALARP evaluation described above. However, as with the demonstration of ALARP, the demonstration of acceptability detailed below applies the decision-making principles described in **Section 7.1.1**, ensuring consistency with the precautionary principle when considering the acceptable levels of impact and risk caused by the activity.

#### 7.3.1 Demonstrating acceptability for lower-order ('Type A') and higher-order ('Type B') impacts or risks

When an impact or risk has been evaluated as 'lower-order' or 'higher-order' based upon the Decision Context detailed in **Section 7.1.1**, acceptability of the impact or risk is evaluated based upon the following criteria:

- Relevant regulatory, corporate and industry good practice controls have been identified and implemented, including consideration of relevant actions prescribed in recovery plans and approved conservation.
- The activity does not contravene any relevant Plan of Management for a World Heritage place, National Heritage place or Ramsar wetland identified within the EMBA.
- Any alternate, additional or improved controls adopted via the detailed engineering risk assessment have been or will be implemented to manage potential impacts and risks to ALARP.
- There are either no objections or claims made by relevant stakeholders for the aspect of the activity being assessed, or any objections or claims received from relevant stakeholders are assessed for merit and controls adopted to address the objections or claims where merited.
- Where industry good practice cannot be adopted, professional judgement made by subject matter experts have been used to evaluate the acceptability of potential environmental impact or risk based upon adoption of alternate, additional or improved controls identified during detailed engineering risk assessment.

- Consideration of relevant actions prescribed in listed species recovery plans, conservation advice and threat abatement plans have informed the development of control measures.
- The application of adopted controls clearly indicates the aspect-specific EPOs can be achieved.
- The proposed impact is consistent with the principles of ESD defined in Section 3A of the EPBC Act (**Section 2.1.3**), including:
  - Decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations (the 'integration principle')
  - If there are threat of serious or irreversible damage lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation (the 'precautionary principle')
  - The principle of intergenerational equity- that the present generation should ensure the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations (the 'intergenerational principle')
  - The conservation of biological diversity and ecological integrity should be a fundamental consideration in decision making ('the biodiversity principle').

In addition to the criteria above, the environmental management approach adopted within this EP is consistent with both the AEP's Principles of Conduct and Woodside Our Values, PetDW HSE Standard (PET-HSE00-HX-STD-00001) and HSE Management Systems, which endorse and promote continuous improvement in ways that protect people and the environment through the responsible management of petroleum activity and their impacts. Given this, Woodside considers that adherence to these principles, standards and systems aligns with the principles of ESD. Therefore, any deviation from these principles, standards and systems must be evaluated to ensure the potential environmental impacts and risks remain acceptable.

### 7.3.2 Demonstrating acceptability for highest-order ('Type C') impacts or risks

When an impact or risk has been evaluated as 'highest-order' based upon the Decision Context detailed in **Section 7.1.1**, 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:

- 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 Risk Matrix (**Table 7-2**).

## 7.4 Environmental Performance Outcomes, Performance Standards and Measurement Criteria

Regulation 34(d) of the Environment Regulations requires the EP provides appropriate EPOs, environmental performance standards (EPSs) and measurement criteria (MC).

An objective of the EP is to ensure all activities are performed in accordance with appropriate EPSs, thus ensuring EPOs are achieved. This requires (among other things) appropriate measurement criteria for demonstrating the EPSs have been met as defined within the EP.

Establishing EPOs and EPSs involves a process of considering legal requirements and the environmental risks (described in the risk assessment presented in **Section 8**) and considering available control options (**Section 8**), and the views of interested parties (**Section 6**). The resulting outcomes and standards must be measurable where practicable and consistent with 'Our Values' and Environment and Biodiversity Policy (**Appendix A**).

### 7.4.1 Environmental Performance Outcomes

EPOs are developed to ensure protection of the environment from the impact or risk and to ensure ongoing performance and measurability of the controls. These were developed using the below criteria:

- Be specific to the source of the hazard.
- Indicate how the environmental impact will be managed (for example, minimise or prevent).

- Contain a statement of measurable performance (where applicable).
- Contain a timeframe for action (where applicable).
- Be consistent with legislative and HSE requirements.

#### 7.4.2 Environmental Performance Standards

An EPS is a statement of performance required from a control measure (a system, an item of equipment, a procedure or functional responsibility (person)), which is used as a basis for managing environmental impact and risk, for the duration of the activity.

There is a specific link between the EPOs, the EPSs and control measures; each EPO has one or more standards defining the performance requirement that needs to be met by a control measure to meet the EPO.

EPSs detailed within this EP are specific, measurable, and achievable.

#### 7.4.3 Environmental Measurement Criteria

MCs have been assigned for each EPS as a means of validating that each EPO and EPS will be or has been met throughout the duration of the Petroleum Activity, thus continually reducing environmental impacts and risks to ALARP and acceptable levels.

All MCs are designed to be inspected or audited via compliance assurance activities and enable a traceable record of performance to be maintained.

EPOs, EPSs, and MCs, both in relation to planned activities and unplanned events, have been detailed throughout **Section 8**.

## 8 Environmental Impact Assessment and Evaluation

The purpose of this section is to address the requirements of Regulations 21(5) and 21(6) of the Environment Regulations by assessing and evaluating all the identified impacts and risks associated with the Petroleum Activity and associated control measures that will be applied to reduce the impacts and risks to an ALARP and an acceptable level.

**Table 8-1** summarises the impact analysis for the aspects associated with the planned and unplanned activities. A comprehensive risk and impact assessment for each of the planned and unplanned activities, and subsequent control measures proposed by Woodside to reduce the impacts and risks to ALARP and acceptable levels, are detailed in the subsections.

Table 8-1: Summary of the Environmental Impact Analysis for Planned Activities

Activity	Environmental							Socio-Economic					Risk Assessment & Evaluation			Acceptability
	Marine Mammals	Marine Turtles	Fish	Seabirds/ Shorebirds	Seabed	Water Quality	Marine Protected Areas	Key Ecological Features	Commercial Fisheries	Shipping Activities	Tourism / Recreation	Air Quality	Severity Factor	Likelihood Factor	Residual Risk	
<b>Physical Presence – Section 8.1</b>																
Equipment abandoned <i>in situ</i>					X				X	X			10	N/A	-	Tolerable
<b>Physical presence: Alteration of the seabed and benthic habitats -Section 8.2</b>																
Equipment abandoned <i>in situ</i>					X							10	N/A	-	Tolerable	
<b>Equipment Degradation – Section 8.3</b>																
Equipment abandoned <i>in situ</i>					X								10	N/A	-	Tolerable

## 8.1 Physical Presence – Interaction with Other Marine Users (Planned and Unplanned)

### 8.1.1 Summary of Risk Assessment and Evaluation

Aspect	Source of Hazard	Potential Impact	Severity Factor	Likelihood Factor	Residual Risk	Decision Context	Acceptability
Physical Presence	Permanent presence of subsea infrastructure (RTM anchors, piled foundations and concrete gravity bases)	Interaction with other marine users (such as commercial fishing or other third-party vessels).	10	N/A	-	Type A Low Order Impact	Tolerable

### 8.1.2 Source of Hazard

The subsea infrastructure listed in **Section 4.7** will be decommissioned *in situ*. The equipment decommissioned *in situ* is embedded within the seabed as described below:

- RTM steel anchors and associated mooring chains, up to 11 anchors (12 total) are buried and the mooring chains are partially embedded within the seabed.
- The PLEM piled foundation, partially embedded within the seabed.
- The four distribution skid piled foundations, partially embedded within the seabed.
- The six MDB Concrete Gravity Bases, partially embedded within the seabed.

Eleven of the 12 RTM anchors are buried within the sediment. Mooring 6 Trailing Anchor is exposed on the seabed and will be removed. The associated mooring chains are partially embedded and will be cut at or below the mudline as close as practicable to the anchor. Based on conservative estimates approximately 32 meters of mooring chain per anchor pair will be decommissioned *in situ*.

The partially removed piled foundations are planned to be cut internally below the mudline (preferred cutting method) however if this internal cut is not feasible, then the piles will be cut using a mechanical cutting tool from the outside of the piled foundation as close to the mudline as practicable. Up to 1 m above the current mudline may be required to be left in-situ due to the practicability of fitting the large equipment around the infrastructure to achieve the external cut. Other factors which may contribute to this are excess cementing around the piled foundation or natural hard substrate which make it not possible to clear a suitable area to position the saw for a cut at the mudline. The base of the MDB concrete gravity bases are expected to be partially buried, however may protrude above the seabed up to approximately 1 m.

The equipment decommissioned *in situ* will degrade over time, eventually becoming indistinguishable from the surrounding sediments. This process will take hundreds to thousands of years. Inspections to date (**Section Error! Reference source not found.**) indicate that the corrosion prevention systems on the equipment to be decommissioned *in situ* are in good order. Based on degradation studies for the Griffin field (Atteris, 2019) the corrosion prevention systems, such as coatings and sacrificial anodes, will continue to function for decades. Corrosion of the steel will substantially increase following failure of the corrosion prevention systems.

Parts of the equipment that extend above the seabed (e.g., piled foundations and the tops of concrete gravity bases) will corrode relatively quickly due to the higher availability of oxygen in the water column compared to the parts of the equipment buried in the seabed. As the parts of the equipment above the seabed corrode to the point where structural integrity fails, they will slump to the seabed due to their weight, where they will gradually become buried over time through natural sedimentary processes. The wellhead will sink within the muddy sediments once it collapses. The timeframes for these corrosion and degradation processes will be in the order of hundreds of years. The presence of the infrastructure decommissioned *in situ* on the seabed may interact with other users of the sea, particularly trawled fishing gear. Commercial fishers operating trawl

equipment around the infrastructure locations, will be displaced from a 500 m radius as displayed on navigational charts, as they avoid the area to prevent damage to equipment from snagging.

Trap and line fishers are not expected to negatively interact with the infrastructure left *in situ*. Currently, there is one trawl-based fishery identified as having potential for future interaction within the EMBA, the State-managed Pilbara Trawl Fishery. This fishery operates in the Pilbara region of the North Coast Bioregion of Western Australia and uses trawl nets to target ~ 50 scalefish species. The EMBA is located within Schedule 2 (Zone 1) of the Pilbara Trawl Fishery which has been closed to fish trawling since 1998.

Two other state managed fisheries, the Pilbara Line Fishery and Pilbara Trap Managed Fishery are considered to be currently active within EMBA and have the potential to interact with the infrastructure left *in situ* within the EMBA.

### 8.1.3 Environmental Impact Assessment

#### 8.1.3.1 Commercial Fishing

Several State and Commonwealth-managed commercial fisheries have boundaries that overlap the EMBA and whilst fishing effort is reported as low, the State managed Pilbara Line Fishery have recently recorded fishing effort (**Section 5.6.2**). Although the Pilbara Line Fishery is the only fishery with recorded catch, Woodside acknowledge that further fishing efforts may occur within the EMBA that have not been reported through DPIRD FishCube data for confidentiality reasons. WAFIC have advised that Pilbara Trap Fishery, Managed Mackerel Fishery and Onslow Prawn Trawl Fishery may also be active within the EMBA. Of these fisheries that may be active but not shown in FishCube data, only the Pilbara Trap Managed Fishery has potential to interact with the infrastructure proposed to be abandoned *in situ*. The Managed Mackerel Fishery targets pelagic species and therefore equipment is unlikely to interact with the seabed, or infrastructure on the seabed. Similarly, the Onslow Prawn Trawl Fishery targets species in < 45 m depth and has not been active over the EMBA.

Commercial fishing vessels are equipped with navigational equipment such as echo sounders and geographical positioning system (GPS) plotters, which enables them to avoid charted infrastructure on the seabed. The likelihood of interactions between trawl equipment and oil and gas infrastructure has been reducing over time as a result of an increase in communication between the oil and gas industry and improvement in fishery GPS equipment (Rouse et al., 2020). Historical fishing vessel incident data from the AMSA Monthly Domestic Vessel Incident Reporting Database (2018-2021) and the Australian Transport Safety Bureau (ATSB) Marine Safety Investigation reports show there were no reported fishing vessel incidents related to offshore oil and gas infrastructure in Australia.

It is unlikely that any fisheries would be impacted by the petroleum activity. This is because the infrastructure that may continue to protrude from the seabed has a relatively small footprint and does not extend far above the seabed (worst case < 1 m above the seabed), with the spatial extent being comparable to other small natural seabed features.

The seabed is mobile at the Griffin field, as evidenced by the partial or full burial of subsea infrastructure over the life of the development. Whilst the natural sediment mobility may result in infrastructure becoming buried and partially exposed over time, it is considered unlikely that the infrastructure will become significantly more exposed over time. Furthermore, infrastructure proposed for *in situ* left will be marked on navigation charts and during consultation with fisheries no concern was expressed about potential for interaction between the infrastructure and fishing equipment.

##### 8.1.3.1.1 Current Interactions with Commercial Fisheries

No trawling vessels operate in the EMBA presently (**Section 5.6.2**). Given the fisheries over the EMBA and lack of trawling effort (the EMBA is located within Schedule 2 (Zone 1) of the Pilbara Trawl Fishery, which has been closed to fish trawling since 1998) (**Section 5.6.2**), the infrastructure does not currently present a hazard to commercial fishing vessels through snagging events.

Woodside has consulted with fishing industry bodies, WAFIC, and individual fishing licence holders (see **Section 6**). During consultation, Recfishwest had feedback and WAFIC requested additional information as outlined in the summary of consultation (**Table 2**) in **Appendix F**. Woodside responded to the feedback and requests for additional information.



### 8.1.3.1.2 Future Interactions with Commercial Fisheries

Interaction of the infrastructure with any future commercial trawling fisheries is highly unlikely, based on historical information on vessel incidents related to oil and gas infrastructure in Australia, likely improvements in GPS fishing equipment in the future and likely improved communication, operation and coexistence between oil and gas industry and the commercial fishing industry (Rouse et al., 2020). In addition, Woodside have previously engaged the Australian Maritime College (AMC) to undertake an independent study of the Thebe-1 wellhead *in situ* (AMC, 2022) and although some parameters are different, results indicated that during an 'interaction event,' provided the skipper of a trawl vessel adhere to hook-up guidelines issues by AMSA the risk of harm to vessel and crew would remain low. The impact to commercial fishing activity (should trawling resume) from the presence of the infrastructure on the seabed is considered negligible.

### 8.1.3.2 Commercial Shipping

The infrastructure that is proposed to be left *in situ* is not considered a navigation hazard. None of the equipment is buoyant, and hence there are no credible hazards to commercial shipping. This has been confirmed by consultation with AMSA who raised no comments regarding this risk or concerns during consultation.

### 8.1.3.3 Other Future Users

The infrastructure that is proposed to be left *in situ* is not expected to displace other future marine users, such as renewable energy operators from using the area in the future. This is on the basis that all infrastructure is planned to mostly be buried or cut below the mudline with only the MDB concrete gravity bases and possibly some of the partially removed piled foundations protruding a small distance above the seabed (< 1 m from the seabed). Infrastructure abandoned *in situ* will be marked on navigation charts giving future users the ability to avoid any infrastructure if required.

No credible impacts to cultural heritage values will occur.

## 8.1.4 Demonstration of ALARP

The ALARP process performed for the environmental aspect is summarised in **Table 8-2**. This process was completed as outlined in **Section 7.2** and included consideration of all controls, analysis of the risk reduction proportional to the benefit gained, and final acceptance or justification if the control was rejected.

**Table 8-2: Physical Presence: Interaction with other marine users – ALARP Summary**

Control Measure	Accept / Reject	Reason	Associated Performance Standards
<b>Legislation, Codes and Standards</b>			
Compliance with <i>Environmental Protection (Sea Dumping) Act 1981</i>	Accept	Control is based on a legislative requirement therefore must be adopted.	<b>PS 1.1</b>
<b>Eliminate</b>			
Removal of all infrastructure	Reject	The infrastructure that is proposed to remain <i>in situ</i> under this EP has equal or better environmental outcomes than if the infrastructure was fully removed. In most cases removal introduces other environmental impacts, such as seabed disturbance, and given the low profile of the infrastructure remaining, the benefits to other marine users from removal would be insignificant. Furthermore, the cost of	Not applicable

Control Measure	Accept / Reject	Reason	Associated Performance Standards
		removal far outweighs any environmental benefits.	
<b>Engineering</b>			
Install trawl protection structures over the equipment decommissioned <i>in situ</i>	Reject	Given the absence of trawl fishing and the burial status of the equipment decommissioned <i>in situ</i> , the installation of trawl protection would result in no reduction of the risk of trawled fishing gear being snagged. The installation of trawl protection equipment would introduce additional manmade materials to the marine environment.	Not applicable
As-left survey to verify RTM anchors, partially removed piled foundations and MDB concrete gravity bases' location, burial status and condition.	Accept	As left surveys will be completed for the RTM anchors, partially removed piled foundations and the MDB concrete bases to confirm location, current condition and burial status. The as left survey activity will be conducted under the accepted Griffin Field Management and Decommissioning EP.	<b>PS 1.2</b>
<b>Administrate</b>			
Consultation with relevant stakeholders	Accept	Controls based on Woodside requirements must be accepted. Control makes other users informed and aware of the petroleum activity, thereby reducing the likelihood of interference.  Control is feasible, standard practice with minimal cost. Benefits outweigh cost sacrifice.	<b>PS 1.3</b>
Notify AHO of RTM anchors, partially removed piled foundations and MDB concrete gravity bases remaining <i>in situ</i> so they can continue to be marked on navigation charts	Accept	Notification of the infrastructure being left <i>in situ</i> to AHO ensures the infrastructure will continue to be marked on navigation charts, giving fisheries and other marine users sufficient information to plan activities around the infrastructure.  Control is feasible, standard practice with minimal cost. Benefits outweigh any cost sacrifice.	<b>PS 1.4</b>

#### 8.1.4.1 ALARP Summary

Impacts to other marine users from the long-term physical presence of subsea infrastructure proposed for *in situ* left are considered localised and minor. The risk assessment and evaluation has identified a range of controls (**Table 8-2**) appropriate to the decision type (Decision Type A), that when implemented are considered to manage the impacts of the long-term physical presence of Griffin subsea infrastructure on other marine users to ALARP.

Woodside considers the control measures described above are appropriate to reduce the potential for interaction with other marine users associated with the long-term presence of subsea infrastructure. Additional reasonable control measures were identified in **Table 8-2** to further reduce impacts but rejected since the associated cost or sacrifice was grossly disproportionate to any benefit. The impacts are therefore considered reduced to ALARP.

### 8.1.5 Demonstration of Acceptability

Based on the impact assessment, given the adopted controls, the long-term physical presence of subsea infrastructure proposed for *in situ* left will not result in potential impacts greater than a minor, temporary displacement of other marine users, such as commercial fishing.

Further opportunities to reduce the impacts have been investigated above. The adopted controls are considered good oil-field practice/industry best practice. No concerns or objections regarding the permanent *in situ* left of the proposed infrastructure was raised by relevant persons. The impact is consistent with the principles of ESD (as defined under the EPBC Act) (refer **Table 8-3**). Woodside has considered information contained in recovery plans and threat abatement plans (**Section 9**). The environmental impacts meet the Woodside (PetDW) environmental risk acceptability criteria (**Section 7.3**). On this basis, Woodside considers the impact to be managed to an acceptable level.

The following subsections provide further detail on the determination of acceptability for the physical presence of the subsea infrastructure left *in situ*.

#### 8.1.5.1 Principles of ESD Assessment

As outlined in Section 3A of the EPBC Act, the titleholder needs to ensure that the activity is undertaken in a manner consistent with the ESD (refer **Table 8-3**).

**Table 8-3: Assessment of impact against the principals of ESD**

Principals of ESD	Assessment
Decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations (the integration principle)	The impact assessment has assessed both the long-term and short-term, environmental, and social aspects associated with leaving the subsea infrastructure <i>in situ</i> .
If there are threat of serious or irreversible damage lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation (the 'precautionary principle')	The impact assessment has been supported by a number of studies as detailed in <b>Table 5-2</b> , scientific literature and relevant person feedback. Based on the information provided by relevant persons and other information sources, Woodside has a strong understanding of the extent that other marine users may be impacted by infrastructure that remains <i>in situ</i> .
The principle of intergenerational equity- that the present generation should ensure the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations (the 'intergenerational principle')	Leaving the infrastructure <i>in situ</i> has the potential to provide habitat for fish in a predominately soft substrate environment and increase the abundance of fish including commercially retained species. Although the amount of infrastructure that is not buried is minor, this hard substrate provides minor benefit to future generations in the short to medium-term before degradation of the infrastructure occurs. The equipment proposed to be abandoned <i>in situ</i> is not expected to pose an unacceptable risk to the use of the environment by future generations.
The conservation of biological diversity and ecological integrity should be a fundamental consideration in decision making ('the biodiversity principle')	The impact assessment ( <b>Section 8.1.3</b> ) has assessed both biological diversity and ecological integrity.

##### 8.1.5.1.1 Acceptability against Article 192 of the United Nations Convention on the Law of the Sea 1982 (UNCLOS)

A general obligation of Article 192 of the United Nations Convention on the Law of the Sea 1982 (UNCLOS) is to protect and preserve the marine environment. International Maritime Organization (IMO) resolution A.672 recognises that the general requirement of removal with the objective of protecting and preserving the marine environment. Further details are provided in section 3.9 of the resolution describing that equipment left *in situ* should not move under environmental loading.

The corrosion and breakdown of material within the infrastructure will occur over a period of hundreds of years, as detailed in **Section 8.3**. The infrastructure is made of steel and steel alloy (refer **Section 4.7.1**). As the infrastructure degrades, the material, being higher density than seawater will sink and degrade further. It is not credible that its degradation results in floating debris.

International Maritime Organization (IMO) Resolution A.672 provides that the general requirement is removal with the objective of protecting and preserving the marine environment. Section 3 of the resolution presents standards for alternatives to removal, including:

- Equipment in < 75 m water depth and < 4,000 tonnes in air should be removed.
- Equipment decommissioned *in situ* should remain on location and not move under the influence of waves, tides, currents, storms, or other foreseeable natural causes.

The equipment proposed to be decommissioned *in situ* satisfies the requirements of IMO Resolution A.672. The petroleum activity is therefore not inconsistent with IMO Resolution A.672.

#### **8.1.5.2 Monitoring to meet the Requirements of General Direction 833**

Whilst ongoing monitoring has been determined not to be required based on the ALARP assessment and the acceptability of the impact from the subsea contamination, a single ROV survey will be undertaken on the subsea equipment decommissioned *in situ*. Footage will be provided to NOPSEMA to meet the requirements of NOPSEMA General Direction 832, which requires:

*'Provide, to the satisfaction of NOPSEMA, for the conservation and protection of the natural resources in the title areas within 12 months after property referred to in direction 1 is removed'*

and

*'Make good, to the satisfaction of NOPSEMA, any damage to the seabed or subsoil in the title areas caused by any person engaged or concerned in the operations authorised by the titles within 12 months after property referred to in direction 1 is removed'*

An as left survey of the infrastructure left *in situ* is covered under the accepted Griffin Decommissioning and Field Management EP.

#### **8.1.5.3 Annex I (2) of the 1996 London Protocol**

Annex I (2) of the 1996 London Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Waste and Other Matter (update to London Convention and Protocol 1972) describes that material capable of creating floating debris or otherwise contributes to the pollution of the marine environment has to be removed.

The infrastructure described in Section Table 4-6 is buried or buried in the seabed and negatively buoyant. It is not credible that degradation of this equipment will create floating debris. The petroleum activity is therefore not inconsistent with Annex I (2) of the 1996 London Protocol.

## 8.1.6 Environmental Performance Outcome, Performance Standards and Measurement Criteria

Environmental Performance Outcomes	Controls	Performance Standards	Measurement Criteria
<b>EPO 1</b> Prevent adverse interactions with other marine users from infrastructure remaining <i>in situ</i>	<b>C 1.1</b> Compliance with <i>Environmental Protection (Sea Dumping) Act 1981</i>	<b>PS 1.1</b> Woodside continues to engage with DCCEEW regarding the application of the <i>Environment Protection (Sea Dumping) Act 1981</i> and to comply with requirements under the Act.	<b>MC 1.1.1</b> Records demonstrate DCCEEW continue to be engaged on the application of the <i>Environment Protection (Sea Dumping) Act 1981</i> relevant to the petroleum activity and demonstrate Woodside's commitment to complying with the Act.
	<b>C 1.2</b> As-left survey to verify RTM anchors, partially removed piled foundations and MDB concrete gravity bases' location, burial status and condition.	<b>PS 1.2</b> Woodside will undertake as-left surveys of the RTM anchors, partially removed piled foundations and MDB concrete gravity bases to confirm location, burial status and condition.	<b>MC 1.2.1</b> Records demonstrate as-left surveys of the RTM anchors, partially removed piled foundations and MDB concrete gravity bases completed.
	<b>C 1.3</b> Consultation with relevant stakeholders	<b>PS 1.3</b> Woodside consultation with relevant stakeholders to advise them of the location of equipment decommissioned <i>in situ</i> at the time of left.	<b>MC 1.3.1</b> Stakeholder communication recorded in database demonstrating Woodside has provided relevant persons with the location of equipment decommissioned <i>in situ</i> .
	<b>C 1.4</b> Notify AHO of RTM anchors, partially removed piled foundations and MDB concrete gravity bases remaining <i>in situ</i> so they can continue to be marked on navigation charts	<b>PS 1.4</b> Woodside will notify AHO that the RTM anchors, partially removed piled foundations and MDB concrete gravity bases will be left <i>in situ</i> so they can continue to be marked on navigation charts.	<b>MC 1.4.1</b> Records demonstrate AHO has been notified that the RTM anchors, partially removed piled foundations and MDB concrete gravity bases will remain <i>in situ</i>

## 8.2 Physical Presence: Alteration of Seabed and Benthic Habitats

### 8.2.1 Summary of Risk Assessment and Evaluation

Aspect	Source of Hazard	Potential Impact	Severity Factor	Likelihood Factor	Residual Risk	Decision Context	Acceptability
Physical Presence	Presence of subsea infrastructure	Scouring of the seabed around infrastructure.	10	N/A	-	Type A Low Order Impact	Tolerable
	Provision of hard substrate habitat	Provision of hard substrate habitat	10	N/A	-	Type A Low Order Impact	Tolerable

### 8.2.2 Source of Hazard

The infrastructure that is proposed to be left *in situ* is expected to be predominantly buried below the seabed and therefore is providing limited disturbance / physical modification impacts to the seabed (Section 4.7).

The piled foundations are planned to be partially removed under the Griffin Decommissioning and Field Management EP. Woodside intends to make an internal cut below the mudline, however if this is not possible, Woodside may be required to make an external cut using a diamond wire saw. If an external cut is required, the piled foundation will be cut as close to the mudline as practicable, noting there are limitations to this cut depth due to placement of the cutting tool, the hardness of the sediment and the potential buildup of cement grout at the base of the piled foundation. As a worst case, the piled foundations may protrude ~ 1 m from the seabed. The MDB concrete gravity bases are partially buried in the seabed and protrude ~ 1 m from the seabed.

The infrastructure proposed for *in situ* left is primarily made of steel, with the gravity bases and piled foundations also containing cement and concrete, as described in **Table 4-6**. The physical presence of the subsea infrastructure remaining *in situ* permanently has the potential to result in disturbance to the seabed and benthic habitats over the long term, over the course of hundreds to thousands of years by:

- alternating the hydrodynamic conditions around the infrastructure, potentially resulting in scouring or accretion
- introducing hard substrate resulting in the creation of a new habitat.

The equipment decommissioned *in situ* will degrade over time, eventually becoming indistinguishable from the surrounding sediments. This process will take hundreds to thousands of years.

#### 8.2.2.1 Scouring and Accretion around the Subsea Infrastructure

The presence of the subsea infrastructure on the seafloor can interact with the surrounding hydrodynamic conditions, potentially resulting in disturbance to the seabed (scouring and accretion) which may impact on associated benthic habitats. Studies on the effects of sediment movements associated with anthropogenic structures on the seabed, such as shipwrecks and artificial reefs, indicate impacts to be limited to within 10 m of the structure (Smiley, 2006; Lewis and Pagano, 2015).

#### 8.2.2.2 Habitat Creation

The infrastructure on the seabed and protruding into the water column (up to ~1 m) provides a hard substrate that hosts benthic habitat for marine species. Analysis of habitats on offshore structures (wellheads and other

well infrastructure similar to the infrastructure proposed for left *in situ*) at depths ranging from 78 m to 825 m have shown a relatively high coverage of crustacea, hydroids, black and octocorals and sponges (McLean et al., 2018b) which provides habitat in areas dominated by soft sediments. Several studies of offshore structures on the NWS have observed a diverse range of reef-dependent and transient pelagic species associating with structures, including commercially fished species (Pradella et al., 2014; McLean et al., 2018a, 2018b; Fowler and Booth, 2012). In addition, research suggests the structurally complex habitats provided by subsea infrastructure are used by many demersal fish for predator avoidance and foraging opportunities (Caddy, 2014).

Studies have found the presence of fish assemblages on offshore structures is strongly influenced by depth, age and height of the structures. Offshore structures at water depths between 135 m to 175 m possessed an abundance of reef-dependent and transient pelagic species (Pradella et al., 2014; McLean et al., 2018a). Therefore, based on the depth of the EMBA (~135 m) the subsea infrastructure (concrete gravity bases and piled foundations) may provide a small area of hard substrate habitat for benthic fauna and potential to attract an abundance of fish species.

The subsea infrastructure is expected to take hundreds of years break down (based on the degradation of steel). It is expected that until this point infrastructure will continue to provide hard substrate that hosts benthic habitat.

## 8.2.3 Environmental Impact Assessment

### 8.2.3.1 Scouring and Accretion

The presence of the infrastructure on the seabed has potential to interact with surrounding hydrodynamic conditions potentially resulting in disturbance to the seabed (scouring). However, given most of the infrastructure is buried to varying degrees, this is unlikely to occur.

Studies on the effects of sediment movements associated with anthropogenic structures on the seabed, such as shipwrecks and artificial reefs, indicate impacts to be limited to within 10 m of the structure (Smiley, 2006; Lewis and Pagano, 2015). The subsea infrastructure EMBA partially overlaps the Ancient Coastline at 125 m depth contour (refer **Figure 5-10**). The EMBA overlaps the Ancient Coastline at 125 m depth contour and therefore leaving infrastructure *in situ* permanently modifies a small portion of this KEF by its presence. Minor scouring and accretion may occur in the localised area around the subsea infrastructure gradually, however this is not expected to be significant enough to impact the values of this KEF. No lasting effects are anticipated to the ecological properties of the KEF and long-term impacts are not expected to differ from the impacts that have already been experienced during operation of the Griffin field.

The seabed surrounding the subsea infrastructure and within the EMBA (500m radius around the infrastructure) is comprised of unconsolidated sandy sediments dominated by infauna (**Section 5.3.2**). As described in **Section 5.3.2**, this habitat is very widely represented in the region and does not hold significant conservation value. Gardline (2015) observed a trend for increased infauna abundance around Griffin equipment, with the increase due to greater abundance of sipunculans and oligochaete worms; other components of the infauna communities near equipment were similar to reference sites (**Section 5.3.2**). Similar effects were observed around steel shipwrecks by Peyghan et al. (2023). However, these infauna observations were associated with equipment and wrecks that protruded from the sediment, and hence were potentially modifying sediment grain size characteristics through the effects on hydrodynamics. Grain size influences infauna community structure, so the changes in infauna community may be the result of changes in hydrodynamics and consequent changes to sediment characteristics rather than degradation. Abandoning the piled foundations and gravity bases *in situ* may result in modification of the grain size characteristics, with consequent effects on benthic habitats. Such effects would be limited to within 2-3 m of the protruding structure.

Localised scouring and accretion around the protruding subsea infrastructure, and up to 10 m radius around the infrastructure, have the potential to alter associated benthic communities in the localised area. Given benthic habitat at the infrastructure location primarily consists of a featureless seabed dominated by soft sediments, impacts are expected to remain localised with no lasting effects to environmental receptors.

### 8.2.3.2 Habitat Creation

The left *in situ* of the proposed subsea infrastructure will preserve the hard substrate provided by the protruding sections of piled foundations and gravity bases. Hard substrate is uncommon in the region at the water depths of the Griffin field, and the retention of the piled foundation and gravity bases will provide substrate for attachment of sessile benthic invertebrates, such as those observed by Gardline (2015) on the Griffin infrastructure. The resulting communities around the piled foundations and gravity bases will have higher biodiversity and abundance than the surrounding unconsolidated sediment habitat. The communities will persist until the exposed part of the infrastructure has completely degraded (expected to be on a timescale of hundreds of years).

No credible impacts to cultural heritage values will occur.

### 8.2.4 Demonstration of ALARP

The ALARP process for the environmental aspect is summarised in **Table 8-4**. This process was completed as outlined in **Section 7.2** and included consideration of all controls, analysis of the risk reduction proportional to the benefit gained and final acceptance or justification if the control was rejected.

**Table 8-4: Seabed Disturbance - ALARP Summary**

Control Measure	Accept / Reject	Reason	Associated Performance Standards
<b>Legislation, Codes and Standards</b>			
Compliance with <i>Environmental Protection (Sea Dumping) Act 1981</i>	Accept	Control is based on a legislative requirement therefore must be adopted.	<b>PS 1.1</b>
<b>Eliminate</b>			
Removal of subsea infrastructure (anchor, gravity bases, pile foundations)	Reject	The decommissioning options assessment provided in <b>Section 3</b> determined that leaving the subsea infrastructure <i>in situ</i> provides equal or better environmental outcomes compared to complete removal.	Not applicable
<b>Good Practice</b>			
As-left survey to verify RTM anchors, partially removed piled foundations and MDB concrete gravity bases' location, burial status and condition.	Accept	As left surveys will be completed for the RTM anchors, partially removed piled foundations and the MDB concrete bases to confirm location, current condition, and burial status. The as left survey activity will be conducted under the accepted Griffin Field Management and Decommissioning EP.	<b>PS 1.2</b>
Environmental monitoring of the seabed to assess any changes in seabed, sediment and settlement of marine organisms on the subsea infrastructure.	Reject	Impacts to seabed and sediment from <i>in situ</i> left of proposed subsea infrastructure are likely to be limited to within 10 m of the infrastructure.  There is limited environmental benefit (information) gained by monitoring sediment and settlement of marine organisms around the subsea infrastructure.  Control grossly disproportionate. Monitoring will not reduce the consequence of the already minor disturbance to the seabed, and the costs associated with the level of	Not applicable



Control Measure	Accept / Reject	Reason	Associated Performance Standards
		monitoring required to accurately assess any impacts greatly outweighs any benefits.	
Monitoring and/or remediation to make good any damage to the seabed or subsoil and provide for conservation and protection of the natural resources in the area of the subsea infrastructure.	Reject	Physical impacts to the seabed and subsoil from the ongoing presence of the subsea infrastructure are limited to localised scouring and accretion and habitat creation, which will have a negligible impact to benthic habitats within an estimated 10 m around the individual infrastructure. Impacts to benthic habitats from previous installation and operational activities at the Griffin field will be assessed as part of the accepted Griffin Field Management and Decommissioning EP to address S270 and title relinquishment requirements. The impacts associated with ongoing physical presence of proposed subsea infrastructure (RTM anchors, piled foundations and concrete gravity bases) do not represent an unacceptable damage to the seabed or subsoil and allow for the conservation and protection of the natural resources in the area. Therefore, there is no benefit gained from further monitoring or remediation of the seabed in the localised vicinity surrounding this infrastructure. Cost of the control is disproportionate to the benefit that may be gained from it given impacts to the seabed have been assessed as negligible.	Not applicable

### 8.2.4.1 ALARP Summary

On the basis of the decommissioning options assessment outcomes (refer to **Section 3**), the environmental impact assessment outcomes and the identification of a range of controls (**Table 8-4**) appropriate to the decision type (Decision Type A), Woodside considers the potential impacts associated with seabed and benthic habitat alternation from the long term presence of subsea infrastructure being left *in situ* to be ALARP.

Woodside considers the control measures described above are appropriate to reduce the potential impacts to the seabed and benthic habitats during the petroleum activity. Additional reasonable control measures were identified in **Table 8-4** to further reduce impacts but rejected since the associated cost and sacrifice was grossly disproportionate to any benefit. The impacts are therefore considered reduced to ALARP.

Furthermore, no additional controls are required to provide for the conservation and protection of natural resources in the area of the subsea infrastructure proposed for *in situ* left, or to make good any damage to the seabed or subsoil, as per Section 270(3)(e) and (f) of the OPGGS Act.

### 8.2.5 Demonstration of Acceptability

Based on the impact assessment, given the adopted controls, the long-term physical presence of subsea infrastructure proposed for *in situ* left will not result in potential impacts greater than a minor, localised disturbance to the seabed and benthic habitats.

Further opportunities to reduce the impacts have been investigated above. The adopted controls are considered good oil-field practice/industry best practice. No concerns or objections regarding the permanent *in situ* left of the proposed infrastructure was raised by relevant persons. The impact is consistent with the principles of ESD (as defined under the EPBC Act) (refer **Table 8-8**). Woodside has considered information

contained in recovery plans and threat abatement plans (**Section 9**). The environmental impacts meet the Woodside (PetDW) environmental risk acceptability criteria (**Section 7.3**). On this basis, Woodside considers the impact to be managed to an acceptable level.

**8.2.6 Environmental Performance Outcome, Performance Standards and Measurement Criteria**

Environmental Performance Outcomes	Controls	Performance Standards	Measurement Criteria
<p><b>EPO 2</b> No impacts to benthic habitats greater than a Severity Level 1<sup>19</sup> from leaving the RTM anchors, partially removed piled foundations, and MDB concrete gravity bases <i>in situ</i>.</p>	<p><b>C 1.1</b> Refer to <b>Section 8.1.6</b></p>	<p><b>PS 1.1</b> Refer to <b>Section 8.1.6</b></p>	<p><b>MC 1.1.1</b> Refer to <b>Section 8.1.6</b></p>
	<p><b>C 1.2</b> Refer to <b>Section 8.1.6</b></p>	<p><b>PS 1.2</b> Refer to <b>Section 8.1.6</b></p>	<p><b>MC 1.2.1</b> Refer to <b>Section 8.1.6</b></p>

<sup>19</sup> Defined as minor temporary impact to the environment, where the ecosystem function recovers with little intervention (**Section 7**)

## 8.3 Physical Presence – Equipment Degradation

### 8.3.1 Summary of Risk Assessment and Evaluation

Aspect	Source of Hazard	Potential Impact	Severity Factor	Likelihood Factor	Residual Risk	Decision Context	Acceptability
Marine Discharges	Equipment decommissioned <i>in situ</i>	Localised and long-term reduction in sediment quality.	10	N/A	-	Type A Low Order Impact	Tolerable

### 8.3.2 Source of Hazard

As the subsea infrastructure will remain *in situ* permanently, over time, the infrastructure will corrode (either internal or external corrosion). In the long term, this could result in the introduction of contaminants from the infrastructures composition (such as iron) into the surrounding marine sediments. The composition of the subsea infrastructure proposed for *in situ* left is defined in **Table 4-6**. The release has the potential to adversely impact marine sediment and water quality in the surrounding water column in a localised area.

#### Release of Contaminants

The RTM anchors and associated mooring chain are comprised of steel, with the anchors containing a protective coating of black bitumen-based paint. The partially removed piled foundations and MDB concrete gravity bases are predominately comprised of steel and cement and may protrude up to 1 m above the seabed. Corrosion and breakdown of the metal and cement within the subsea infrastructure will occur gradually over time, causing particles to be released into the surrounding marine environment.

Iron (Fe) is the principal component of steel and is not considered a significant contaminant in the marine environment. The oxides of iron formed as products of corrosion are also small and taken as inert based on the low concentrations of iron and likely to be appear as non-toxic. Iron is only contemplated toxic to marine organisms at extremely high concentrations (Grimwood and Dixon, 1997) and is an abundant element in marine sedimentary systems (Taylor and Macquaker, 2011). Iron is an important elemental component of marine life, notably for its role in vertebrate metabolism. Given the slow rate of decomposition of the structures over many decades, the iron may be expected to become or remain buried and ultimately assimilated into the surrounding marine environment with no adverse effects.

Steel will contain trace amounts of alloying materials as detailed in **Table 4-6**. Of the alloying materials none have established guideline values for toxicity in marine sediments in the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (Commonwealth of Australia and New Zealand Government, 2018) as detailed in **Table 8-5**. Whilst the absence of default guideline values for the alloying materials in

**Table 8-5** does not indicate they have no potential for toxicity, the evidence-based approach used to develop the Australia and New Zealand Guidelines for Fresh and Marine Water Quality (Commonwealth of Australia and New Zealand Government, 2018) indicates that these materials pose negligible environmental risk at the concentrations found in the steel alloy.

**Table 8-5: Indicative percentage composition of alloying materials in the subsea infrastructure**

Alloying Material	Percentage Composition (%)	Default Guideline Value (DGV) (mg/kg)	High Guideline Value (GV-High) (mg/kg)
<b>RTM Anchors</b>			
Carbon	0.22	No guideline	No guideline

Alloying Material	Percentage Composition (%)	Default Guideline Value (DGV) (mg/kg)	High Guideline Value (GV-High) (mg/kg)
Phosphorus	0.05	No guideline	No guideline
Sulphur	0.05	No guideline	No guideline
<b>Mooring and Interconnecting Chain</b>			
Manganese	1.4	No guideline	No guideline
Carbon	0.26	No guideline	No guideline
Phosphorus	0.03	No guideline	No guideline
Sulphur	0.03	No guideline	No guideline
<b>Partially Removed Piled Foundations</b>			
Manganese	1.4	No guideline	No guideline
Carbon	0.26	No guideline	No guideline
Phosphorus	0.03	No guideline	No guideline
Sulphur	0.03	No guideline	No guideline
<b>MBD Concrete Gravity Bases</b>			
Manganese	0.9	No guideline	No guideline
Silicon	0.4	No guideline	No guideline
Carbon	0.18	No guideline	No guideline
Phosphorus	0.04	No guideline	No guideline
Sulphur	0.04	No guideline	No guideline

The entire surface of the anchors was painted to provide protection against corrosion with Shipcoat PF4 bituminous paint, with around 40 kg of paint in total on the anchors. The paint will be released into the environment as the anchors degrade. Degradation of materials in the Griffin field is expected to take hundreds of years (Atteris, 2019).

The paint coatings on the anchors were intended to inhibit corrosion. The coatings were not intended to inhibit marine growth, and hence the coatings do not contain harmful concentrations of anti-fouling substances such as tributyltin or copper compounds. Bitumen – the main component of the paint – is widely used (e.g., road surfaces) and comprised primarily of insoluble asphaltenes and maltenes. The paint has been exposed to seawater since the installation of the anchors, hence paint compounds that are soluble in seawater will have largely dissolved and dispersed.

The infrastructure abandoned *in situ* is largely buried in sediments which have very low levels of oxygen compared to the water column, this will result in relatively slow corrosion degradation. The top sections of the MDB concrete gravity bases which include the steel clump weights and any portions of the partially removed piled foundations that protrude from the seabed (if they are unable to be cut below the mudline as planned) will be exposed to relatively high levels of oxygen in the water column and will degrade more quickly. However, for all infrastructure left *in situ* the degradation is predicted to occur over hundreds to thousands of years (Table 8-6).

For the infrastructure that is buried, the degradation products will be trapped within the sediments surrounding the equipment. Degradation products from the steel that is not buried is likely to detach as flakes < 5 cm (Atteris, 2019), which will rapidly fall to the seabed as the density of the degradation products is substantially greater than seawater. The flakes will become embedded in the sediment and become buried over time through natural sedimentation. This will result in a localised debris field of degradation products in the upper layer of sediment around the MDB concrete gravity base clump weights (which are the component of the MDB concrete gravity bases that contain steel) and the partially removed piled foundations (assuming they are not cut below the mudline as planned).

Degradation products from the concrete in the MDB concrete gravity bases are also likely to detach as flakes <10 cm, which will also fall to the seabed in the vicinity of the infrastructure. Concrete, in general, is made predominantly of cement, sand and aggregate. None of these components are considered a significant contaminant in the marine environment. Independent laboratory analysis of the MDB concrete gravity bases did not identify any plastic reinforcing fibres in the concrete (**Section 4.7.2**). Hence, Woodside considers there is no risk of release of plastics resulting from concrete degradation.

The concrete portion of the MDB concrete gravity bases is either sitting on the seabed or expected to be partially buried, dispersion of particles is unlikely, and particles are anticipated to remain near the seabed or buried. Some minor dispersion into the surrounding area may occur due to extreme hydrodynamic loads.

Cement grout is made from ordinary cement mixed with fresh water and a fine mineral aggregate such as sand, bentonite, or fly ash. As these are all naturally occurring minerals, progressive degradation and disintegration is not expected to pose a risk to the marine environment. Occasionally, other chemical additives are designed into the mix, e.g., set retarders, accelerators, and expansion agents. Generally, these are respectively lignins, calcium chloride, and aluminium powder. Of these only lignins are organic and would have fully reacted in the cement grout after placement and setting. Given the cementing of the piled foundations is below the mudline, dispersion of particles is considered highly unlikely, even during extreme hydrodynamic loads.

Predicted material breakdown is detailed in **Table 8-6**.

Table 8-6: Material Breakdown

Material	Estimated Degradation Events Leading to Material Breakup		Likely Particle Size and Event	Estimated Dispersion Characteristics
	<i>Small Particles</i>	<i>Large Particles</i>		
Steel <sup>1</sup>	<ul style="list-style-type: none"> <li>Relatively uniform corrosion</li> </ul>	<ul style="list-style-type: none"> <li>Extreme environmental loading</li> <li>External impact</li> <li>Very irregular corrosion</li> <li>Fatigue</li> <li>On-Bottom instability</li> </ul>	<p>Small and Moderate Flakes &lt; 5 cm</p> <p>Dislodgement of particles exposed above the seabed are likely to be caused by abrasion and environmental loading.</p>	<p>Irregular corrosion, on-bottom stability and fatigue may cause the separation of sections of steel. Any large, separated sections of steel will continue to corrode in their new position.</p> <p>Steel particles will bury or be dispersed into the surrounding area due to hydrodynamic load. Particles are likely to remain in the immediate area and be incorporated into the seabed due to the significantly higher density than seawater. A portion of the metals may remain dissolved and be incorporated into local marine life.</p> <p>Given the anchors are buried to varying degrees, dispersion of steel particles is unlikely, and particles are anticipated to remain buried.</p>
Concrete <sup>1</sup>	<ul style="list-style-type: none"> <li>Spalling</li> <li>Abrasion</li> </ul>	<ul style="list-style-type: none"> <li>Spalling</li> <li>Extreme environmental loading</li> <li>External impact</li> </ul>	<p>&lt; 10 cm Spalling</p>	<p>The rate of spalling is likely to dictate the size of the concrete pieces, with rapid spalling likely to result in larger pieces.</p> <p>Given the concrete infrastructure is partially buried. Some minor dispersion into the surrounding area may occur due to extreme hydrodynamic loads. Due to its high density, it is likely to remain in the immediate area.</p>
Cement <sup>2</sup>	<ul style="list-style-type: none"> <li>Spalling</li> </ul>	<ul style="list-style-type: none"> <li>Spalling</li> </ul>	<p>&lt; 10 cm Spalling</p>	<p>The rate of spalling is likely to dictate the size of the cement pieces, with rapid spalling likely to result in larger pieces. Cement is expected to be softer than concrete due to the lack of aggregate material.</p> <p>Given the cement is at or below the mudline dispersion of particles is unlikely and particles are anticipated to remain localised to the immediate area.</p>

<sup>1</sup>Atteris 2019a<sup>2</sup>Cement was not specifically assessed by Atteris 2019a

### 8.3.3 Environmental Impact Assessment

Deterioration of the subsea infrastructure will result in a much smaller footprint than the EMBA due to the passive nature of corrosion of the structures and lack of mechanical movement of the particles.

As the subsea infrastructure is left *in situ*, the components will eventually breakdown over time, which will result in the discharge of materials from the infrastructure. Any degraded material which lies below the regional scour depth will remain buried; this is likely to comprise of material from the RTM anchors, partially removed piles and parts of the MDB concrete gravity bases. Buried material is unlikely to disperse.

The subsea infrastructure material will breakdown into a range of particle sizes (refer **Table 8-6**). Dispersion of material from buried infrastructure is unlikely to occur and this material is anticipated to remain buried. Some minor dispersion into the surrounding area may occur due to extreme hydrodynamic loads. However, due to the material's high density, it is likely to remain in the immediate area. Given the nature of the materials released, the rapid dispersion of releases in the marine environment and the degradation timeframes impacts to water quality and marine fauna are not considered credible. No credible impacts to cultural heritage values will occur.

#### 8.3.3.1 Steel

The composition of the steel equipment proposed to be left *in situ* is largely iron, with alloying materials present in much lower concentrations (refer to **Section 0**). Alloying materials identified comprise carbon, phosphorus, sulphur, manganese and silicon. None of the alloying materials are known toxicants at low concentrations, with no default guideline values for the alloying materials in the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (Commonwealth of Australia and New Zealand Government, 2018). Dispersion of steel from the anchors and the partially removed piles is unlikely to occur as most of this material is expected to be buried to varying degrees and is anticipated to remain buried. Some minor dispersion into the surrounding area may occur due to extreme hydrodynamic loads. However, due to the material's high density, it is likely to remain in the immediate area of release.

A small amount of steel is exposed at the top of the MDB concrete gravity bases where the clump weights are located, and at the top of the partially removed piled foundations if they are unable to be cut below the seabed. These components have potential to deposit rust into the surrounding environment, which is expected to remain concentrated around that equipment. The release of rust is expected to occur over a period of hundreds of years as the equipment degrades. As a result, the concentrations of potential contaminants will increase gradually over time until the infrastructure has completely degraded. The alloying components of the infrastructure are not recognised toxicants and represent a very small portion of the total steel mass that will be released overtime, with the majority being iron. Iron and carbon, which are over 97% of the steel used for the anchors, chains, piled foundations and MDB concrete gravity bases pose little risk to the environment. Iron (II) and (III) oxides (i.e., rust) are listed by the OSPAR Commission as posing little or no risk to the environment (PLONOR) and an extensive review by Johnson et al. (2007) found no evidence of toxic effects of iron in marine sediments.

The increased concentrations of degradation products from the infrastructure will result in a localised, minor change in sediment quality. This may result in changes to infauna and epifauna assemblages within the surface sediments, however this would only affect a very small area due to the localised nature of the contamination. Sediment quality values, infauna and epifauna that may be impacted are very widely represented in the region and are not of particular conservation significance.

The infrastructure that will be abandoned *in situ* lies within the ancient coastline at 125 m depth contour KEF. The environmental values of this KEF include the provision of hard substrate and associated higher diversity and species richness relative to areas of soft sediment. However, the substrate in the EMBA is predominantly soft sediment and therefore the hard sediments that characterise the KEF are unlikely to be impacted given the localised nature of the impacts.

Given the lack of other sensitive habitat at the Griffin field (refer **Section 5**) impacts from the fate of the steel corrosion particles are unlikely to result in an impact greater than a localised, long-term and minor change in sediment quality within the EMBA.



### 8.3.3.2 Bituminous Paint

The relatively high molecular weight asphaltenes and maltenes that comprise the majority of the paint are not recognised as particularly toxic but are a component of total petroleum hydrocarbons (TPH) in sediments. The Australian and New Zealand Guidelines for Fresh and Marine Water Quality (Commonwealth of Australia and New Zealand Government, 2018) provide default and high guideline values for TPH based on the description in Simpson et al. (2013). Simpson et al. (2013) noted that hydrocarbon toxicity generally decreases with increasing molecular weight, with greatest toxic effects the result of petroleum hydrocarbons with between 10 and 19 carbon atoms (i.e., C<sub>10</sub>-C<sub>19</sub>); the vast majority of organic compounds in bitumen have substantially more carbon atoms and are much less likely to induce toxic effects.

Most of the anchor surfaces are embedded within the seabed. As a result, most paint flaking from the anchors will be buried within the sediment below the relatively shallow zone (typically < 30 cm) that is reworked by fauna (Kristensen et al., 2012) or transported by sedimentary processes. The vast majority of the outer continental shelf environment of the North West Shelf is depositional, with no large-scale erosion (Baker et al., 2008). Observations in the Griffin field are consistent with a depositional environment. Hence, erosion of the seabed mobilising the majority of the degraded paint is very unlikely.

Filter and deposit feeding epifauna and infauna and demersal fishes may ingest relatively small (i.e., sand-sizes particles or smaller) flakes of paint in the upper 30 cm of sediments when feeding around the anchors. Given the expected low toxicity of the bituminous paint, any ingested paint flakes are likely to pass through fauna without inducing toxic effects. As paint flakes will be concentrated around the anchors, only a small portion of deposit-feeding fauna in the Griffin field would credibly ingest paint material. This fauna is not considered to be of high conservation value and is widely represented in the region. Hence, the impact of paint degradation is negligible.

### 8.3.3.3 Concrete

Although the exact composition of the cement in the partially removed piled foundations and concrete in the MDB concrete gravity bases is unknown, concrete and cement components are usually chemically inert. This indicates corrosion products from the cement and concrete will not react in the marine environment. Testing of concrete samples from the MDB gravity bases found no evidence of plastic fibres. The concrete was also installed in the mid-1990s which pre-dates the widespread industry use of plastic fibres in concrete for structures of this type.

Concrete and cement have a higher density than seawater and is likely to remain in the EMBA as it degrades. Any concrete or cement material which lies below the regional scour depth will remain buried. The breakdown of material is a slow process, as the concrete erodes small amount of material will enter the water column and undergo rapid dilution in the open water marine environment.

The concrete ballast is likely to consist of Portland cement and aggregate such as gravel or sand, none of which are recognised toxicants. Given the absence of recognised toxicants, the degradation products will not result in toxic effects to marine biota. The EMBA for the equipment proposed to be abandoned *in situ* will be restricted to physical presence effects (e.g., sediment accumulation, provision of hard substrate for biota) restricted to within 10's of metres around the equipment.

Given the lack on sensitive habitat in the Griffin field (refer **Section 5**) impacts from the fate of the concrete and cement particles are unlikely to result in an impact greater than a localised, long-term and minor change in sediment quality within the EMBA.

### 8.3.3.4 Species Recovery Plans and Threat Abatement Plans

Woodside has considered information contained in relevant recovery plans and approved conservation advice for marine fauna that identify marine debris and changes in sediment quality as a threat (**Section 9**).

## 8.3.4 Demonstration of ALARP

The ALARP process performed for the environmental aspect is summarised in **Table 8-7**. This process was completed as outlined in **Section 7.2** and included consideration of all controls, analysis of the risk reduction proportional to the benefit gained, and final acceptance or justification if the control was rejected.

Table 8-7: Marine Discharge – Long Term Corrosion - ALARP Summary

Control Measure	Accept / Reject	Reason	Associated Performance Standards
<b>Legislation, Codes and Standards</b>			
Compliance with Environmental Protection (Sea Dumping) Act 1981	Accept	Control is based on a legislative requirement therefore must be adopted.	<b>PS 1.1</b>
<b>Eliminate</b>			
Removal of all subsea infrastructure (anchor, gravity bases, pile foundations)	Reject	<b>Section 3</b> determined that leaving the subsea infrastructure <i>in situ</i> provides equal or better environmental outcomes compared to complete removal.	Not applicable
<b>Good Practice</b>			
As-left survey to verify RTM anchors, partially removed piled foundations and MDB concrete gravity bases' location, burial status and condition.	Accept	As left surveys will be completed for the RTM anchors, partially removed piled foundations and the MDB concrete bases to confirm location, current condition and burial status. The as left survey activity will be conducted under the accepted Griffin Field Management and Decommissioning EP.	<b>PS 1.2</b>
Environmental monitoring of the seabed to assess any impacts to the seabed from subsea infrastructure breakdown	Reject	The degradation of the subsea infrastructure left <i>in situ</i> has been modelled by Atteris (2019a) and is expected to occur over a period of hundreds to thousands of years, therefore the rate of change is predicted to be slow and unlikely to be easily detected over short to medium timeframes. Given the timeframe for breakdown of materials, ongoing monitoring is impractical. In addition, the impact from the subsea infrastructure breakdown is unlikely to result in an impact greater than a localised, long-term and minor change in sediment quality. This impact is determined acceptable based on Woodside (PetDW) environmental risk acceptability criteria ( <b>Section 7.3</b> ). Control grossly disproportionate. Monitoring will not reduce the consequence of any impacts to the seabed / sediment quality (which has already been determined localised and minor), and the costs associated with the level of monitoring required to accurately assess any impacts greatly outweighs the benefits.	Not applicable
Monitoring and/or remediation to make good any damage to the seabed or subsoil and provide for conservation and protection of the natural resources in the area of the subsea infrastructure	Reject	Impacts to the seabed and subsoil from long-term corrosion of the subsea infrastructure will have a negligible impact to the environment within an estimated 15 m around the individual infrastructure. Impacts to benthic habitats from previous installation and operational activities at the Griffin field will be assessed as part of the Griffin Field Management and	Not applicable

Control Measure	Accept / Reject	Reason	Associated Performance Standards
		<p>Decommissioning EP to address S270 and title relinquishment requirements.</p> <p>The impacts associated with ongoing physical presence of proposed subsea infrastructure (RTM anchors, piled foundations and concrete gravity bases) do not represent an unacceptable damage to the seabed or subsoil and allow for the conservation and protection of the natural resources in the area. Therefore, there is no benefit gained from further monitoring or remediation of the seabed in the localised vicinity surrounding this infrastructure.</p> <p>Cost of the control is disproportionate to the benefit that may be gained from it given impacts to the seabed have been assessed as negligible.</p>	

### 8.3.4.1 ALARP Summary

On the basis of the decommissioning options assessment outcomes (refer to **Section 3**), the environmental impact assessment outcomes and the identification of a range of controls (**Table 8-4**) appropriate to the decision type (Decision Type A), Woodside considers the potential impacts of release of contaminants over time from the long term presence of subsea infrastructure being left *in situ* to be ALARP.

Woodside considers the control measures described above are appropriate to reduce the potential impacts associated with the long-term breakdown and corrosion of infrastructure proposed to be abandoned *in situ*. Additional reasonable control measures were identified in **Table 8-7** to further reduce impacts but rejected since the associated cost and sacrifice was grossly disproportionate to any benefit. The impacts are therefore considered reduced to ALARP.

Furthermore, no additional controls are required to provide for the conservation and protection of natural resources in the area of the subsea infrastructure proposed for *in situ* left, or to make good any damage to the seabed or subsoil, as per Section 270(3)(e) and (f) of the OPGGS Act.

### 8.3.5 Demonstration of Acceptability

Subsea contamination impacts will not result in potential impacts greater than minor, localised reduction in sediment quality. Further opportunities to reduce the impacts have been investigated in **Table 8-7**.

No concerns or objections regarding subsea discharge impacts from infrastructure breakdown related to this EP have been raised by relevant persons. Woodside has considered information contained in recovery plans and threat abatement plans (**Section 9**). The impact is consistent with the principles of ESD (as defined under the EPBC Act). The environmental impacts meet the Woodside environmental risk acceptability criteria (**Section 7.3**). Woodside considers the impact to be managed to an acceptable level.

The risks and impacts associated with the deposition of degradation material in the marine environment has been assessed with an acceptable level of certainty. The composition of the materials is well understood (**Table 4-5**) and how the degradation products may interact with the marine environment has been informed by evidence-based information contained in the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (Commonwealth of Australia and New Zealand Government, 2018). The understanding of how the infrastructure may break down is based on a materials engineering assessment. While the timing of the degradation events is uncertain, the nature of degradation and the sequence of degradation events has been predicted with a high level of certainty. Given localised nature and low consequence of environmental impact, low sensitivity of the receiving environment, and the relatively high degree of certainty no further controls are required to bring the impacts to an acceptable level. The following subsections provide further detail on the determination of acceptability for subsea contamination from the material breakdown.

### 8.3.5.1 Principles of ESD Assessment

As outlined in Section 3A of the EPBC Act, the titleholder needs to ensure that the activity is undertaken in a manner consistent with the ESD (refer **Table 8-8**).

**Table 8-8: Assessment of Impact Against the Principals of ESD**

Principals of ESD	Assessment
Decision-making processes should effectively integrate both long-term and short-term economic, environmental, social, and equitable considerations (the 'integration principle')	<p>The impact assessment has assessed both the long-term and short-term, environmental, and social aspects associated with leaving the subsea infrastructure <i>in situ</i>.</p> <p>The RTM anchors partially removed piled foundations and majority of the MDB concrete gravity bases are expected to be partially buried infrastructure. Any degraded material buried which lie below the regional scour depth will remain buried. Buried material is unlikely to disperse and impacts are considered localised and minor both in the short and long term. Buried material is unlikely to disperse and impacts are considered localised and minor both in the short and long term.</p>
If there are threat of serious or irreversible damage lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation (the 'precautionary principle')	<p>The impact assessment has been supported the material degradation study Atteris (2019) which provides details on the degradation of materials within the subsea infrastructure. The Atteris study is based on a strong understanding of the seabed and habitat within the Griffin field, based on surveys undertaken during operations of the field. There is a scientific certainty over the fate of the materials within the subsea infrastructure, such as steel and concrete as they degrade. This has been supported by relevant literature detailed within <b>Section 3</b> (refer to <b>Table 5-2</b> for details of the surveys). This provides the Atteris study with a strong basis and improves the level of certainty that it provides. The assessment undertaken by Atteris is based on best practice and assessment methods are largely accepted throughout the industry.</p>
The principle of intergenerational equity- that the present generation should ensure the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations (the 'intergenerational principle')	<p>Degradation of the materials in the subsea infrastructure will occur over hundreds of years,</p> <p>The RTM anchors, pile foundations and MDB concrete gravity bases are expected to be partially buried infrastructure. Any degraded material buried which lie below the regional scour depth will remain buried. Buried material is unlikely to disperse and impacts are considered localised and minor both in the short and long-term. No impacts to future generations are anticipated.</p>
The conservation of biological diversity and ecological integrity should be a fundamental consideration in decision making ('the biodiversity principle')	<p>The impact assessment has assessed both the long-term and short-term, environmental, and social aspects associated with leaving the subsea infrastructure <i>in situ</i> and its degradation.</p> <p>The decommissioning options assessment (<b>Section 3</b>) includes both biological diversity and ecological integrity in the decommissioning decision making. The decommissioning options assessment demonstrates the left <i>in situ</i> option will result in equal or better environmental outcomes compared to removal, which is required by NOPSEMA's <i>Section 572 Maintenance and Removal of Property</i> policy (NOPSEMA, 2022b)</p>

### 8.3.5.2 Monitoring to meet the requirements of NOPSEMA General Direction (832)

Whilst ongoing monitoring has been determined not to be required based on the ALARP assessment and the acceptability of the impact from the subsea contamination, a single ROV survey will be undertaken on the subsea infrastructure left *in situ*. Footage will be provided to NOPSEMA to meet the requirements of NOPSEMA General Direction (832), which requires: 'Provide, to the satisfaction of NOPSEMA, for the conservation and protection of the natural resources in the title areas within 12 months after property referred to in direction 1 is removed' and 'Make good, to the satisfaction of NOPSEMA, any damage to the seabed or

*subsoil in the title areas caused by any person engaged or concerned in the operations authorised by the titles within 12 months after property referred to in direction 1 is removed*’.

An as left survey of the infrastructure left *in situ* is covered under the accepted Griffin Decommissioning and Field Management EP.

### 8.3.5.3 Acceptability against the Annex I (2) of the 1996 London Protocol

Annex I (2) of the 1996 London Protocol to the convention on the prevention of marine pollution by dumping of waste and other matter (update to London Convention and Protocol 1972) describes that material capable of creating floating debris or otherwise contributes to the pollution of the marine environment has to be removed.

The RTM anchors, piled foundations, and MDB concrete gravity bases are buried to varying degrees or embedded infrastructure. It is therefore not credible that its degradation results in floating debris.

The petroleum activity is therefore not inconsistent with Annex I (2) of the 1996 London Protocol.

### 8.3.5.4 Acceptability of Degradation Products Discharged to the Marine Environment

The *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (Commonwealth of Australia and New Zealand Government, 2018) is an evidence-based approach to managing contamination of the marine environment. None of the infrastructure that is proposed to be left *in situ* have alloying materials that have sediment quality guideline values and therefore these materials are expected to pose negligible environmental risks at the concentrations found in the infrastructure.

Furthermore, with the majority of the infrastructure being buried, and being buried beneath the depth’s infauna and epifauna would be found, it is unlikely the majority of deposition products would interact with sensitive receptors.

Studies in the Griffin field have identified elevated levels of TBT, hydrocarbons, and barium above background levels. However, there is no potential to co-contamination with the degradation products of the infrastructure that is proposed to be left *in situ* as the infrastructure does not contain any of these products, and most of the infrastructure is located far away from the sites with existing contamination. Therefore, impacts from contamination are acceptable.

### 8.3.5.5 Acceptability against Article 192 of the United Nations Convention on the Law of the Sea 1982 (UNCLOS)

A general obligation of Article 192 of the United Nations Convention on the Law of the Sea 1982 (UNCLOS) is to protect and preserve the marine environment. International Maritime Organization (IMO) resolution A.672 provides that the general requirement is removal with the objective of protecting and preserving the marine environment. Further details are provided in Section 3.9 of the resolution describing that equipment left *in situ* should not move under environmental loading.

The corrosion and breakdown of material within the infrastructure will occur over a period of hundreds of years, as detailed in **Section 4**. The infrastructure is made of steel and steel alloy (refer **Section 4.7.1**). As the infrastructure degrades, the material, being higher density than seawater will sink and degrade further. It is not credible that its degradation results in floating debris.

**8.3.6 Environmental Performance Outcome, Performance Standards and Measurement Criteria**

Environmental Performance Outcomes	Controls	Performance Standards	Measurement Criteria
<b>EPO 3</b> No impacts to marine discharges greater than a Severity Level <sup>120</sup> from leaving the RTM anchors, partially removed piled foundations and MDB concrete gravity bases <i>in situ</i> .	<b>C 1.1</b> Refer to <b>Section 8.1.6</b>	<b>PS 1.1</b> Refer to <b>Section 8.1.6</b>	<b>MC 1.1.1</b> Refer to <b>Section 8.1.6</b>
	<b>C 1.2</b> Refer to <b>Section 8.1.6</b>	<b>PS 1.2</b> Refer to <b>Section 8.1.6</b>	<b>MC 1.2.1</b> Refer to <b>Section 8.1.6</b>

<sup>20</sup> Defined as minor temporary impact to the environment, where the ecosystem function recovers with little intervention (**Section 7**)

## 9 Recovery and Management Plan Assessment

This section provides an assessment to demonstrate that the petroleum activity is not inconsistent with any relevant recovery plans, conservation management plans or threat abatement plans.

Relevant recovery plans to the petroleum activity and the receiving environment 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)
- Sawfish and River Shark 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).
- Conservation Management Plan for the Southern Right Whale 2011 to 2021 (Commonwealth of Australia, 2012)
- Whale shark management with particular reference to Ningaloo Marine Park, Wildlife Management Program no. 57 (DPAW, 2013)
- National Recovery Plan for threatened albatrosses and giant petrels 2011 to 2016 (DSEWPC, 2011)
- Recovery Plan for the Grey Nurse Shark (*Carcharias taurus*) (Commonwealth of Australia, 2014b)
- Recovery Plan for the White Shark (*Carcharodon carcharias*) (Commonwealth of Australia, 2013)

Objectives and relevant actions from the above plans have been identified in **Table 9-1**. The table includes an assessment on whether the petroleum activity, including resulting impacts and risks identified in **Section 8** are inconsistent with those objectives and actions.

**Table 9-1: Assessment of the Petroleum activity’ Consistency with Objectives and Actions in Relevant Recovery Plans and Threat Abatement Plans**

Recovery Plans and Threat Abatement Plans	Relevant Action Areas/Objectives	Assessment of Consistency
Recovery Plan for Marine Turtles in Australia 2017–2027	Action Area A3: Reduce the impacts from marine debris. <ul style="list-style-type: none"> <li>▪ Understand the threat posed to green turtle NWS stock by marine debris.</li> <li>▪ Determine the extent to which marine debris is impacting Western Australian loggerhead turtles.</li> </ul>	Not inconsistent <b>Section 8.3</b> considers the impacts of the degradation of the subsea infrastructure. Given the impacts will not result in potential impacts greater than minor alteration in sediment quality, no impacts to marine turtles are anticipated. Appropriate controls have been considered and adopted to reduce the risk of degradation of the subsea infrastructure to ALARP and acceptable levels.
Conservation Management Plan for the Blue Whale 2015–2025	No relevant Action Areas/Objectives.	
Sawfish and River Shark Multispecies Recovery Plan	Objective 6: Reduce and, where possible, eliminate any adverse impacts of marine debris on sawfish and river shark species.	Not inconsistent <b>Section 8.3</b> considers the impacts of the degradation of the subsea infrastructure. Given the impacts will not result in potential impacts greater than minor alteration in sediment quality, no impacts to sawfish and river shark are anticipated. Appropriate controls have been considered and adopted to reduce the risk of degradation of the subsea infrastructure to ALARP and acceptable levels.
Threat Abatement Plan for the impacts of marine debris on the vertebrate wildlife of Australia’s coasts and oceans	Objective 1: Contribute to long-term prevention of marine debris. <ul style="list-style-type: none"> <li>▪ Limit the amount of single use plastic material lost to the environment in Australia.</li> </ul>	Not inconsistent Infrastructure containing plastics are not left <i>in situ</i> under this EP.
Conservation Management Plan for the Southern Right Whale 2011 to 2021	No relevant Action Areas/Objectives.	
Whale shark management with particular reference to Ningaloo Marine Park, Wildlife Management Program no. 57	No relevant Action Areas/Objectives.	



Recovery Plans and Threat Abatement Plans	Relevant Action Areas/Objectives	Assessment of Consistency
National recovery plan for threatened albatrosses and giant petrels 2011 to 2016	No relevant Action Areas/Objectives.	
Recovery Plan for the Grey Nurse Shark ( <i>Carcharias taurus</i> )	No relevant Action Areas/Objectives.	
Recovery Plan for the White Shark ( <i>Carcharodon carcharias</i> )	No relevant Action Areas/Objectives.	

## 10 Implementation Strategy

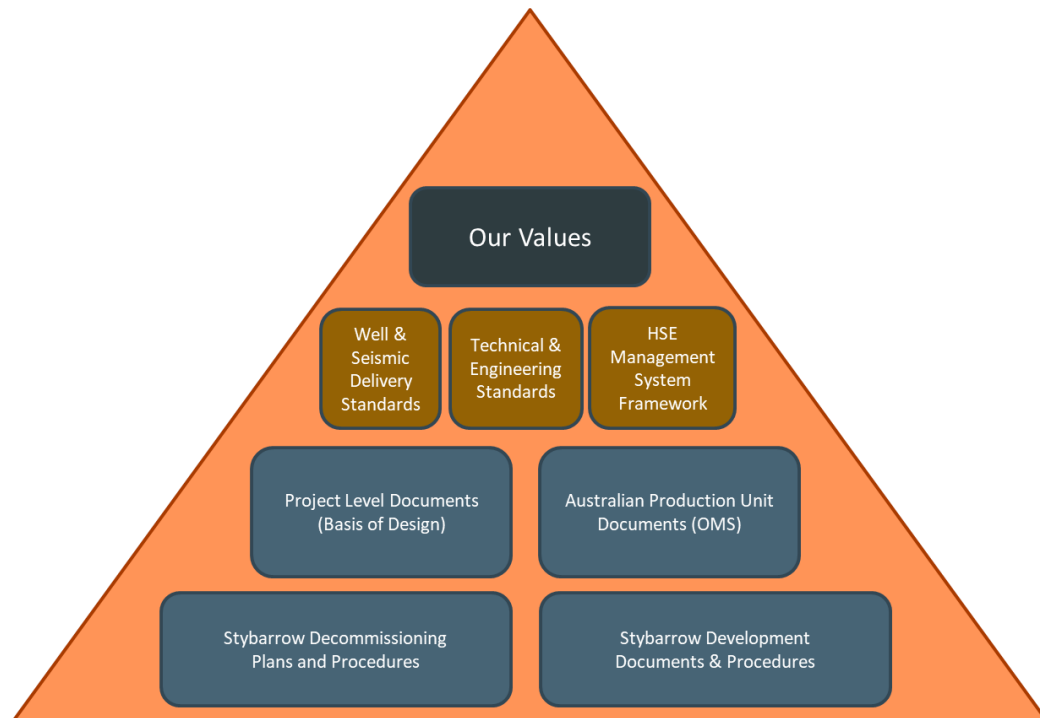
In accordance with Regulation 42 of the Environment Regulations, the EP must contain an implementation strategy for the activity and monitoring, recording and reporting arrangements. The implementation strategy presented in this section provides specific practices and procedures to ensure:

- all the environmental impacts and risks of the Petroleum Activity will be continually identified and reduced to a level that is ALARP.
- control measures identified in the EP are effective in reducing the environmental impacts and risks of the activity to ALARP and acceptable levels.
- environmental performance outcomes and environmental performance standards are met.
- arrangements are in place to respond to and monitor impacts of oil pollution emergencies.
- arrangements for ongoing consultation with relevant authorities, persons and organisations are in place and maintained through the activities.

### 10.1 Systems, Practices and Procedures

#### 10.1.1 Woodside PetDW HSE Management System

The Woodside PetDW HSE 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 HSE Management System is to aspire to zero harm to people, communities and the environment, and achieve leading industry practice. The structure of the Woodside HSE Management System is hierarchical (**Figure 10-1**).



**Figure 10-1: Woodside PETDW HSE Management System**

The documents referred to in **Figure 10-1** address specific areas (for example, corporate performance reporting, risk management, incident investigation) where it is important activities are conducted consistently across the organisation.

The top level of the triangle shown in **Figure 10-1** is the Our Values; a copy of Our Values is provided in **Appendix A**. Our Values details Woodside's values and directs the approach to all activities in Woodside. It

includes value statements on each of sustainability, integrity, respect, performance, simplicity and accountability. It also provides a means of aligning Woodside's values with strategic direction and measures of success.

The Woodside Our Requirements detail and define business planning, risk management, and assurance expectations of key process areas. They also serve as audit protocol against which all groups in Woodside are assessed. Categories of Our Requirements include (for example) HSE, Human Resources, Legal, Corporate Affairs, Supply, and Information Management.

Direction for environmental performance in Woodside is established by the Environment and Climate Change – Our Requirements. The Griffin activities will be undertaken in accordance with the objectives of Our Values, which includes compliance or exceedance with regulatory requirements, setting of objectives and targets and continual improvement.

This EP has been designed to meet the environmental aspects of the PetDW HSE Management System framework and establishes the foundation for continual improvement through the application, monitoring and auditing of consistent requirements across all aspects of the Petroleum Activity including.

- Identification of statutory obligations and commitments to ensure maintenance of license 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

## 10.2 Environment Plan Organisation, Roles and Responsibilities

A defined chain of command with the roles and responsibilities for key Woodside and contractor personnel in relation to EP implementation, management and review are described in **Table 10-1**. It is the responsibility of all Woodside employees to ensure the Woodside Our Values (**Appendix A**) are applied in their areas of responsibility.

**Table 10-1: Key personnel and environmental responsibilities**

Title	Environmental Responsibilities
<i>Office-based Roles</i>	
Woodside Asset Manager	<ul style="list-style-type: none"> <li>▪ Have Technical Authority and manage team of projects and decommissioning professionals.</li> <li>▪ Ensure sufficient resources are provided to implement the commitments made in this EP</li> </ul>
Woodside Decommissioning Delivery Manager (or equivalent)	<ul style="list-style-type: none"> <li>▪ Ensures activity undertaken as per this EP.</li> <li>▪ Provides sufficient resources to implement the management measures (i.e., controls, EPOs, EPSs and MC) in this EP.</li> </ul>
Woodside Environment Advisor	<ul style="list-style-type: none"> <li>▪ Track compliance with performance outcomes and performance standards as per the requirements of this EP</li> <li>▪ Assist with the review, investigation and reporting of environmental incidents.</li> <li>▪ Liaise with relevant regulatory authorities as required.</li> <li>▪ Assist in preparation of external regulatory reports required, in line with environmental approval requirements and Woodside incident reporting procedures.</li> </ul>
Woodside Corporate Affairs Adviser	<ul style="list-style-type: none"> <li>▪ Prepare and implement the Relevant Persons Consultation Plan.</li> <li>▪ Report on consultation with relevant persons</li> <li>▪ Perform notifications as required for this EP</li> </ul>

## 10.3 Training and Competency

Training is not relevant to this EP on the basis that there will be no field activities, vessel-based activities or contractor engagement required to implement the EP.

## 10.4 Monitoring, Auditing and Management of Non-conformance and Review

### 10.4.1 Monitoring Environmental Performance

There are no field activities proposed within this EP. Once the EP has been accepted, Woodside will undertake post acceptance activities which includes collecting the relevant data, as outlined in the EPOs, EPSs and MCs in this EP. The collection of this data (against the MC) will form part of the permanent record of compliance maintained by Woodside and will form the basis for demonstrating the EPOs and EPSs are met, which will be summarised in the Environmental Performance Report (**Section 10.5**) and be used to support the End of Environment Plan notification (**Section 10.5**). Auditing

Environmental performance auditing will be conducted to confirm compliance with the Performance Outcomes, Controls and Standards detailed in this EP. Non-conformances identified will be reported and/ or tracked in accordance with **Section 10.4.1**.

### 10.4.2 Management of Non-Conformance

Woodside classifies non-conformances with EPOs and standards in this EP as environmental incidents. Woodside employees and contractors are required to report all environmental incidents, and these are managed as per Woodside's internal event recording, investigation and learning requirements.

An internal computerised database called First Priority is used to record and report these incidents. Details of the event, immediate action taken to control the situation, investigation outcomes and corrective actions to prevent reoccurrence are all recorded. Corrective actions are monitored using First Priority and closed out in a timely manner.

Woodside uses a severity rating for classification of environmental incidents, with the significant categories having a severity level (consequence) of 3, 4 or 5 (as detailed in **Section 6**). Detailed investigations are completed for all incidents classified as a 3, 4 or 5 severity (consequence) level and high potential environmental incidents.

### 10.4.3 Record Keeping

Compliance records will be maintained. Record keeping will be in accordance with Regulation 22(15) of the Environment Regulations.

### 10.4.4 EP Management of Change and Revision

Changes are managed in accordance with Woodside's Environmental Approval Requirements Australia Commonwealth Guideline. There are no field activities proposed within this EP. The activity will end upon completion of all post acceptance requirements described in **Sections 7** and **8** of this EP. Given there are no field activities, management of change may relate to potential new advice from relevant persons (**Section 6**).

The provisions set out in Regulation 38 and 39 of the Regulations will be followed for revision of this Environment Plan.

## 10.5 Reporting

To meet the environmental performance outcomes and standards outlined in the EP, Woodside reports at a number of levels as described in the next subsections.

### 10.5.1 Routine Reporting (External)

Although no field activities are planned under this EP, environmental outcomes are linked to activities that will be conducted under the Griffin Decommissioning and Field Management EP (**Section Error! Reference source**

not found.). Given this, an environmental performance report required by Regulation 22(7) and 51 of the Environment Regulations will be submitted at least every year while the EP is in force, detailing that the environmental performance standards in the EP have been met (**Table 4-5**). The final environmental performance report will be submitted within four months of the completion of equipment removal activities covered under the Griffin Decommissioning and Field Management EP (**Table 4-2**). This will permit sufficient time for the collation of relevant information (e.g., as-left surveys required by PS 1.2 in **Section 8.1.6**).

Whilst ongoing monitoring has been determined not to be required based on the ALARP assessment and the acceptability of the impacts described in this EP, an as-left ROV survey will be undertaken of the infrastructure left *in situ*. Footage will be provided to NOPSEMA to meet the requirements of NOPSEMA General Direction (832) as part of the environmental performance report for the accepted Griffin Decommissioning and Field Management EP, which requires:

*'Provide, to the satisfaction of NOPSEMA, for the conservation and protection of the natural resources in the title areas within 12 months after property referred to in direction 1 is removed'*

and

*'Make good, to the satisfaction of NOPSEMA, any damage to the seabed or subsoil in the title areas caused by any person engaged or concerned in the operations authorised by the titles within 12 months after property referred to in direction 1 is removed'.*

Regulatory reporting requirements are summarised in **Table 10-2**.

**Table 10-2: Routine external reporting requirements**

Report / Notification	Recipient	Frequency	Content
Environmental Performance Report	NOPSEMA	The report will be submitted annually. The final environmental performance report will be submitted within four months of the completion of equipment removal activities covered under the Griffin Decommissioning and Field Management EP ( <b>Table 4-2</b> ), as per the requirements of Regulation 22(7).	In accordance with the OPGGS Environment Regulations the report will address compliance with EPOs, EPSs and controls outlined in this EP.
End of Environment Plan Notification	NOPSEMA	The End of Environment Plan Notification will be submitted following submission of the Environmental Performance Report (as per requirements of Regulation 46).	In accordance with the OPGGS Environment Regulations the notification will confirm the end of the Environment Plan.
<b>Ongoing Consultation (Section 10.6)</b>			
Program of Ongoing Engagement with Traditional Custodians ( <b>Appendix E</b> )	Relevant cultural authorities	Ongoing until the end of the EP. Note the Program of Ongoing Engagement with Traditional Custodians may continue in relation to other EPs after the end of this EP. Responses to any feedback received by Traditional Custodian groups will be provided by Woodside within four weeks of receipt.  Progress on the Program will be reported in line with annual sustainability reporting via the Woodside website.	Dependent on feedback received

## 10.5.2 Incident Reporting (External) – Reportable and Recordable

### 10.5.2.1 Reportable Incidents

A reportable environmental incident is defined in Regulation 5 of the Environment Regulations as:

*“...reportable incident, for an activity, means an incident relating to the activity that has caused, or has the potential to cause, moderate to significant environmental damage”.*

Reportable incidents for the petroleum activity include those that have been identified through the risk assessment process as having a severity (consequence) level of  $\geq 3$  and have not been identified in this EP.

In accordance with Regulations 47, 48 and 49, Woodside will report all reportable incidents orally to NOPSEMA, as soon as practicable, and in any case not later than two hours after the first occurrence of the reportable incident; or if the reportable incident was not detected at the time of the first occurrence, the time of becoming aware of the reportable incident.

Oral notifications of a reportable incident to NOPSEMA will be via telephone: 1300 674 472.

The oral notification must contain:

- all material facts and circumstances concerning the reportable incident known or could be obtained by reasonable search or enquiry.
- any action taken to avoid or mitigate any adverse environment impacts of the reportable incident.
- the corrective action that has been taken, or is proposed to be taken, to stop, control or remedy the reportable incident.

A written record of the reportable incident will be provided to NOPSEMA, as soon as practicable after making the oral notification, but within three days after the first occurrence of the reportable incident unless NOPSEMA specifies otherwise. The written report should use a format consistent with NOPSEMA's Report of an Accident, Dangerous Occurrence or Environmental Incident (Form FM0929).

Within seven days of giving a written report of a reportable incident to NOPSEMA, a copy of the same written report must be provided to the National Petroleum Titles Administrator (NOPTA), and Department of Mines, Industry Regulation and Safety (DMIRS).

Written notification must be provided of any environmental incident that could potentially impact on any land or water in State jurisdiction via: [petroleum.environment@dmirs.wa.gov.au](mailto:petroleum.environment@dmirs.wa.gov.au).

### **10.5.2.2 Recordable Incidents**

A recordable environmental incident is defined in Regulation 5 of the Environment Regulations as:

*“...recordable incident, for an activity, means a breach of an environmental performance outcome or environmental performance standard, in the environment plan that applies to the activity, that is not a reportable incident”.*

In terms of the activities within the scope of this EP, a recordable incident is a breach of the environmental performance outcome or environmental performance standards listed in this EP.

In the event of a recordable in recordable incident, Woodside will report the occurrence to NOPSEMA as soon as is practicable after the end of the calendar month in which it occurs; and in any case, not later than 15 days after the end of the calendar month. If no recordable incidents have occurred, a 'nil incident' report will be submitted to NOPSEMA. Written reporting to NOPSEMA of recordable incidents and 'nil incidents' can be via completion of NOPSEMA's Form FM0928– Recordable Environmental Incident Monthly Report. The report will contain:

- a record of all the recordable incidents that occurred during the calendar month.
- all material facts and circumstances concerning the recordable incidents that are known or can, by reasonable search or enquiry, be found out.
- any action taken to avoid or mitigate any adverse environmental impacts of the recordable incidents.
- the corrective action that has been taken, or is proposed to be taken, to stop, control or remedy the recordable incident.
- the action that has been taken, or is proposed to be taken, to prevent a similar incident occurring in the future.

## 10.6 Ongoing Consultation

Although consultation for the purpose of Regulation 25 is complete, in accordance with Regulation 22(15) 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 proposes to undertake the engagements with relevant interested persons throughout the life of the EP. Relevant new information identified during ongoing consultation will be assessed, as appropriate using the EP Management of Change Process (refer to **Section 10.4.4**).

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.

Relevant persons, and those who are simply 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 relevant new information or a measure or control that requires implementation or update to meet the intended outcome of consultation (see **Section 6**), Woodside will apply its EP Management of Change process (refer to **Section 10.4.4**), as appropriate.

Woodside has developed a Program of Ongoing Engagement with Traditional Custodians (**Appendix E**), which is compliant with Corporate Woodside policies, strategies, and procedures, and 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 activity and in relation to caring for and managing country, including Sea Country. The Program will be tailored to each Traditional Custodian group and may include, as agreed with relevant Traditional Custodians:

- 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.

At the time of EP submission, a number of specific activities as part of ongoing consultation regarding the activity are planned with Traditional Custodian Relevant Persons. These are described in **Appendix E**.

## 10.7 Oil Pollution Emergency Plan

Oil pollution emergency planning is not relevant to this EP on the basis that there are no credible spill scenarios associated with this activity.

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## **Appendix A Woodside “Our Values” and Biodiversity Policy**

# OUR VALUES

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## One team

We are inspired by our common purpose.

We challenge, respect, and back each other.

We are inclusive, value diversity, and can be ourselves.

---

## We care

We keep each other safe.

We listen and respond with humility.

We respect the environment, operate responsibly, and care for communities.

We adapt to the world's expectations of us.

---

## Innovate every day

We explore ideas, find creative solutions, and try new ways of doing things to provide the energy the world needs today and low-cost, lower-carbon energy for tomorrow.

---

## Results matter

We go after opportunities and show courage by taking the right risks and learning from our mistakes.

We spend and invest as if it's our money.

We are proud of our achievements.

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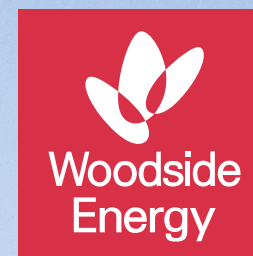
## Build and maintain trust

Trust takes time and effort and will not be taken for granted.

We nurture relationships and act with integrity – doing what we say and doing it well.



PART OF  
A BETTER  
FUTURE





## Environment and Biodiversity Policy

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### 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 deforestation<sup>1</sup> 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.*

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<sup>1</sup> Definition of Forest: 'trees higher than 5 meters and a canopy cover of more than 10 percent on the land to be cleared'

## **Appendix B Relevant Legislation, Regulations and Other Requirements**

## Commonwealth Legislation and Regulations

Legislation or Regulation	Description	Relevance	EP Section
<i>Corporations Act 2001</i>	This Act is the principal legislation regulating matters of Australian companies, such as the formation and operation of companies, duties of officers, takeovers and fundraising.	The titleholder has provided ACN details within the meaning of the Act.	Section 1
<i>Environment Protection &amp; Biodiversity Conservation Act 1999 (EPBC Act)</i> Environment Protection and Biodiversity Conservation Regulations 2000	Commonwealth Department of Sustainability, Environment, Water, Population & Communities administers Act that provides legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places—defined in the EPBC Act as matters of national environmental significance (MNES). These include nationally threatened species and ecological communities, migratory species and Commonwealth marine areas. The Act regulates assessment and approval of proposed actions likely to have a significant impact on a matter of NES. The approval decision is made by a delegate of the Australian Government Environment Minister.  Regulations provide for a wide range of detail essential for the operation of the Act, including regulations relating to management of Commonwealth reserves, information requirements for assessment processes, enforcement, granting of various permits, publication requirements and criteria that need to be met in relation to a wide variety of decision making processes provided for under the Act.	This Act applies to all aspects of the activity that have the potential to impact MNES. NOPSEMA manages compliance with the relevant regulations and plans under the Act for this EP.  Where activities have existing approvals under the Act, these will continue to apply.	Section 5 Section 8 Section 9
<i>Environment Protection (Sea Dumping) Act 1981</i> Environment Protection (Sea Dumping) Regulations 1983	The Act regulates the dumping at sea of controlled material (including certain wastes and other matter), the incineration at sea of controlled material, loading for the purpose of dumping or incineration, export for the purpose of dumping or incineration, and the placement of artificial reefs. Permits are required for any sea dumping activities. Operational discharges from vessels are not defined as 'dumping' under the 1996 Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972 and therefore not regulated under the Act.	Prior to permanently leaving any structure <i>in situ</i> , Woodside will obtain a Sea Dumping Permit in accordance with the requirements of the <i>Environment Protection (Sea Dumping) Act 1981</i> .	Section 4  Woodside anticipates obtaining a Sea Dumping Permit in accordance with the requirements of the <i>Environment Protection (Sea Dumping) Act 1981</i>
<i>Offshore Petroleum and Greenhouse Gas Storage Act 2006</i>	Legislation concerning Australian offshore petroleum exploration & production in Commonwealth Waters. National	This EP has been prepared as a requirement of this Act.	Section 1

Woodside | Griffin Field Decommissioning (End State) Environment Plan

Legislation or Regulation	Description	Relevance	EP Section
	<p>Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) is an independent safety and environmental management Authority funded by levies on industry participants and regulates matters with powers conferred directly from OPGGS Act and via Regulations concerned with:</p> <ul style="list-style-type: none"> <li>▪ occupational health &amp; safety law at facilities and offshore operations under Schedule 3</li> <li>▪ environmental management</li> <li>▪ structural integrity of Wells under Resource management regulations.</li> </ul>		
<p>Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009</p>	<p>Regulations administered by NOPSEMA to ensure offshore petroleum activity is carried out in a manner consistent with the principles of ecologically sustainable development and in accordance with an accepted environment plan, in particular:</p> <ul style="list-style-type: none"> <li>▪ assessment of EPs, including associated OPEPs (previously oil spill contingency plans)</li> <li>▪ investigation of accidents, occurrences and circumstances with regard to deficiencies in environmental management.</li> </ul>	<p>This EP has been prepared to meet the requirements of these Regulations.</p>	<p>Section 1</p>

## Western Australian Legislation and Regulations

Legislation or Regulation	Description
<i>Aboriginal Heritage Act 1972</i>	Enacted to ensure all Aboriginal cultural heritage within Western Australia could be properly protected and preserved. The Act provides recognition, protection and preservation of Aboriginal sites in Western Australia. It is an offence under s.17 of the Act to excavate, destroy, damage, conceal, or in any way alter an Aboriginal site.
<i>Biodiversity Conservation Act 2016</i>	An Act to conserve biological diversity in WA and promote the recovery of threatened species and communities. Provides for the listing of species and communities as threatened, migratory etc.
<i>Conservation and Land Management Act 1984</i>	DBCA is responsible for the day-to-day management of marine parks vested with Marine Parks and Reserves Authority (MPRA) and provide administrative support to the MPRA. MPRA is responsible for the preparation of management plans for all lands and waters which are vested in it. Marine nature reserves, marine parks and marine management areas are the three reserve categories vested in the MPRA. Offshore operations must comply with specific marine park conditions when navigating or conducting activities in or near areas designated as marine sanctuaries for conservation, recreational, ecological, historical, research, educational, or aesthetic qualities, such as Ningaloo Marine Park (state waters) (Class A reserve) and Muiron Islands Marine Management Area.
Conservation and Land Management Regulations 2002	Details further requirements for protection of flora and fauna including restrictions on approaches to fauna, fishing restrictions and operation of vessels in marine protected areas. Also includes prohibition of pollution in marine protected areas.
<i>Aquatic Resources Management Act 2016</i>	Act establishes framework for management of fishery resources. Fisheries in WA waters are subject to the Act and include a wide range of aquatic organisms, other than protected species. Threatened aquatic species may be protected under State and Commonwealth biodiversity conservation laws. Department of Fisheries manages commercial and recreational fishing in Western Australia within four regions: the West Coast, Gascoyne, South Coast and North Coast. The Act also has power to declare Fish Habitat Protection Areas.
<i>Maritime Archaeology Act 1973</i>	<i>Maritime Archaeology Act 1973</i> protects maritime archaeological sites in state waters, such as bays, harbours and rivers. Other than shipwrecks, it includes single relics, such as an anchor, and land sites associated with exploration, early settlements, whaling and pearling camps and shipwreck survivor camps.

## International Conventions

International Convention	Description
<p>Agreement between the Government of Australia and the Government of Japan for the Protection of Migratory Birds in Danger of Extinction and their Environment, 1974 (commonly referred to as JAMBA)</p>	<p>JAMBA provides for cooperation between Japan and Australia to minimise harm to major areas used by birds that migrate between the two countries. The EPBC Act gives effect to JAMBA by listing migratory birds recognised by the agreement as migratory under the EPBC Act. Migratory species are MNES.</p>
<p>Agreement between the Government of Australia and the Government of the People's Republic of China for the Protection of Migratory Birds and their Environment, 1986 (commonly referred to as CAMBA)</p>	<p>CAMBA provides for cooperation between China and Australia to minimise harm to major areas used by birds that migrate between the two countries. The EPBC Act gives effect to CAMBA by listing migratory birds recognised by the agreement as migratory under the EPBC Act. Migratory species are MNES.</p>
<p>Agreement between the Government of Australia and the Government of the Republic of Korea for the Protection of Migratory Birds and their Environment, 2002 (commonly referred to as ROKAMBA)</p>	<p>ROKAMBA provides for cooperation between the Republic of Korea and Australia to minimise harm to major areas used by birds that migrate between the two countries. The EPBC Act gives effect to ROKAMBA by listing migratory birds recognised by the agreement as migratory under the EPBC Act. Migratory species are MNES.</p>
<p>Convention on the Conservation of Migratory Species of Wild Animals, 1979 (Bonn Convention)</p>	<p>The Bonn Convention aims to conserve migratory species within their migratory ranges. The Bonn Convention provides specific protection for migratory species threatened with extinction or requiring international cooperation to conserve effectively. The EPBC Act gives effect to the Bonn Convention through listing species as migratory under Part 3 of the Act. Migratory species are MNES.</p>
<p>Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972 (London Convention)</p>	<p>The London Convention is an agreement to control pollution of the sea by dumping. The Commonwealth Environment Protection (Sea Dumping) Act 1981 gives effect to the London Convention.</p>
<p>Convention on Wetlands of International Importance (Ramsar Convention)</p>	<p>The Ramsar Convention provides for the conservation and sustainable use of wetlands. The EPBC Act gives effect to the Ramsar Convention by providing specific protection for wetlands recognised by the Convention under Part 3 of the EPBC Act. These wetlands are termed "wetlands of international importance" and are MNES.</p>

**Industry Standards, Codes of Practice, Guidelines and Commonwealth Guidance Material**

Australia's Oceans Policy - Western Australia South-West, Western-Central and North-West Marine Plans
Australian Petroleum Production and Exploration Association (APPEA) Code of Practice 2008
Australian and New Zealand Guidelines for Fresh and Marine Water Quality
National Strategy for Ecologically Sustainable Development 1992
NOPSEMA Guidance Note: Control Measures and Performance Standards – (GN0271)
NOPSEMA Guidance note: Environment plan content requirements – (GN1344)
NOPSEMA Guidance note: Notification and reporting of environmental incidents – (GN0926) 8.6.2020
NOPSEMA Guidance note: ALARP – (GN0166)
NOPSEMA Policy: Environment plan assessment - (PL1347)
NOPSEMA Guideline: Environment plan decision making – (GL1721)
NOPSEMA Guideline: Making submissions to NOPSEMA – (GL0255)
NOPSEMA Guideline: Consultation with Commonwealth agencies with responsibilities in the marine area (GL1887)
NOPSEMA Bulletin #2: Clarifying Statutory Requirements and Good Practice Consultation – (A696998)
NOPSEMA Policy Section 572 Maintenance and removal of property (N-00500-PL1903)

## **Appendix C Existing Environment and EPBC Protected Matters Search**





# Description of the Existing Environment

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## 1. INTRODUCTION

### 1.1 Purpose

This document applies, where indicated in the relevant Environment Plan, to Woodside Energy Ltd. (Woodside) activities and operations.

### 1.2 Scope

This document describes the existing environment within the Woodside areas of activity located in Commonwealth waters off north-western Western Australia (WA), with a focus on the North-west Marine Region (NWMR) (**Figure 1-1**). This document includes details of the particular and relevant values and sensitivities of the environment as required by the Commonwealth Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 in order to inform the impact and risk evaluation of Woodside's activities within the NWMR. Furthermore, the key values of the South-west Marine Region (SWMR) and the North Marine Region (NMR) are summarised to encompass areas outside the NWMR. This is with reference to the environment that may be affected (EMBA), as defined and described in individual EPs, for unplanned hydrocarbon spill risks. Additional information appropriate to the nature and scale of the impacts and risks of activities that may interact with the environment will be used to further inform impact and risk assessments and included in the Description of the Existing Environment of individual EPs.

This document is informed by a variety of resources that includes: a search of the Department of Agriculture, Water and the Environment (DAWE) Protected Matters Search Tool (PMST) for the marine bioregions (NWMR, SWMR and NMR) and the three PMST reports provided in **Appendix A**; State (WA)/Commonwealth Marine Park Management Plans, the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) Species Profile and Threats Database (SPRAT), Part 13 statutory instruments (recovery plans, conservation advices and wildlife conservation plans for listed threatened and migratory species); and peer reviewed scientific publications, as well as Woodside and Joint Venture (JV) funded studies and other titleholder funded study findings available in the public domain.

### 1.3 Review and Revision

The information presented in this document is reviewed and updated, where relevant, on at least an annual basis to address any relevant changes, which includes but is not limited to the status of EPBC Act listed species, Part 13 Instruments, policies and guidelines and recently published scientific literature.

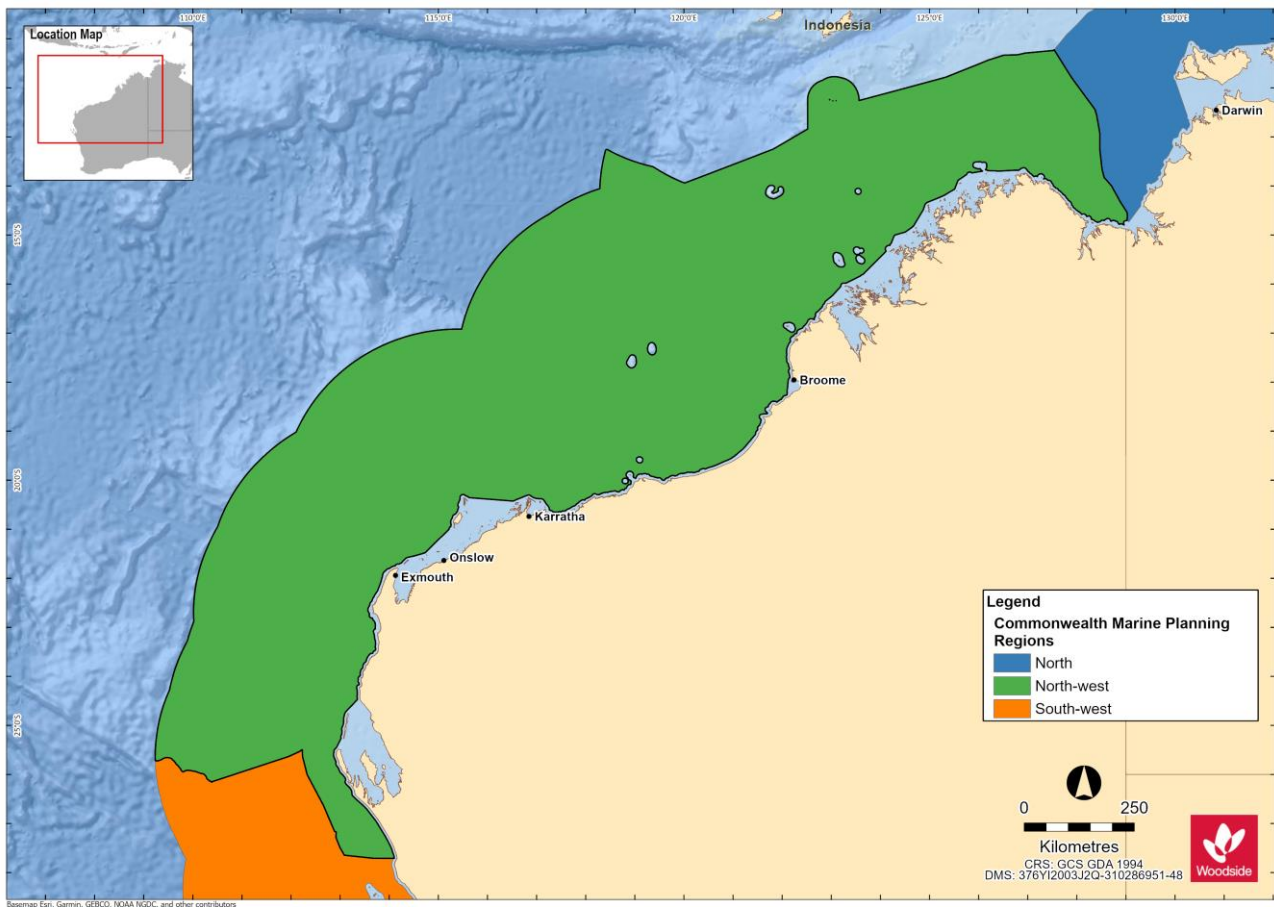
### 1.4 Regional Context

Where relevant, the physical, biological and social environments within the areas of interest are discussed with reference to the three marine bioregions of Australia—NWMR, SWMR and NMR (**Table 1-1**). The NWMR is the focal marine bioregion for the Description of the Existing Environment as this is currently the location of most of Woodside's activities.



**Table 1-1. Description of the Marine Bioregions**

Marine Bioregion	Description
North-west	The NWMR includes all Commonwealth waters (from 3 nautical mile [nm] from the Territorial Sea Baseline [TSB] to the 200 nm Exclusive Economic Zone [EEZ] boundary) extending from the WA/Northern Territory (NT) border to Kalbarri, south of Shark Bay in WA, covering an area of approximately 1.07 million square kilometres and includes extensive areas of shallower waters on the continental shelf, as well as deep areas of abyssal plain where water depths are 5000 m or greater.
South-west	The SWMR comprises Commonwealth waters from the eastern end of Kangaroo Island in SA to Shark Bay in WA. The region spans approximately 1.3 million square kilometres of temperate and subtropical waters and abuts the coastal waters of SA and WA.
North	The NMR comprises Commonwealth waters from west Cape York Peninsula to the NT/WA border). The region covers approximately 625,689 square kilometres of tropical waters in the Gulf of Carpentaria and Arafura and Timor seas, and abuts the coastal waters of Queensland and the NT.



**Figure 1-1. Marine Bioregions: North-west (NWMR), South-west (SWMR) and North (NMR)**

## 2. PHYSICAL ENVIRONMENT

### 2.1 Regional Context

The key physical characteristics of the NWMR, SWMR and NMR are presented in **Table 2-1**.

**Table 2-1 Key physical characteristics of the NWMR, SWMR and NMR**

Bioregion	Key Characteristics
North-west Marine Region	The NWMR experiences a tropical monsoonal climate towards the northern extent of the region, transitioning to tropical arid and subtropical arid within the central and southern areas of the region (DSEWPAC, 2012a).
	The NWMR is part of the Indo-Australian Basin, the ocean region between the north-west coast of Australia and the Indonesian islands of Java and Sumatra. Dominant currents in the Region include: the South Equatorial Current, the Indonesian Throughflow; the Eastern Gyral Current, and the Leeuwin Current (DEWHA, 2007a).
	The seafloor of the NWMR consists of four general feature types: continental shelf; continental slope; continental rise; and abyssal plain and is distinguished by a range of topographic features including canyons, plateaus, terraces, ridges, reefs, and banks and shoals.
South-west Marine Region	The SWMR contains both subtropical and temperate climates, with overall light climatic cycles.
	The SWMR experiences complex and unusual oceanographic patterns, driven largely by the Leeuwin Current and its associated currents that have a significant influence on biodiversity distribution and abundance.
	The major seafloor features of the SWMR include a narrow continental shelf on the west coast to the waters off south-west WA, and a wide continental shelf dominated by sandy carbonate sediments of marine origin in the Great Australian Bight, the region also contains a steep, muddy continental slope, many canyons and large tracts of abyssal plains (DSEWPAC, 2012b).
North Marine Region	The NMR experiences a tropical monsoonal climate with complex weather cycles, including high temperatures and heavy seasonal yet variable rainfall and cyclones, which can be both destructive (loss of seagrass and mangroves) and constructive (mobilisation of sediment into coastal habitats).
	The NMR comprises Commonwealth waters from west Cape York Peninsula to the NT-WA border, covering tropical waters in the Gulf of Carpentaria and Arafura and Timor seas. Currents in the NMR are driven largely by strong winds and tides, with only minor influences from oceanographic currents such as the Indonesian Throughflow and the South Equatorial Current (DSEWPAC, 2012c).
	The seafloor of the NMR consists mainly of a wide continental shelf, as well as other geomorphological features such as shoals, banks, terraces, valleys, shallow canyons and limestone pinnacles.

### 2.2 Marine Systems of the North-west Marine Region.

The NWMR can be divided into three large scale ecological marine systems on the basis of the influence of major ocean currents, seafloor features and eco-physical processes (e.g. climate, tides, freshwater inflow) upon the Region (DSEWPAC, 2012a). The three large scale marine systems approximate the Woodside activity areas within the NWMR (**Figure 2-1**). The key characteristics of each marine system are outlined below in **Table 2-2**.

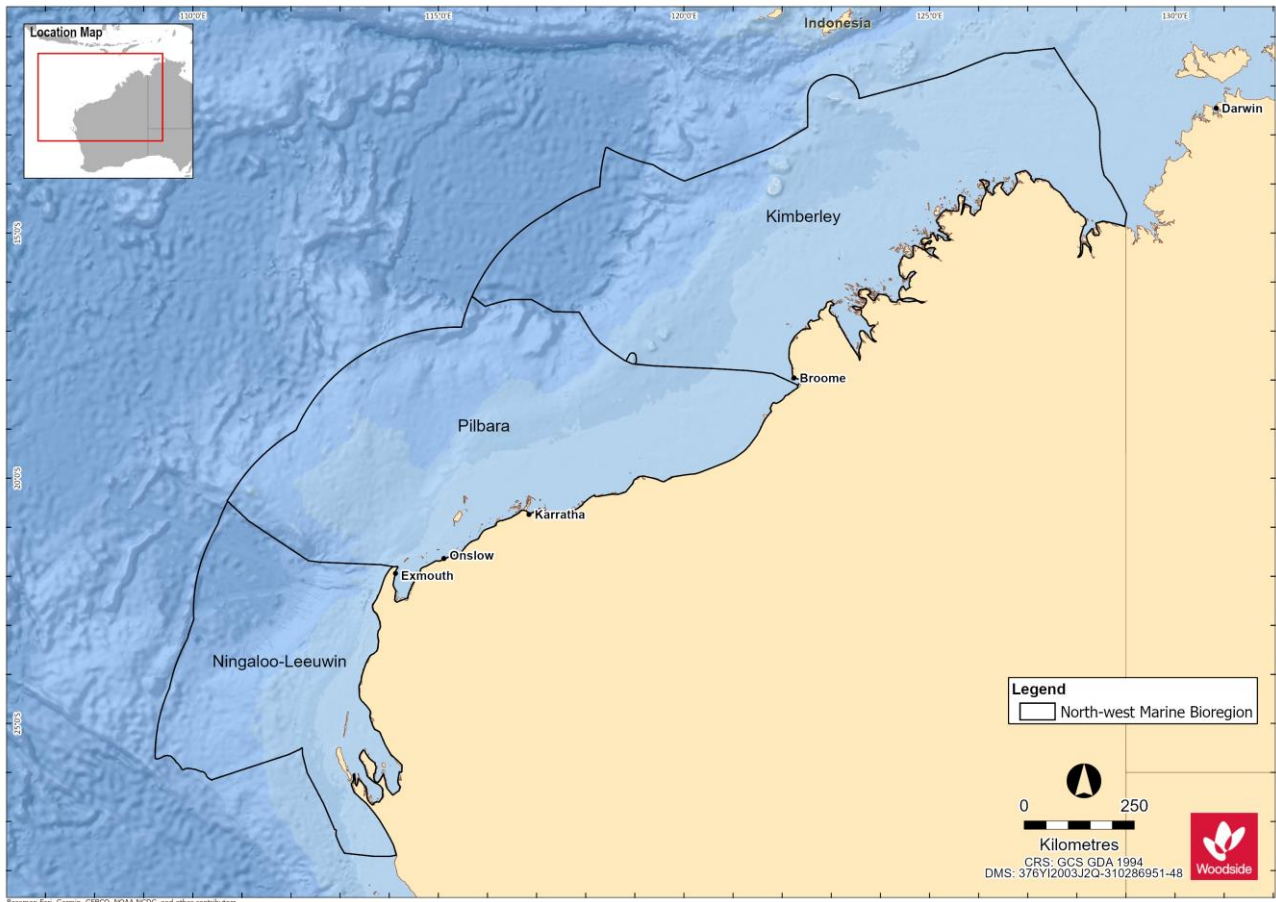


Figure 2-1. The marine systems of the North-west Marine Region (NWMR)

**Table 2-2. Key characteristics of the Marine Systems of the NWMR**

Note: Woodside areas align with the marine systems as described in DEWHA (2007a)

Marine System	Woodside Activity Area	Key Characteristics
Kimberley	Browse	Tropical monsoonal climate Strong influence from Indonesian Throughflow Predominantly tropical Indo-Pacific species Subject to episodic offshore cyclonic activity, rarely crossing the coast Large tidal regimes Freshwater input from terrestrial monsoonal run-off Turbid coastal waters (i.e. light limited systems) Dominated by shelf environments Predominantly hard substrates in inner to mid-shelf environments Includes a number of shelf-edge atolls (i.e. Scott Reef, Rowley Shoals)
Pilbara	North-west Shelf (NWS) / Scarborough	Tropical arid climate Transition between Indonesian Throughflow and Leeuwin Current dominated areas Predominantly tropical species High cyclone activity with frequent crossing of the coast Transitional tidal zone Internal tide activity Large areas of shelf and slope Dry coast with ephemeral freshwater inputs
Ningaloo-Leeuwin	North-west Cape	Subtropical arid climate Leeuwin Current consolidates Transitional tropical/temperate faunal area Higher water clarity in near-shore and offshore environments Narrow shelf and slope Marginal tidal range Seasonal wind forcing more dominant influence on marine environment

### 2.3 Meteorology and Oceanography

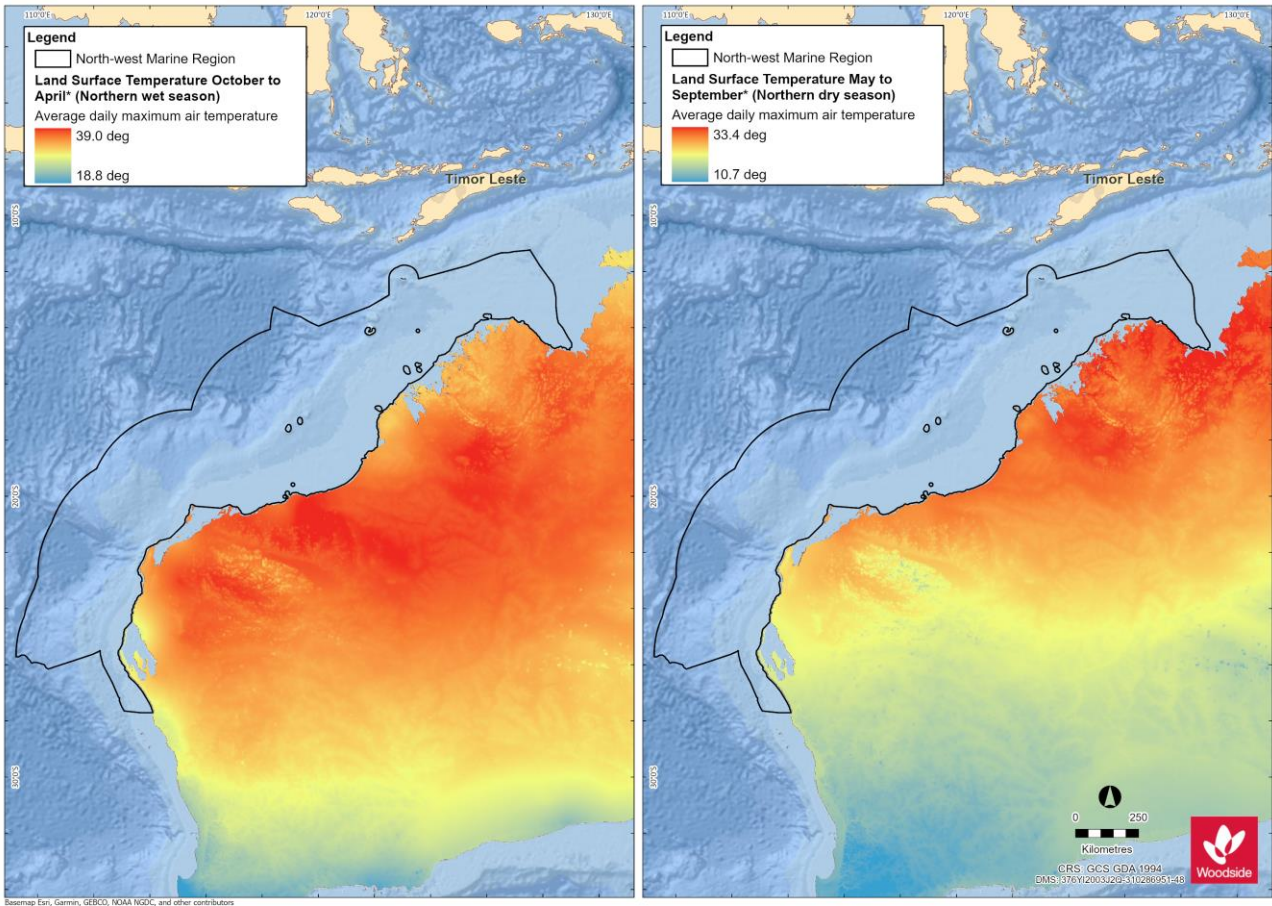
This section describes the general meteorological conditions and oceanography for the NWMR and provides further detail for the three Woodside activity areas. The NWMR is influenced by a complex system of ocean currents that change between seasons and between years, which generally result in its surface waters being warm and nutrient-poor, and of low salinity (DEWHA, 2007a). The mix of bathymetric features, complex topography and oceanography across the whole north-west marine environment has created and supports a globally important marine biodiversity hotspot (Wilson, 2013).

Table 2-3 NWMR climate and oceanography summary

Receptor	Description
<b>Meteorology</b>	
<b>Seasonal patterns</b>	The NWMR associated land mass of the Australian continent is characterised as a hot and humid summer climate zone. The broader NWMR experiences variations of a tropical or monsoon climate. In the far north-west (Kimberley), there is a hot summer season from December to March and a milder winter season between April and November. The Pilbara area is described as having a tropical arid climate with high cyclone activity (DEWHA, 2007a). The Pilbara and North-west Cape has a hot summer season from October to April and a milder winter season between May and September with transition periods between the summer and winter regimes.
<b>Air temperature and rainfall</b>	In summer (between September and March), maximum daily temperatures range from 31°C to 33°C. During winter (May to July), mean daily temperatures range from 18°C to 31°C (BOM <sup>1</sup> ), refer to <b>Figure 2-2a</b> and <b>b</b> . Rainfall in the region typically occurs during the summer, with highest falls observed late in the season. This is often associated with the passage of tropical low-pressure systems and cyclones.
<b>Wind</b>	Wind patterns in north-west WA are dictated by the seasonal movement of atmospheric pressure systems. During summer, high-pressure cells produce prevailing winds from the north-west and south-west, which vary between 10 and 13 ms <sup>-1</sup> . During winter, high-pressure cells over central Australia produce north-easterly to south-easterly winds with average speeds of between 6 and 8 ms <sup>-1</sup> . Refer to <b>Figure 2-3a</b> and <b>b</b> .
<b>Tropical cyclones</b>	The NWS and Pilbara coast (within the NWMR) experiences more cyclonic activity than any other region of the Australian mainland coast (BOM, 2021a). Tropical cyclone activity typically occurs between November and April and is most frequent in the region during December to March (i.e. considered the peak period), with an average of about one cyclone per month (BOM, 2021a). Refer to <b>Figure 2-4</b> .
<b>Oceanography</b>	
<b>Ocean temperature</b>	Waters in NWMR are tropical year-round, with sea surface temperature in open shelf waters reaching ~26°C in summer and dropping to ~22°C in winter. Nearshore temperatures (as recorded for the NWS area) fluctuate more widely on an annual basis from ~17°C in winter to ~31°C in summer (Chevron Australia, 2010). Refer to <b>Figure 2-5a</b> and <b>b</b> .
<b>Currents</b>	The major surface currents influencing north-west WA flow towards the poles and include the Indonesian Throughflow, the Leeuwin Current, the South Equatorial Current, and the Eastern Gyral Current. The Ningaloo Current, the Holloway Current, the Shark Bay Outflow, and the Capes Current are seasonal surface currents in the region. Below these surface currents are several subsurface currents, the most important of which are the Leeuwin Undercurrent and the West Australian Current. These subsurface currents flow towards the equator in the opposite direction to surface currents (DEWHA, 2007a). Refer to <b>Figure 2-6</b> .  The offshore waters of the NWMR are characterised by surface and subsurface boundary currents that flow along the continental shelf/slope and are enhanced through inflows from the ocean basins and are an important conduit for the poleward heat and mass transport along the west coast (Wijeratne <i>et al.</i> , 2018).  Local physical oceanography is strongly influenced by the large-scale water movements of the Indonesian Throughflow (Liu <i>et al.</i> 2015; Sutton <i>et al.</i> 2019). Typically, a warm and well-mixed oligotrophic surface layer and a cooler and more nutrient rich, deeper water layer (Menezes <i>et al.</i> 2013).
<b>Waves</b>	Sea surface waves within the NWMR, generally reflect the direction of the synoptic winds and flow predominately from the south-west in the summer and east in winter (Pearce <i>et al.</i> , 2003).  The NWS within the NWMR is a known area of internal wave generation. Both internal tides and internal waves are thought to be more prevalent during summer months due to the increased stratification of the water column (DEWHA, 2007a).  Along the continental slope of the NWMR, strong internal waves and interaction between semi-diurnal tidal currents and seabed topographic features facilitates upwelling events and localised productivity events (Holloway, 2001).
<b>Tides</b>	Tides on the NWS (NWMR) increase as the water moves from deep towards the shallower coast. The highest offshore tides are experienced at the border of the Browse and Canning basins. The smallest tides are experienced at the Exmouth Plateau, near the coast.  Tides of NWS (NWMR) are predominantly semi-diurnal (two highs and two lows each day), but with increasing importance of the diurnal (once per day) inequality at the southern and northern extremities of the NWS.

<sup>1</sup> [http://www.bom.gov.au/jsp/ncc/climate\\_averages/temperature/index.jsp](http://www.bom.gov.au/jsp/ncc/climate_averages/temperature/index.jsp), accessed 21 January 2021.

Receptor	Description
	The tide range—represented by the Mean Spring Range (MSR)—increases northwards along the coast from 1.4 m at North-west Cape (Point Murat) to 7.7 m at Broome, before decreasing again (apart from local amplification in King Sound and Collier Bay) to about 5 m off Cape Londonderry. The MSR then increases again through Joseph Bonaparte Gulf and on up 5.5 m at Darwin (RPS, 2016).



**Figure 2-2. Average daily maximum air temperature for land surface adjacent to NWMR: (a) summer (northern wet season) and (b) winter (northern dry season)**

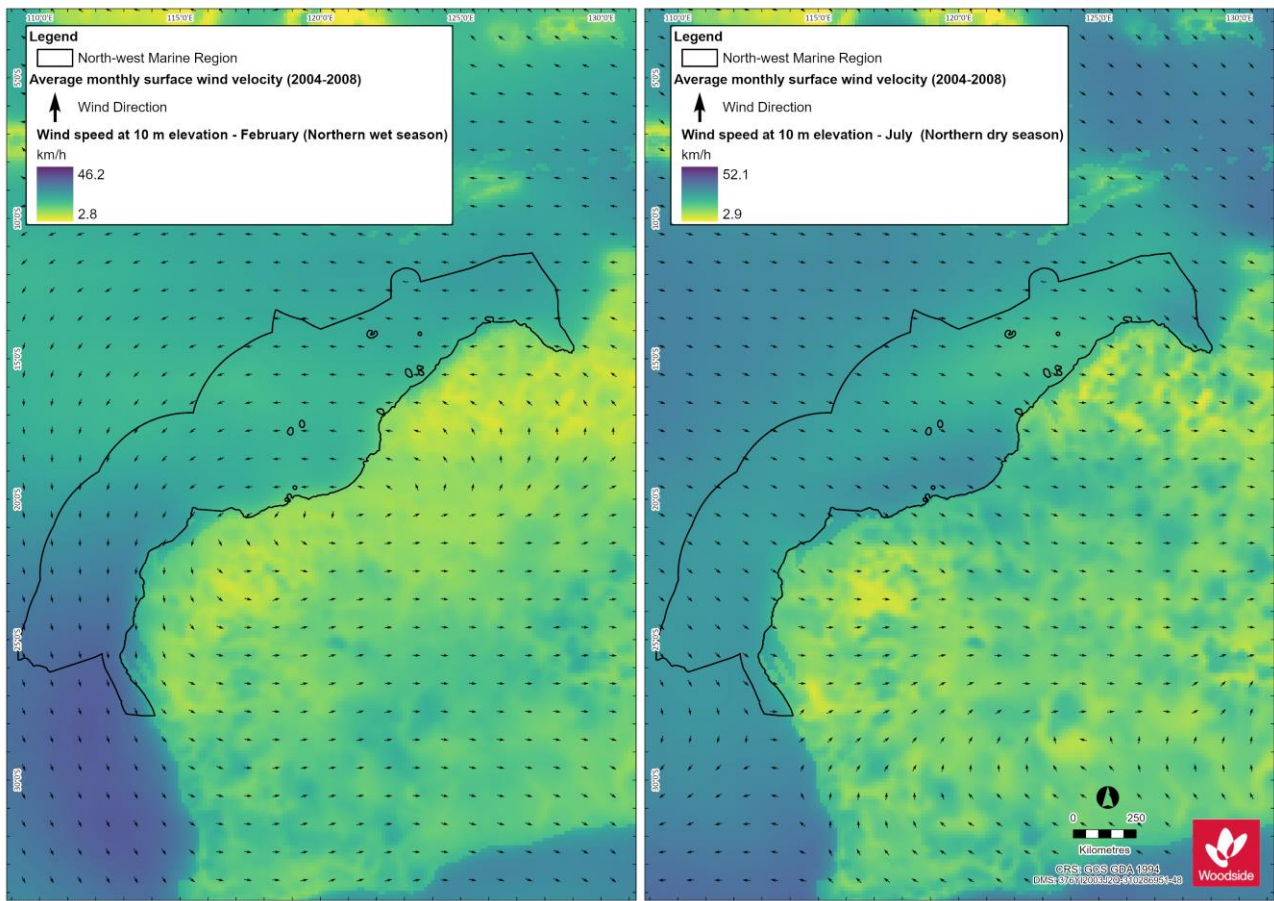


Figure 2-3. Average monthly surface wind direction and velocity for NWMR: (a) summer (February, northern wet season) and (b) winter (July, northern dry season)

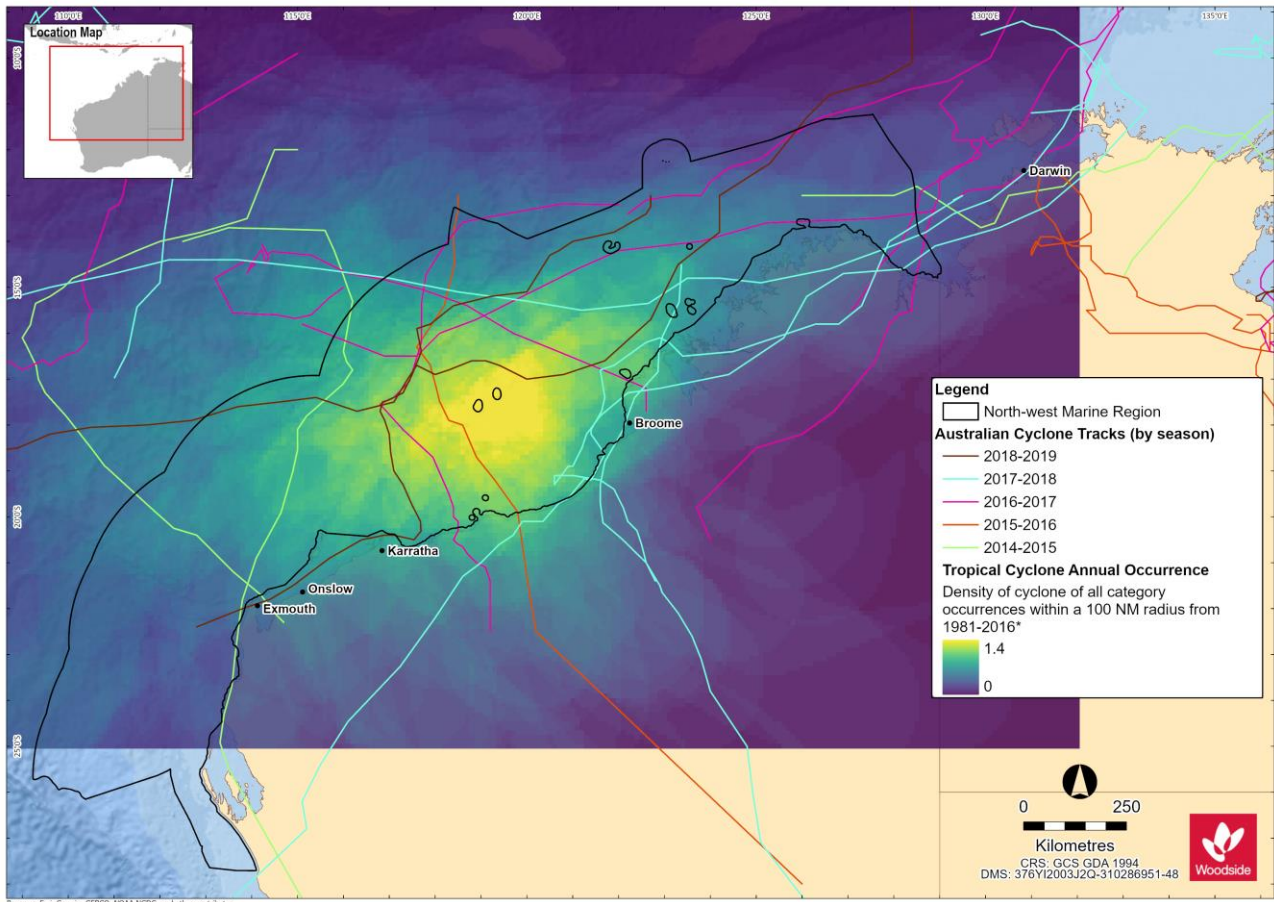
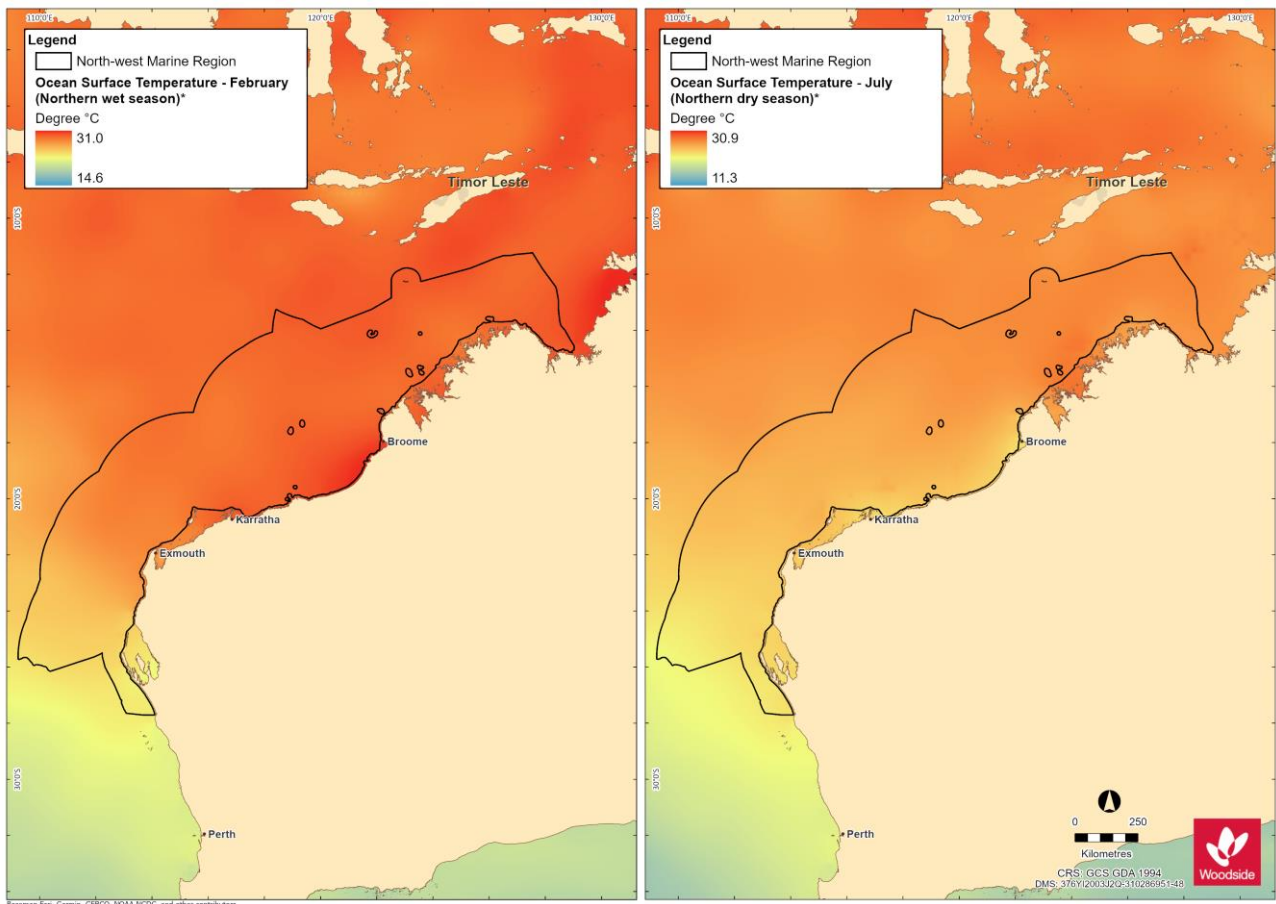


Figure 2-4. Tropical cyclone annual occurrence and cyclone tracks for NWMR





**Figure 2-5. Ocean surface temperature for NWMR: (a) summer (February, northern wet season) and (b) winter (July, northern dry season)**

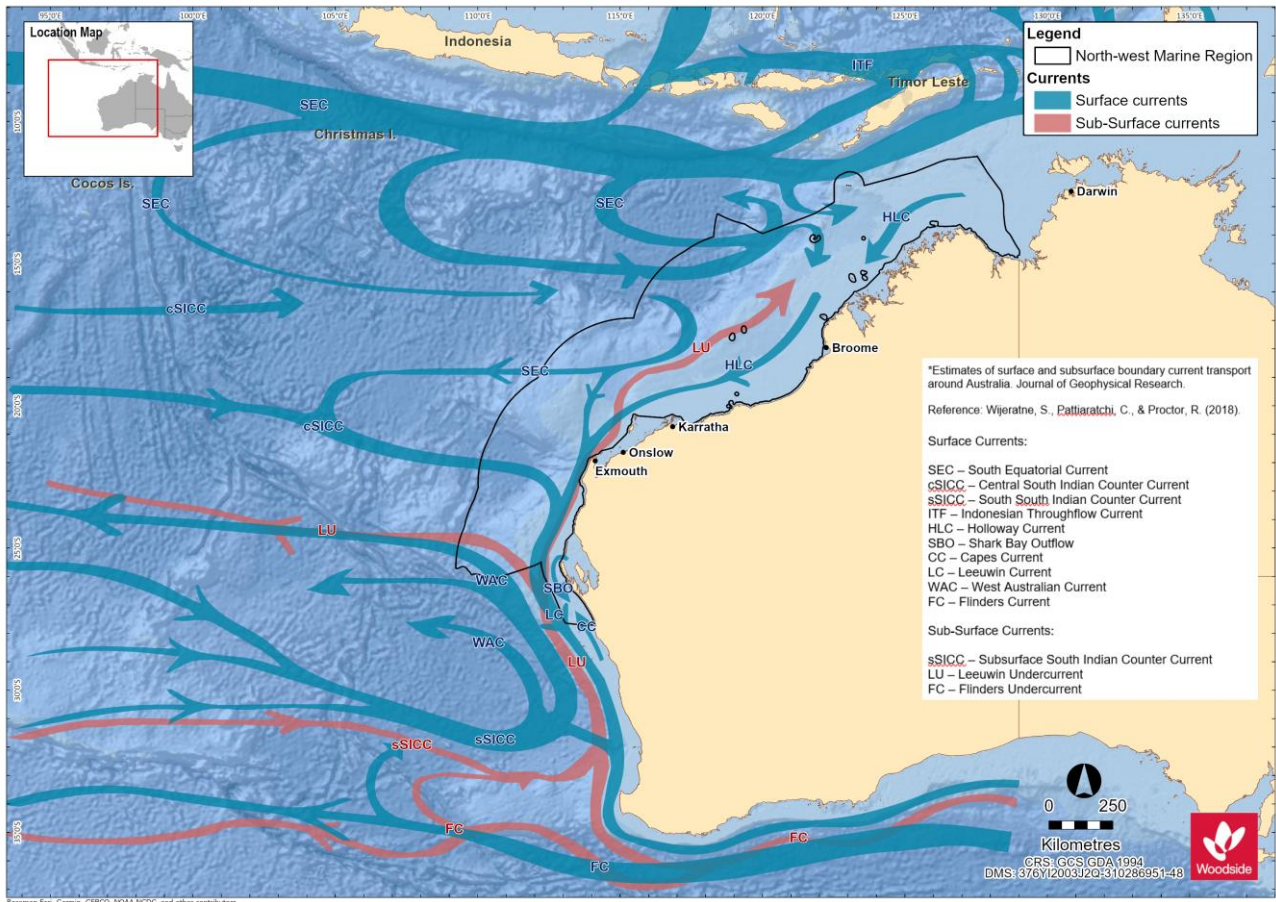


Figure 2-6. Ocean surface and sub-surface currents of the NWMR and wider region

### 2.3.1 Browse

**Table 2-4 Summary meteorology and oceanography for Browse (refer to Appendix B for supporting metocean figures)**

Receptor	Description
<b>Meteorology</b>	
<b>Seasonal patterns</b>	The Browse area overlapping the Kimberley marine system experiences tropical monsoon climate with two distinct seasons: the wet season from December to March and dry season from April to November.
<b>Air temperature</b>	The mean annual air temperature recorded at Troughton Island between 2010 and 2020 ranged from 30.1°C in 2011 to 32.6°C in 2016 and highest mean monthly air temperatures were recorded for the months of November and December (BOM, 2021b).
<b>Rainfall</b>	Rainfall recorded from Troughton Island in the Browse basin ranged from barely detectable (<1 mm) mean monthly level to >100 mm in December to March, with the highest rainfall recorded for January. Reflecting the wet monsoon season of the Kimberley marine system (BOM, 2021c).
<b>Wind</b>	The dry season experiences high pressure systems that bring east to south-easterly winds with average wind speeds during the season of approximately 16.6 km/hr and maximum wind gusts of 65 km/hr. In contrast the wet season brings predominately westerly winds with average wind speeds approximately 17 km/hr and maximum gusts exceeding 100 km/hr (generally associated with tropical cyclones (MetOcean Engineers, 2005).
<b>Oceanography</b>	
<b>Currents</b>	Surface currents exhibit seasonal directionality, with flow to the south-west during March to June and more variable outside this period (Woodside, 2019). This is consistent with the stronger Leeuwin Current flow during winter months, with more variable currents driven by local wind stress during periods of weaker Leeuwin Current flow.

### 2.3.2 North West Shelf / Scarborough

**Table 2-5 Summary meteorology and oceanography for the North West Shelf and Scarborough (refer to Appendix B for supporting metocean figures)**

Receptor	Description
<b>Meteorology</b>	
<b>Seasonal patterns</b>	The NWS and Scarborough areas experience the monsoonal climate of the wider NWMR with a distinct wet and dry seasonal regime and transitions periods between seasons.
<b>Air temperature</b>	Air temperatures as measured at the North Rankin A platform on NWS ranged from a maximum average of 39.5°C in summer to a minimum average temperature of 15.6°C in winter (Woodside, 2012).
<b>Rainfall</b>	Rainfall patterns annually reveal the wet season with highest rainfalls during the late summer, often associated with the passage of tropical low-pressure systems and cyclones. Rainfall in the dry season is typically extremely low. (Pearce <i>et al.</i> 2003).
<b>Wind</b>	Winds are typically from the southwest during the wet season (summer) and tending from the south-east during the dry season (winter). The summer south-westerly winds are driven by high pressure cells that pass from west to east over the Australian continent. During the winter period, the relative position of the high-pressure cells shifts further north, leading to prevailing south-easterly winds from the mainland (Pearce <i>et al.</i> 2003).
<b>Oceanography</b>	
<b>Currents</b>	The large-scale ocean currents of the NWMR, primarily the Indonesian Throughflow and Leeuwin Current (and Holloway Current), are the primary influence on the NWS and Scarborough areas. The ITF and Leeuwin Current are strongest during the late summer and winter and flow reversals to the north-east, typically short-lived and weak, when there are strong south-westerly winds can generate localised upwelling on the shelf edge (Holloway and Nye, 1985; James <i>et al.</i> 2004 and Condie <i>et al.</i> 2006).

### 2.3.3 North-west Cape

**Table 2-6 Summary meteorology and oceanography for the North-west Cape (refer to Appendix B for supporting metocean figures)**

Receptor	Description
<b>Meteorology</b>	
<b>Seasonal patterns</b>	The climate of the NWMR is dry tropical exhibiting a hot summer season and a mild winter season. There are often distinct transition periods between the summer and winter regimes, characterised by periods of relatively low winds.
<b>Air temperature</b>	Air temperatures in the North-west Cape area range from high summer temperatures (maximum average of 37.5°C) and mild winter temperatures (minimum average of 12.2°C).
<b>Rainfall</b>	Rainfall typically occurs during the summer, with highest rainfall during later summer and autumn, often associated with the passage of tropical low-pressure systems and cyclones. Rainfall is typically low in winter.
<b>Wind</b>	Winds vary seasonally, generally from the south-west quadrant during summer months and the south, south-east quadrant during the autumn and winter months. The summer south-westerly winds are driven by high pressure cells that pass from west to east over the Australian continent. Winds typically weaken and are more variable during the transitional period between the summer and winter seasons, generally between April to August.
<b>Oceanography</b>	
<b>Currents</b>	Surface currents exhibit seasonal directionality, with flow to the south-west during March to June and more variable outside this period (Woodside, 2016). This is consistent with the stronger Leeuwin Current flow during winter months, with more variable currents driven by local wind stress during periods of weaker Leeuwin Current flow.

## 2.4 Physical Environment of NWMR

Based on the Integrated Marine and Coastal Regionalisation of Australia (IMCRA) Version 4.0, there are eight provincial bioregions that occur within the NWMR, which are based on patterns of demersal fish diversity, benthic habitat and oceanographic data (Commonwealth of Australia, 2006), **Figure 2-7**. Of the eight provincial bioregions that occur within the NWMR, these include four offshore (~65% of total NWMR area) and four shelf (~35% of total NWMR area) bioregions (Baker *et al.*, 2008).

The NWMR is a tropical carbonate margin that comprises an extensive area of shelf, slope and abyssal plain/deep ocean floor, as well as complex areas of bathymetry such as plateau, terraces and major canyons (Harris *et al.*, 2005). A series of reefs are located on the outer shelf/slope of the NWMR, including Ashmore, Cartier, Scott and Seringapatam reefs (Baker *et al.*, 2008). The distribution of seafloor geomorphic features has been systematically mapped over much of the Australian margin and adjacent seafloor. The mapped area can be divided into 10 geomorphic regions, of which the NWMR overlays two; the Western Margin and Northern Margin (Harris *et al.*, 2005). Most of the region consists of either continental slope (61%) or continental shelf (28%) (DEWHA, 2007a) with more than 40% of the NWMR having a water depth less than 200 m. The shallow shelf is contrasted by features such as the Cuvier and Argo abyssal plains, which reach depths more than five kilometres. A unique feature of the region is the significant narrowing of the continental shelf around North-west Cape (approximately 7 km wide) from the broad continental shelf in the north of the region (approximately 400 km wide at Joseph Bonaparte Gulf) (DEWHA, 2007a), **Figure 2-8**.

The geological history of the region, as well as its geomorphology and oceanography, has influenced the composition and distribution of sediments (DEWHA, 2007a). The sedimentology of the NWMR is dominated by marine carbonates, which show a broad zoning and fining with water depth. Main trends of the NWMR sediments include a tropical carbonate shelf that is dominated by sand and gravel, an outer shelf/slope zone that is dominated by mud and a relatively homogenous rise and abyssal plain/deep ocean floor that is dominated by non-carbonate mud (Baker *et al.*, 2008), **Figure 2-9**.

The distribution and resuspension of sediments on the inner shelf is strongly influenced by the strength of tides across the continental shelf as well as episodic events such as cyclones. Further offshore, on the mid to outer shelf and on the slope itself, sediment movement is primarily influenced by ocean currents and internal tides (DEWHA, 2007a).

This variation in bathymetry and interactions with oceanographic processes provides a diversity of habitats to marine fauna and flora within the NWMR.

## **2.5 Air quality**

The ambient air quality of all three marine regions is largely unpolluted due to the extent of the open ocean area, the activities currently carried out in each and the relative remoteness of each region.

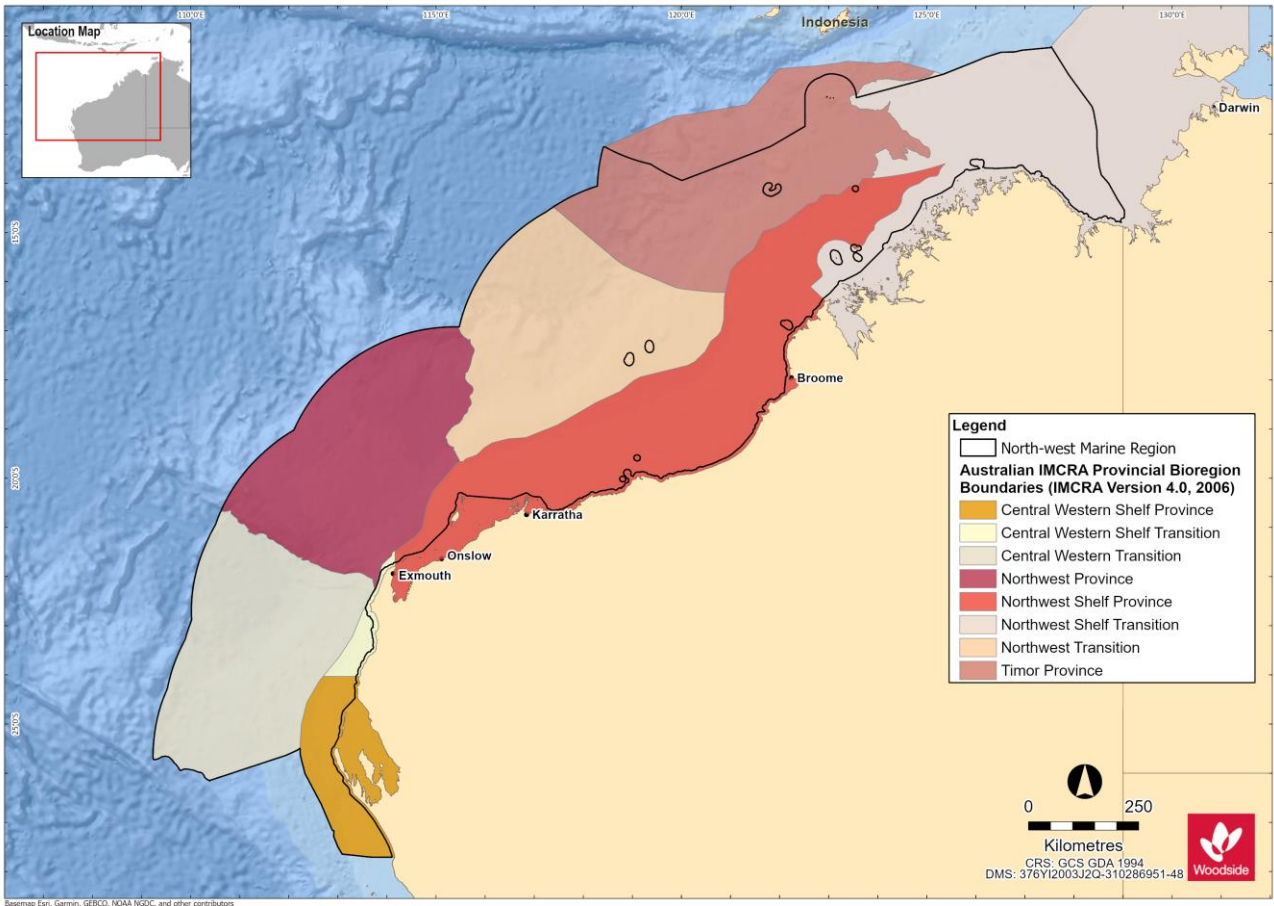


Figure 2-7. The eight provincial bioregions of the NWMR (Commonwealth of Australia, 2006)

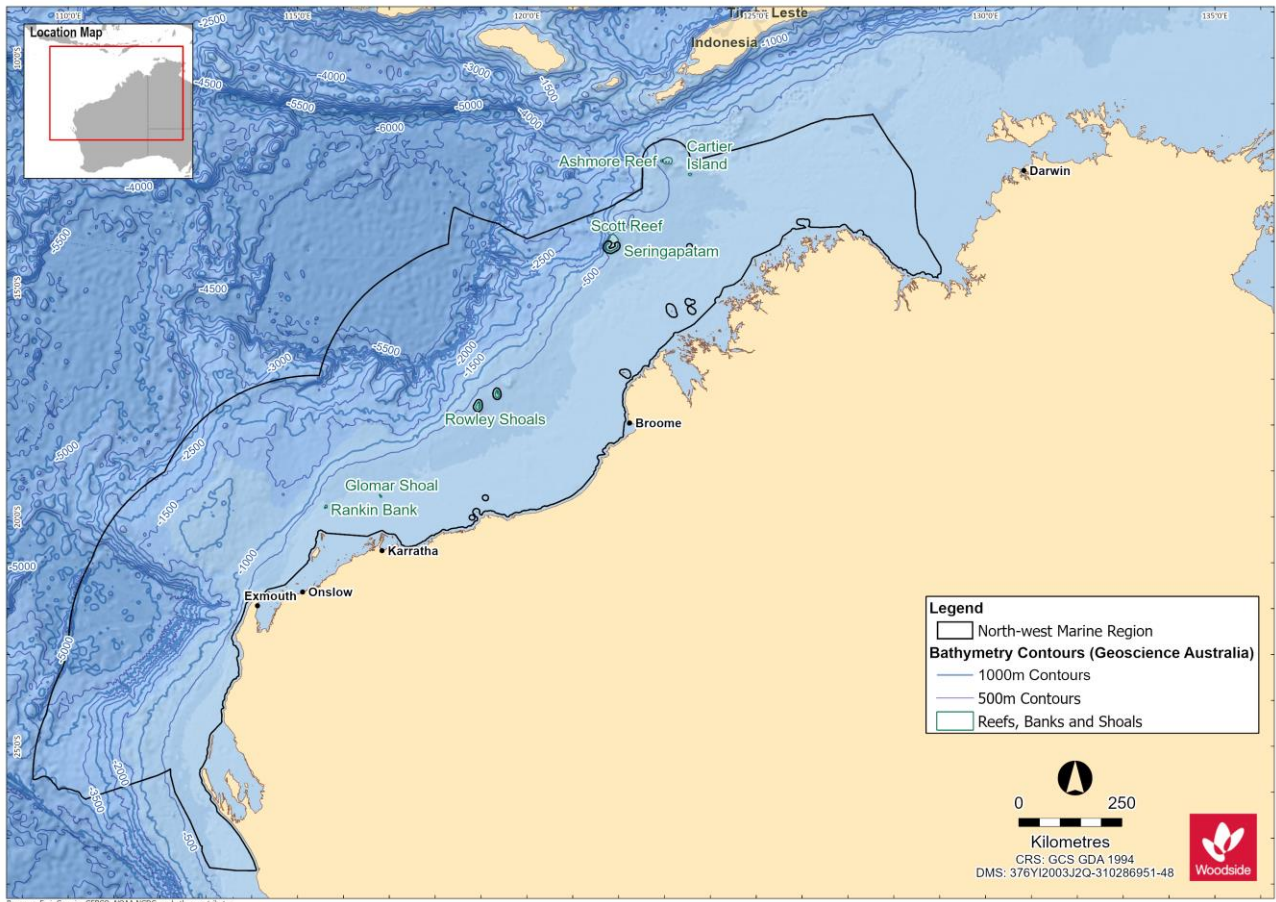


Figure 2-8. Bathymetry of the NWMR

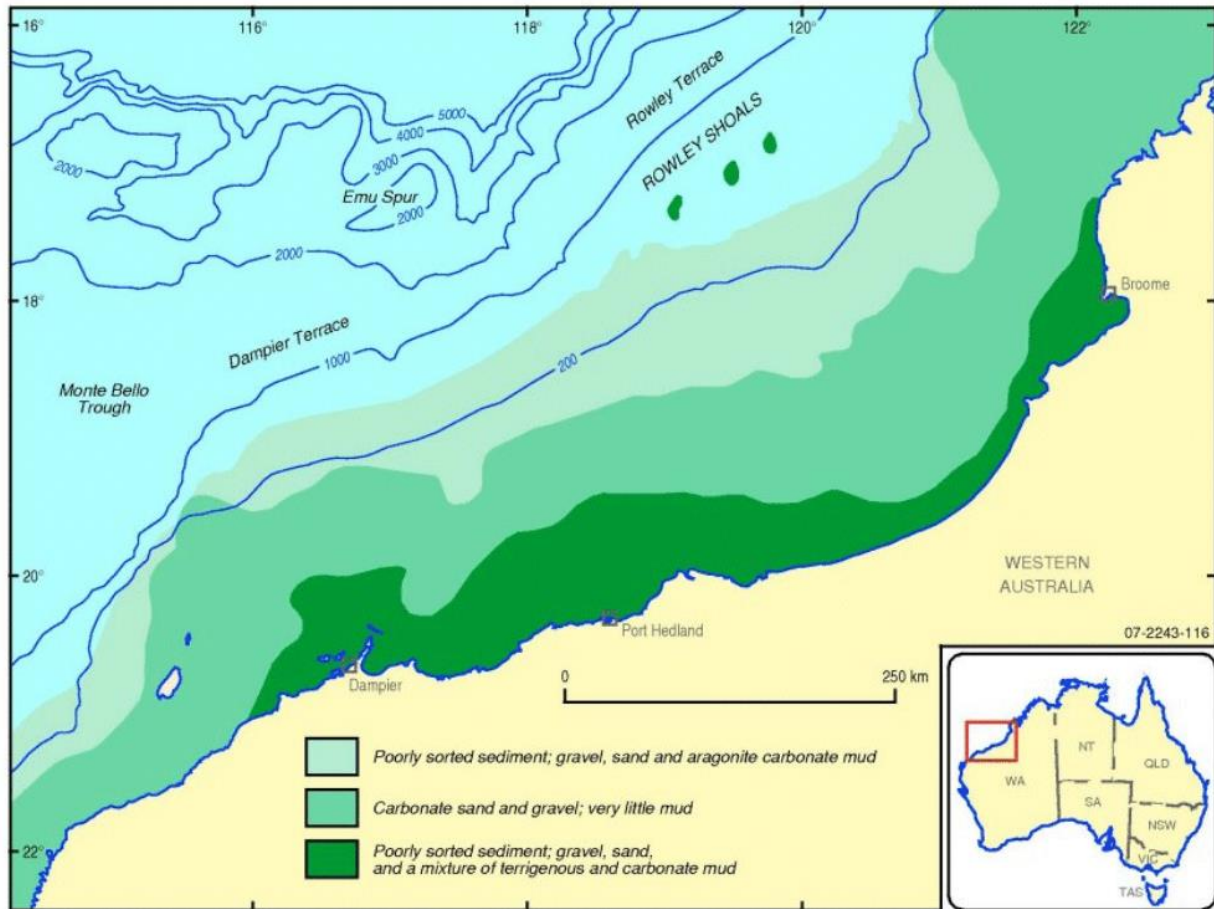


Figure 2-9. Overview of the seabed sediments of the NWMR (Baker *et al.*, 2008)



### 3. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE (EPBC ACT)

#### 3.1 Summary of Matters of National Environmental Significance (MNES)

This section summarises the matters of national environmental significance (MNES) reported for the three bioregions; NWMR (**Table 3-1**), SWMR (**Table 3-2**) and NMR (**Table 3-3**), based on the Protected Matters search reports (**Appendix A**).

Additional information on these MNES are provided in subsequent sections (referenced below).

**Table 3-1 Summary of MNES identified by the EPBC Act Protected Matters Search Tool (PMST) as potentially occurring within the NWMR**

<b>MNES</b>	<b>Number</b>	<b>Description</b>	<b>Section of this Document</b>
<b>World Heritage Properties</b>	2	Shark Bay The Ningaloo Coast	<b>Section 10</b>
<b>National Heritage Places</b>	5	Shark Bay The Ningaloo Coast The West Kimberley The Dampier Archipelago (including Burrup Peninsula) Dirk Hartog Landing Site 1616	<b>Section 10</b>
<b>Wetlands of International Importance (Ramsar)</b>	3	Ashmore Reef National Nature Reserve Eighty Mile Beach Roebuck Bay <sup>1</sup>	<b>Section 10</b>
<b>Commonwealth Marine Area</b>	2	EEZ and Territorial Sea Key Ecological Features (KEFs) Australian Marine Parks (AMPs) Australian Whale Sanctuary Extended Continental Shelf	<b>Section 9</b> <b>Section 10</b>
<b>Listed Threatened Ecological Communities</b>	1	Monsoon vine thickets on the coastal sand dunes of Dampier Peninsula	Terrestrial community and not considered further
<b>Listed Threatened Species</b>	70	Refer NWMR PMST report ( <b>Appendix A</b> )	<b>Section 5 – Section 8</b>
<b>Listed Migratory Species</b>	84	Refer NWMR PMST report ( <b>Appendix A</b> )	<b>Section 5 – Section 8</b>

<sup>1</sup> Roebuck Bay is a designated Wetland of International Importance (Ramsar site), which was not included in the PMST Report (**Appendix A**).

Table 3-2 Summary of MNES identified by the EPBC Act Protected Matters Search Tool (PMST) as potentially occurring within the SWMR

MNES	Number	Description	Section of this Document
World Heritage Properties	0	N/A	N/A
National Heritage Places	3	Cheetup Rock Shelter Batavia Shipwreck Site and Survivor Camps Area 1629 – Houtman Abrolhos HMAS Sydney II and HSK Kormoran Shipwreck Sites	Section 10
Wetlands of International Importance (Ramsar)	4	Becher Point Wetlands Forrestdale and Thomsons Lakes Peel-Yalgorup System Vasse-Wonnerup System	Section 10
Commonwealth Marine Area	2	EEZ and Territorial Sea KEFs AMPs Australian Whale Sanctuary Extended Continental Shelf	Section 9 Section 10
Listed Threatened Ecological Communities	3	Banksia Woodlands of the Swan Coastal Plain ecological community Proteaceae Dominated Kwongan Shrublands of the Southeast Coastal Floristic Province of Western Australia Tuart ( <i>Eucalyptus gomphocephala</i> ) Woodlands and Forests of the Swan Coastal Plain ecological community	Terrestrial communities and not considered further
Listed Threatened Species	65	Refer SWMR PMST report ( <b>Appendix A</b> )	N/A
Listed Migratory Species	67	Refer SWMR PMST report ( <b>Appendix A</b> )	N/A

**Table 3-3 Summary of MNES identified by the EPBC Act Protected Matters Search Tool (PMST) as potentially occurring within the NMR**

<b>MNES</b>	<b>Number</b>	<b>Description</b>	<b>Section of this Document</b>
<b>World Heritage Properties</b>	0	N/A	N/A
<b>National Heritage Places</b>	0	N/A	N/A
<b>Wetlands of International Importance (Ramsar)</b>	0	N/A	N/A
<b>Commonwealth Marine Area</b>	2	EEZ and Territorial Sea KEFs AMPs Australian Whale Sanctuary Extended Continental Shelf	<b>Section 9</b> <b>Section 10</b>
<b>Listed Threatened Ecological Communities</b>	0	N/A	N/A
<b>Listed Threatened Species</b>	33	Refer NMR PMST report ( <b>Appendix A</b> )	N/A
<b>Listed Migratory Species</b>	70	Refer NMR PMST report ( <b>Appendix A</b> )	N/A

### 3.2 Part 13 Statutory Instruments for EPBC Act Listed Threatened and Migratory Species in the NWMR, SWMR and NMR

A screening process was conducted to identify which EPBC Act listed threatened and migratory species, and associated Part 13 statutory instruments, are relevant in the context of the assessment of impacts and risks associated with petroleum activities in each of the Woodside activity areas, using the following criteria:

- overlap between the Woodside activity areas with habitat critical for the survival of marine turtles, and with BIAs (overlapping the marine environment) for any listed threatened species as reported in the PMST searches;
- published literature, unpublished reports and/or credible anecdotal information (e.g. feedback from stakeholders) indicating species presence/occurrence within the Woodside activity areas;
- temporal overlap between the likely timing of petroleum activities and peak periods for key behaviours (e.g. breeding, nesting, calving, resting, foraging, migration); and
- environmental aspects associated with petroleum activities have been identified as a key threat to a species in a Part 13 statutory instrument (e.g. anthropogenic noise, light emissions, marine debris).

Relevant EPBC Act threatened and migratory species and their Part 13 statutory instruments are listed in **Table 3-4**. For the full list of EPBC Act listed species for each marine bioregion refer to the PMST reports (**Appendix A**).

**Table 3-4 Summary of MNES identified by the EPBC Act Protected Matters Search Tool (PMST) to be considered for impact or risk evaluation for Woodside operations**

Species	EPBC Act Part 13 Statutory Instrument
All vertebrate marine fauna	Threat Abatement Plan for the impacts of marine debris on vertebrate marine life (Commonwealth of Australia, 2018)
<b>Marine Mammals</b>	
Blue whale	Conservation Management Plan for the Blue Whale: A Recovery Plan under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> 2015–2025 (Commonwealth of Australia, 2015a)
Southern right whale	Conservation Management Plan for the Southern Right Whale: A Recovery Plan under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> 2011–2021 (DSEWPAC, 2012d)
Sei whale	Conservation Advice <i>Balaenoptera borealis</i> sei whale (Threatened Species Scientific Committee, 2015a)
Humpback whale	Conservation Advice <i>Megaptera novaeangliae</i> humpback whale (Threatened Species Scientific Committee, 2015b)
Fin whale	Conservation Advice <i>Balaenoptera physalus</i> fin whale (Threatened Species Scientific Committee, 2015c)
Australian sea lion	Recovery Plan for the Australian Sea Lion ( <i>Neophoca cinerea</i> ) 2013 (DSEWPAC, 2013a) (due to expire in October 2023) Conservation Advice <i>Neophoca cinerea</i> Australian Sea Lion (Threatened Species Scientific Committee, 2020a) (in effect under the EPBC Act from 23-Dec-2020)
<b>Marine Reptiles</b>	
All marine turtle species (loggerhead, green, leatherback, hawksbill, flatback, olive ridley)	Recovery Plan for Marine Turtles in Australia 2017-2027 (Commonwealth of Australia, 2017)
Short-nosed sea snake	Approved Conservation Advice for <i>Aipysurus apraefrontalis</i> (Short-nosed Sea Snake) (DSEWPAC, 2011a)
Leaf-scaled sea snake	Approved Conservation Advice for <i>Aipysurus foliosquama</i> (Leaf-scaled Sea Snake) (DSEWPAC, 2011b)
<b>Fishes, Sharks, Rays and Sawfishes</b>	
Grey nurse shark (west coast population)	Recovery Plan for the Grey Nurse Shark ( <i>Carcharias taurus</i> ) 2014 (DOE, 2014)
White shark	Recovery Plan for the White Shark ( <i>Carcharodon carcharias</i> ) 2013 (DSEWPAC, 2013b)
Whale shark	Conservation Advice <i>Rhincodon typus</i> whale shark (Threatened Species Scientific Committee, 2015d)
All sawfishes (largetooth, green, dwarf, speartooth, narrow)	Sawfish and River Sharks Multispecies Recovery Plan (Commonwealth of Australia, 2015b)

Species	EPBC Act Part 13 Statutory Instrument
<b>Seabirds</b>	
Migratory seabird species	Draft Wildlife Conservation Plan for Migratory Seabirds (Commonwealth of Australia, 2019)
Southern giant petrel	National recovery plan for threatened albatrosses and giant petrels 2011–2016 (DSEWPAC, 2011c)
Indian yellow-nosed albatross	National recovery plan for threatened albatrosses and giant petrels 2011–2016 (DSEWPAC, 2011c)
Abbott's booby	Conservation Advice for the Abbott's booby - <i>Papasula abbotti</i> (Threatened Species Scientific Committee, 2020b)
Australian fairy tern	Approved Conservation Advice for <i>Sterna nereis nereis</i> (Fairy Tern) (DSEWPAC, 2011d)
Australian lesser noddy	Conservation Advice <i>Anous tenuirostris melanops</i> Australian lesser noddy (Threatened Species Scientific Committee, 2015e)
Soft-plumaged petrel	Conservation Advice <i>Pterodroma mollis</i> soft-plumaged petrel (Threatened Species Scientific Committee, 2015f)
<b>Shorebirds</b>	
Migratory shorebird species	Wildlife Conservation Plan for Migratory Shorebirds (Commonwealth of Australia, 2015c)
Eastern curlew, far eastern curlew	Conservation Advice <i>Numenius madagascariensis</i> eastern curlew (DOE, 2015a)
Curlew sandpiper	Conservation Advice <i>Calidris ferruginea</i> curlew sandpiper (DOE, 2015b)
Great knot	Conservation Advice <i>Calidris tenuirostris</i> Great knot (Threatened Species Scientific Committee, 2016a)
Red knot, knot	Conservation Advice <i>Calidris canutus</i> Red knot (Threatened Species Scientific Committee, 2016b)
Bar-tailed godwit ( <i>menzbieri</i> )	Conservation Advice <i>Limosa lapponica menzbieri</i> Bar-tailed godwit (northern Siberia) (Threatened Species Scientific Committee, 2016c)
Greater sand plover	Conservation Advice <i>Charadrius leschenaultii</i> Greater sand plover (Threatened Species Scientific Committee, 2016d)
Lesser sand plover	Conservation Advice <i>Charadrius mongolus</i> Lesser sand plover (Threatened Species Scientific Committee, 2016e)

## 4. HABITAT AND BIOLOGICAL COMMUNITIES

### 4.1 Regional context

The NWMR habitats range from nearshore benthic primary producer habitats such as seagrass beds, coral communities and mangrove forests, to offshore soft sediment seabed habitats and submerged and emergent reef systems. These habitats support biological communities that range from low density sessile and mobile benthos, such as sponges, molluscs and echinoids (with noted areas of sponge hotspot diversity) in offshore soft sediment habitat (DSEWPAC, 2012a) to complex, diverse, remote coral reef systems.

Benthic primary producer habitats, such as seagrass beds, coral communities and mangrove forests within the SWMR, are described as a mixture of tropical and temperate species, due to the seasonal influences of the tropical waters carried south by the Leeuwin Current and the temperate waters carried north by the Capes Current (DSEWPAC, 2012b).

The NMR shares similar habitat types to the NWMR. The predominant habitat of the region includes soft muddy sediments on relatively flat terrain. Other habitat types include seagrasses, reefs, shoals and coastal habitats such as mangroves and coastal wetlands (Rochester *et al.*, 2007).

The summary of key habitats and biological communities provided in the following sub-sections is focused on the primary features of relevance to the activity areas within the NWMR – primarily the offshore habitats of the continental shelf and slope, submerged shoals and banks, and remote oceanic reef systems of recognised conservation value.

### 4.2 Biological Productivity of NWMR

Primary productivity of the NWMR is generally low and appears to be largely driven by offshore influences (Brewer *et al.*, 2007), with periodic upwelling events and cyclonic influences driving coastal productivity with nutrient recycling and advection. Seasonal weather patterns also influence the delivery of nutrients from deep-water to shallow water. Cyclones and north-westerly winds during the North-west monsoon (approximately November–March) and the strong offshore winds of the South-east monsoon (approximately April–September) facilitate the upwelling and mixing of nutrients from deep-water to shallow water environments (Brewer *et al.*, 2007).

The Indonesian Throughflow (ITF) has an important effect on productivity in the northern areas of the Region. Generally, its deep, warm and low nutrient waters suppress upwelling of deeper comparatively nutrient-rich waters, thereby forcing the highest rates of primary productivity to occur at depths associated with the thermocline. When the ITF is weaker, the thermocline lifts bringing deeper, more nutrient-rich waters into the photic zone and hence resulting in conditions favourable to increased productivity (DEWHA, 2007a). Similarly, the Leeuwin Current has a significant role in determining primary productivity in the southern areas of the NWMR. As with the ITF, the overlying warm oligotrophic waters of the Leeuwin Current suppress upwelling. A subsurface chlorophyll maximum is therefore formed at a depth in the water column where nutrients and light are sufficient for photosynthesis to proceed. Seasonal changes in the strength of the Leeuwin Current influence primary productivity levels and seasonal interactions between the Leeuwin and Ningaloo currents in the south of the NWMR are believed to be particularly important (DEWHA, 2007a).

Internal tides (defined as internal waves generated by the barotropic tide) are a striking characteristic of many parts of the NWMR and are associated with highly stratified water columns. Internal waves (solitons), which can raise cooler, generally more nutrient rich water higher in the water column, are generated between water depths of 400 m and 1000 m where bottom topography results in a significant change in water depth over a relatively short distance. Cyclones are episodic events in the NWMR that contribute to spikes in productivity through enrichment of surface water layers due to enhanced vertical mixing of the water column. Temporary increases in primary productivity as a result of cyclones generally last between one and two weeks, and it is believed that the impacts of



cyclones are generally limited to waters less than 100 m deep and affect benthic communities more substantially than pelagic systems (DEWHA, 2007a).

Water depth also has a significant overriding influence over productivity in the marine environment, due to its influence on light availability. This is reflected by distinct onshore and offshore assemblages of major pelagic groups of phytoplankton, microzooplankton, mesoplankton and ichthyoplankton. Productivity booms are thought to be triggered by seasonal changes to physical drivers or episodic events, as detailed above, which result in rapid increases in primary production over short periods, followed by extended periods of lower primary production. The trophic systems in the NWMR are able to take advantage of blooms in primary production, enabling nutrients generated to be used by different groups of consumers over long periods (DEWHA, 2007a).

Little detailed information is available about the trophic systems in the NWMR. The utilisation of available nutrients is thought to differ between pelagic and benthic environments, influenced by water depth and vertical migration of some species groups in the water column. In the pelagic system, it is thought that approximately half of the nutrients available are utilised by microzooplankton (e.g. protozoa) with the remainder going to macro/meso-zooplankton (e.g. copepods). As primary and secondary consumers, gelatinous zooplankton (e.g. salps, coelenterates) and jellyfish are thought to play an important role in the food web, contributing a significant proportion of biomass in the marine system during and for periods after booms in primary productivity. Salps are semi-transparent, barrel-shaped marine animals that can reproduce quickly in response to bursts in primary productivity and provide a food source for many pelagic fish species (DEWHA, 2007a).

### 4.3 Planktonic Communities in the NWMR

The NWMR has two distinct phytoplankton assemblages; a tropical oceanic community in offshore waters and a tropical shelf community confined to the NWS (Hallegraeff, 1995). MODIS (Moderate Resolution Imaging Spectrometer) satellite datasets from the NWMR indicates that chlorophyll (and thus phytoplankton) levels are low in summer months (December to March) and higher in the winter months (Schroeder *et al.*, 2009). Low chlorophyll levels during summer months may be a result of lower plankton productivity during the wet season or lower nutrient inputs from warm surface waters dominant during summer. However, it is likely that much of the primary production is taking place below the surface, where the MODIS imagery does not penetrate (Schroeder *et al.*, 2009). The winter months are relatively cloud free and surface chlorophyll is high throughout most of the region.

Zooplankton and may include organisms that complete their lifecycle as plankton (e.g. copepods, euphausiids) as well as larval stages of other taxa such as fishes, corals and molluscs. Peaks in zooplankton such as mass coral spawning events (typically in March and April) (Rosser and Gilmour, 2008) and fish larvae abundance (CALM, 2005a) can occur throughout the year. Spatial and temporal patterns in the distribution and abundance of macro-zooplankton on the North-west Shelf are influenced by sporadic climatic and oceanographic events, with large inter-annual changes in assemblages (Wilson *et al.*, 2003). Amphipods, euphausiids, copepods, mysids and cumaceans are among the most common components of the zooplankton in the region (Wilson *et al.*, 2003).

#### 4.3.1 Browse

Phytoplankton within the Browse activity area is expected to reflect the conditions of the NWMR. There is a tendency for offshore phytoplankton communities in the NWMR to be characterised by smaller taxa (e.g. bacteria), whereas shelf waters are dominated by larger taxa such as diatoms (Hanson *et al.*, 2007).

Zooplankton within the activity area may include organisms that complete their lifecycle as plankton (e.g. copepods, euphausiids) as well as larval stages of other taxa such as fishes, corals and molluscs. Peaks in zooplankton such as mass coral spawning events (typically in March and April) (Rosser and Gilmour, 2008; Simpson *et al.*, 1993) and fish larvae abundance (CALM, 2005a) can occur throughout the year.

The influence of the Indonesian Throughflow restricts upwelling across the Kimberley System (approximately equates to the Browse activity area). However, small-scale topographically associated current movements and upwellings are thought to occur, which inject nutrients into specific locations within the system and result in 'productivity hot-spots'. Similarly, internal waves, generated at the shelf break (e.g. west of Browse Island and around submerged cliffs) play a role in making nutrients available in the photic zone. Productivity within shallow nearshore waters is driven primarily by tidal movement and terrestrial runoff whereby nutrients are mixed by tidal action and new inputs of organic matter come from the land.

#### 4.3.2 North-west Shelf / Scarborough

Plankton communities within the NWS / Scarborough activity area are expected to reflect conditions of the NWMR. Within the Pilbara system of the NWMR (approximately equates to the NWS / Scarborough activity area). Internal tides along the NWS and Exmouth Plateau result in the drawing of deeper cooler waters into the photic zone, stirring up nutrients and triggering primary productivity. Broadly the greatest productivity within this sub-system is found around the 200 m isobath associated with the shelf break.

#### 4.3.3 North-west Cape

Waters of the North-west Cape experience a relatively high diversity of phytoplankton groups including diatoms, coccolithophorids and dinoflagellates. During the warmer months blooms of *Trichodesmium* occur in the region, these have been observed particularly on the frontal systems around Point Murat (Heyward *et al.*, 2000).

Average Leeuwin Current phytoplankton biomass is characteristic of low productivity oceanic waters like the Indian, Pacific and Atlantic Oceans (Hanson *et al.*, 2005). However, the Canyons linking the Cuvier Abyssal Plain and Cape Range Peninsula KEF are connected to the Commonwealth waters adjacent to Ningaloo Reef, and may also have connections to Exmouth Plateau. The canyons are thought to interact with the Leeuwin Current to produce eddies inside the heads of the canyons, resulting in waters from the Antarctic intermediate water mass being drawn into shallower depths and onto the shelf (Brewer *et al.* 2007). These waters are cooler and richer in nutrients and strong internal tides may also aid upwelling at the canyon heads (Brewer *et al.* 2007). The narrow shelf width (about 10 kilometres) near the canyons facilitates nutrient upwelling and relatively high productivity. This high primary productivity leads to high densities of primary consumers, such as micro and macro-zooplankton, such as amphipods, copepods, mysids, cumaceans, euphausiids (Brewer *et al.*, 2007).

## 4.4 Habitats and Biological Communities in the NWMR

### 4.4.1 Offshore Habitats and Biological communities

The NWMR has a large area of continental shelf and continental slope, with a range of bathymetric features such as canyons, plateaus, terraces, ridges, reefs, banks and shoals. The marine environment in this region is typified by tropical to sub-tropical marine ecosystems with diverse habitats from soft sediments, canyons, remote coral reefs and limestone pavement.

The key habitats and biological communities representative of the broader NWMR are summarised in **Table 4-1**.

The key habitats and biological communities representative of the broader SWMR and NMR are summarised in **Table 4-2** and **Table 4-3**.

### 4.4.2 Shoreline habitats and biological communities

The NWMR encompasses offshore and coastal waters, islands and mainland shoreline habitats typified by mangroves, tidal flats, saltmarshes, sandy beaches, and smaller areas of rocky shores. Each of these shoreline types has the potential to support different flora and fauna assemblages due to the different physical factors (e.g. waves, tides, light, etc.) influencing the habitat.

The key shoreline habitats representative of the broader NWMR are summarised in **Table 4-1**.

The key shoreline habitats representative of the broader SWMR and NMR are summarised in **Table 4-2** and **Table 4-3**.

Table 4-1 Habitats and biological communities within the NWMR

Habitat/Community	Browse	NWS / Scarborough	North-west Cape	Reference
<b>Offshore habitats and biological communities</b>				
<b>Soft sediment with infauna</b>	The offshore environment of the NWMR comprises predominately of seabed habitats dominated by soft sediments (sandy and muddy substrata with occasional patches of coarser sediments) and sparse benthic biota. The benthic communities inhabiting the predominantly soft, fine sediments of the offshore habitats are characterised by infauna such as polychaetes, and sessile and mobile epifauna such as crustacea (shrimp, crabs and squat lobsters) and echinoderms (starfish, cucumbers). The density of benthic fauna is typically lower in deep-sea sediment habitats (greater than 200 m) than in shallower coastal sediment habitats, but the diversity of communities may be similar.			
<b>Soft sediment with hard substrate outcropping</b>	A unique seafloor feature combining both soft sediment and hard substrates, including outcrops, terraces, continental slope, and escarpments. This habitat is found in offshore areas of the NWMR, often associated with key ecological features such as the Ancient coastline at 125 m depth contour KEF.			<b>Section 9</b>
	Ancient Coastline at 125 m Depth Contour KEF Continental Slope Demersal Fish Communities KEF	Ancient Coastline at 125 m Depth Contour KEF Continental Slope Demersal Fish Communities KEF	Ancient Coastline at 125 m Depth Contour KEF Continental Slope Demersal Fish Communities KEF	<b>Section 9</b>
<b>Coral Reef</b>	Coral reef habitats within the NWMR have a high species diversity that includes corals, and associated reef species such as fishes, crustaceans, invertebrates, and algae. Coral reef habitats of the offshore environment of the NWMR include remote oceanic reef systems, large platform reefs, submerged banks and shoals.			
	Browse Island Scott Reef Seringapatam Reef Ashmore Reef Cartier Island Hibernia Reef	Rowley Shoals (including Mermaid Reef, Clerke Reef, Imperieuse Reef) Glomar Shoal Rankin Bank	-	<b>Section 10</b>
<b>Seagrass and Macroalgae communities</b>	Seagrass beds and benthic macroalgae reefs are a main food source for many marine species and also provide key habitats and nursery grounds (Heck Jr. <i>et al.</i> , 2003; Wilson <i>et al.</i> , 2010). In the northern half of Western Australia, these habitats are restricted to sheltered and shallow waters, including around offshore reef systems, due to large tidal movement, high turbidity, large seasonal freshwater run-off and cyclones.			
	Scott Reef Seringapatam Reef Ashmore Reef	Rowley Shoals (including; Mermaid Reef, Clerke Reef, Imperieuse Reef)		<b>Section 10</b>
<b>Filter Feeders/ heterotrophic</b>	Filter feeder epifauna 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 generally live in areas that have strong currents and hard substratum, often associated with deeper environments of the shoals and banks in the offshore NWMR.			
	Lower outer reef slopes of the oceanic reef	Glomar Shoal Rankin Bank	Cape Range canyon system	<b>Section 10</b>

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Habitat/Community	Browse	NWS / Scarborough	North-west Cape	Reference
	systems such as Scott Reef	Ancient coastline at 125 m depth contour KEF		
<b>Sandy Beaches</b>	Sandy beaches are dynamic environments, naturally fluctuating in response to external forcing factors (e.g. waves, currents, etc). Sandy beaches vary in length, width and gradient, and in sediment type, composition, and grain size throughout the NWMR, being found around islands and reefs in the offshore areas of the region.			
	Browse Island Scott Reef (Sandy Islet) Ashmore Reef Cartier Island	Montebello Islands Lowendal Islands Barrow Island	Muiron Islands	<b>Section 10</b>
<b>Nearshore/coastal habitats and biological communities</b>				
<b>Coral Reef</b>	Coral reef habitats typically found in nearshore regions of the NWMR include the fringing reefs around coastal islands and the mainland shore.			
	Kimberley East Holothuria and Long reefs Bonaparte and Buccaneer Archipelagos Montgomery Reef Adele complex (Beagle, Mavis, Albert, Churchill reefs, Adele Island)	Dampier Archipelago Montebello, Lowendal and Barrow Island Groups	Ningaloo Reef Exmouth Gulf Shark Bay	<b>Section 10</b>
<b>Seagrass and Macroalgae communities</b>	Seagrass beds and benthic macroalgae reefs are a main food source for many marine species and also provide key habitats and nursery grounds (Heck Jr. <i>et al.</i> , 2003; Wilson <i>et al.</i> , 2010). In the nearshore areas of the NWMR, these habitats are restricted to sheltered and shallow waters due to large tidal movement, high turbidity, large seasonal freshwater run-off and cyclones. These areas include in bays and sounds and around reef and island groups.			
	King Sound	Roebuck Bay Dampier Archipelago Montebello, Lowendal and Barrow Island Groups	Ningaloo Reef Exmouth Gulf Shark Bay	<b>Section 10</b>
<b>Filter Feeders/ heterotrophic</b>	Filter feeder epifauna 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, 2007a). Filter feeders generally live in areas that have strong currents and hard substratum. Conversely, higher diversity infauna are mainly associated with soft unconsolidated sediment and infauna communities are considered widespread and well represented along the continental shelf and upper slopes of the NWMR. In nearshore areas of the NWMR, these species are generally found around reef systems.			
	-	Deeper habitats of Rankin Bank and Glomar Shoal	Deeper habitats of Ningaloo Reef and the protected sponge zone in the south	

Habitat/Community	Browse	NWS / Scarborough	North-west Cape	Reference
<b>Mangroves</b>	Mangroves grow in intertidal mud and sand, with specially adapted aerial roots (pneumatophores) that provide for gas exchange during low tide (McClatchie <i>et al.</i> , 2006). Mangrove forests can help stabilise coastal sediments, provide a nursery ground for many species of fish and crustacean, and provide shelter or nesting areas for seabirds (McClatchie <i>et al.</i> , 2006). Mangroves are confined to shoreline habitats, in nearshore areas of the NWMR.			
	Dampier Peninsula (including Carnot Bay, Beagle Bay and Pender Bay)	Pilbara Coastline (including; Ashburton River Delta, Coolgra Point, Robe River Delta, Yardie Landing, Yammadery Island and the Mangrove Islands) Montebello, Lowendal and Barrow Island Groups Roebuck Bay	Shark Bay Mangrove Bay, Cape Range Peninsula Exmouth Gulf	
<b>Saltmarshes</b>	Saltmarshes communities are confined to shoreline habitats and are typically dominated by dense stands of halophytic plants such as herbs, grasses, and low shrubs. The diversity of saltmarsh plant species increases with increasing latitude (in contrast to mangroves). The vegetation in these environments is essential to the stability of the saltmarsh, as they trap and bind sediments. The sediments are generally sandy silts and clays and can often have high organic material content.			
	-	Eighty Mile Beach Roebuck Bay	Shark Bay	
<b>Sandy Beaches</b>	Sandy beaches are dynamic environments, naturally fluctuating in response to external forcing factors (e.g. waves, currents, etc). Sandy beaches vary in length, width and gradient, and in sediment type, composition, and grain size throughout the NWMR. Sandy beaches are important for both resident and migratory seabirds and shorebirds and can also provide an important habitat for turtle nesting and breeding. They are located along many coastlines of the nearshore environments of the NWMR.			
	Cape Domett Lacrosse Island	Eighty Mile Beach Eco Beach Dampier Archipelago Inshore Pilbara Islands (Northern, Middle, and Southern)	Ningaloo coast Muiron Islands Exmouth Gulf	

Table 4-2 Habitats within the SWMR

Habitat/Community	Location
<b>Offshore</b>	
<b>Soft sediment with infauna</b>	Most of the SWMR seafloor is composed of soft unconsolidated sediments, but due to large variations in bathymetry there are marked differences in sedimentary composition and benthic assemblage structure across the region. Despite the prevalence of these habitats in the SWMR, very little is known about the composition or distribution of the region's sedimentary infauna (DEWHA, 2008b)
<b>Soft sediment with hard substrate outcropping</b>	A unique seafloor feature combining both soft sediment and hard substrates, including outcrops, terraces, continental slope, and escarpments. Perth Canyon Marine Park Ancient coastline at 90-120 m depth contour KEF Diamantina Fracture Zone Naturaliste Plateau
<b>Coral Reef</b>	To date, studies and understanding of the corals within the SWMR have concentrated on the shallow water areas in State Waters. Within the deeper Commonwealth waters of the SWMR little is known of the distribution of corals.
<b>Filter Feeders/ heterotrophic</b>	Filter feeder epifauna 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 (DEWR, 2007). Filter feeders generally inhabit deeper habitat (below the photic zone) that have strong currents and hard substratum Ancient coastline at 90-120 m depth Diamantina Fracture Zone Naturaliste Plateau Perth Canyon Marine Park South-west Corner Marine Park
<b>Nearshore</b>	
<b>Coral Reef</b>	The northern extent of the SWMR coincides loosely with the disappearance of abundant and diverse coral from coastal habitats. To the south of Shark Bay, abundant corals occur predominantly around offshore islands, with corals at inshore sites occurring in very isolated patches of non-reef coral communities, usually of reduced species richness. Houtman Abrolhos Islands Rottneest Island
<b>Seagrass and Macroalgae communities</b>	Within the SWMR, macroalgae and seagrass communities are noted for their extent, species richness and endemism. The clear waters of the region allow light to reach greater depths, with some species found at much greater depths than usual (down to 120 m) (DEWR, 2007). Of the known species there are more than 1000 species of macro-algae and 22 species of seagrass consisting of tropical and temperate species. Seagrass and macro-algae occur in areas with sheltered bays and in the inter-reef lagoons along exposed sections of the coast. Houtman Abrolhos Islands Jurien Marine Park Shoalwater Islands Marine Park Geographe Marine Park Cockburn Sound Rottneest Island

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Habitat/Community	Location
	Commonwealth marine environment within and adjacent to the west-coast inshore lagoons KEF Commonwealth marine environment within and adjacent to Geographe Bay KEF Commonwealth marine environment surrounding the Recherche Archipelago KEF
<b>Filter Feeders/ heterotrophic</b>	Filter feeder epifauna 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 (DEWR, 2007). Filter feeders generally live in areas that have strong currents and hard substratum. Houtman Abrolhos Islands Recherche Archipelago
<b>Mangroves</b>	Mangroves grow in intertidal mud and sand, with specially adapted aerial roots (pneumatophores) that provide for gas exchange during low tide (McClatchie <i>et al.</i> , 2006). Mangrove forests can help stabilise coastal sediments, provide a nursery ground for many species of fish and crustacean, and provide shelter or nesting areas for seabirds (McClatchie <i>et al.</i> , 2006). Mangroves are confined to shoreline habitats, in nearshore areas of the SWMR. Houtman Abrolhos Islands
<b>Sandy Beaches</b>	Sandy beaches within the SWMR are important for both resident and migratory seabirds and shorebirds and can also host breeding populations of the Australian sea lion. They are found along many coastlines of the nearshore environments of the SWMR. In addition to this, beaches in the SWMR provide a variety of socio-economic values including tourism, commercial and recreational fishing, and support other recreational activities. Houtman Abrolhos Islands Marmion Marine Park Ngari Capes Marine Park Walpole and Nornalup Inlets Marine Park



Table 4-3 Habitats and Biological Communities within the NMR

Habitat/Community	Location		
<b>Offshore habitats and biological communities</b>			
<b>Soft sediment with infauna</b>	Most of the offshore environment of the NMR is characterised by relatively flat expanses of soft sediment seabed. The soft sediments of the region are characterised by moderately abundant and diverse communities of infauna and mobile epifauna dominated by polychaetes, crustaceans, molluscs, and echinoderms.		
<b>Soft sediment with hard substrate outcropping</b>	A unique seafloor feature combining both soft sediment and hard substrates, including outcrops, terraces, continental slope, and escarpments. The variability in substrate composition may contribute to the presence of unique ecosystems. Species present include sponges, soft corals and other sessile filter feeders associated with hard substrate sediments.		
	Carbonate bank and terrace system of the Van Diemen Rise KEF Pinnacles of the Bonaparte Basin KEF		
<b>Coral Reef</b>	Offshore coral reefs within the NMR is generally associated with a series of submerged shoals and banks. The shoals/banks in the region support tropical marine biota consistent with that found on emergent reef systems of the Indo West Pacific region such as Ashmore Reef, Cartier Island, Seringapatam Reef and Scott Reef (Heyward <i>et al.</i> , 1997)		
	Pinnacles of the Bonaparte Basin KEF Evans Shoal Tassie Shoal Blackwood Shoal		
<b>Filter Feeders/ heterotrophic</b>	Filter feeder epifauna 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, 2007b). Filter feeders generally live in areas that have strong currents and hard substratum and typically associated with the deeper habitats of the submerged shoals and banks, and canyon features.		
	Carbonate bank and terrace system of the Van Diemen Rise KEF Pinnacles of the Bonaparte Basin KEF Tributary Canyons of the Arafura Depression KEF Evans Shoal Tassie Shoal Goodrich Bank		
<b>Nearshore</b>			
<b>Coral Reef</b>	Within the NMR corals occur both as reefs and in non-reef coral communities. Nearshore reefs include patch reefs and fringing reefs sparsely distributed within the region. Coral reefs within the NMR provides breeding and aggregation areas for many fish species including mackerel and snapper and offer refuges for sea snakes and apex predators such as sharks.		
	Submerged coral reefs of the Gulf of Carpentaria KEF Darwin Harbour		
<b>Seagrass and Macroalgae communities</b>	Seagrasses provide key habitats in the NMR. They stabilise coastal sediments and trap and recycle nutrients. They provide nursery grounds for commercially harvested fish and prawns and provide feeding grounds for dugongs and green turtles. Seagrass distribution in the region is largely associated with sheltered small bays and inlets including shallow waters surrounding inshore islands.		
	Field Island The mainland coastline adjacent to Kakadu National Park		
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Habitat/Community	Location
<b>Filter Feeders/ heterotrophic</b>	<p>Filter feeder epifauna 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, 2007b). Filter feeders generally live in areas that have strong currents and hard substratum.</p> <p>Cape Helveticus</p>
<b>Mangroves</b>	<p>Mangroves grow in intertidal mud and sand, with specially adapted aerial roots (pneumatophores) that provide for gas exchange during low tide (McClatchie <i>et al.</i>, 2006). Mangroves provide habitat for waterbirds and support many commercially and recreationally important fish and crustacean species for parts of their life cycles. They buffer the coast from large tidal movements, storm surges and flooding.</p> <p>Tiwi Islands Darwin Harbour The mainland coastline adjacent to the Daly River</p>
<b>Sandy Beaches</b>	<p>Sandy beaches vary in length, width and gradient, and in sediment type, composition, and grain size throughout the NMR and are important for both resident and migratory seabirds and shorebirds. Sandy beaches can also provide an important habitat for turtle nesting. They are located along many coastlines of the nearshore environments of the islands and mainland shores of the NMR.</p> <p>Tiwi Islands Cobourg Peninsula Joseph Bonaparte Gulf</p>

## 5. FISHES, SHARKS AND RAYS

### 5.1 Regional Context

Western Australian waters provide important habitat for listed fishes, sharks, and rays including areas that support key life stages such as breeding, foraging, and migration routes for fish species. Pelagic and demersal fishes occupy a range of habitats throughout each of the regions, from coral reefs to open offshore waters, and are an extremely important component of ecosystems, providing a link between primary production and higher predators, with many species being of conservation value and important for commercial and recreational fishing.

The fish fauna in the NWMR is diverse. Of the approximately 500 shark species found worldwide, 94 are found in the region (DEWHA, 2008). Approximately 54 species of syngnathids (seahorses, seadragons, pipehorses and pipefishes) and one species of solenostomids (ghostpipefishes) are also known to occur in the NWMR or adjacent State waters (DSEWPAC, 2012a).

The fish fauna of the SWMR includes more than 900 species occupying a large variety of habitats. However, only three species of bony fishes known to occur in the region are listed under the EPBC Act as threatened or marine species, and seven listed species of shark (DSEWPAC, 2012b).

The NMR is considered an important area for the sawfish and river shark species group, with five species of sawfishes and river sharks listed under the EPBC Act known to occur in the region (DSEWPAC, 2012c). Approximately 28 species of syngnathids and two species of solenostomids are listed marine and known to occur in the NMR, however there is a paucity of knowledge on the distribution, relative abundance and habitats of these species in the region (DEWHA, 2008).

The following sections focus on the fish species (including sharks and rays) listed as threatened or migratory that are known to occur within the NWMR. In addition, listed, conservation dependent fish and shark species for the NWMR are described. A detailed account of commercial and recreational fisheries that operate in the region is provided in **Section 11**.

**Table 5-1** outlines the threatened and migratory fish species that may occur within the NWMR, with their conservation status and relevant recovery plans and/or conservation advice. **Table 5-2** provides information for species of fish that are listed as conservation dependent that may occur within the NWMR, NMR and SWMR. Note that currently there are no approved Conservation Advices in place for any of these five species.

Table 5-1 Fish species (including sharks and rays) identified by the EPBC Act PMST for the NWMR

Species Name	Common Name	Environment Protection and Biodiversity Conservation Act 1999			WA Biodiversity Conservation Act 2016	EPBC Act Part 13 Statutory Instrument
		Threatened Status	Migratory Status	Listed	Conservation Status	
<i>Rhincodon typus</i>	Whale shark	Vulnerable	Migratory	Marine	Other specially protected fauna	Conservation Advice <i>Rhincodon typus</i> whale shark. (Threatened Species Scientific Committee, 2015d)
<i>Carcharias taurus</i>	Grey nurse shark (west coast population)	Vulnerable	N/A	Marine	Vulnerable	Recovery Plan for the Grey Nurse Shark ( <i>Carcharias taurus</i> ) (DOE, 2014a)
<i>Carcharodon carcharias</i>	White shark	Vulnerable	Migratory	Marine	Vulnerable	Recovery Plan for the White Shark ( <i>Carcharodon carcharias</i> ) (DSEWPAC, 2013b)
<i>Isurus oxyrinchus</i>	Shortfin mako	N/A	Migratory	Marine	N/A	N/A
<i>Isurus paucus</i>	Longfin mako	N/A	Migratory	Marine	N/A	N/A
<i>Lamna nasus</i>	Porbeagle shark Mackerel shark	N/A	Migratory	Marine	N/A	N/A
<i>Carcharhinus longimanus</i>	Oceanic whitetip shark	N/A	Migratory	Marine	N/A	N/A
<i>Anoxypristis cuspidata</i>	Narrow sawfish	N/A	Migratory	Marine	N/A	N/A
<i>Pristis clavata</i>	Dwarf sawfish	Vulnerable	Migratory	Marine	Priority	Sawfish and River Sharks Multispecies Recovery Plan (Commonwealth of Australia, 2015b)
<i>Pristis pristis</i>	Largetooth (Freshwater) sawfish	Vulnerable	Migratory	Marine	Priority	
<i>Pristis zijsron</i>	Green sawfish	Vulnerable	Migratory	Marine	Vulnerable	
<i>Glyphis garricki</i>	Northern river shark	Endangered	N/A	Marine	Priority	
<i>Manta alfredi</i>	Reef manta ray	N/A	Migratory	Marine	N/A	N/A
<i>Manta birostris</i>	Giant manta ray	N/A	Migratory	Marine	N/A	N/A

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**Table 5-2 EPBC Act listed Conservation Dependent species of fishes and sharks that may occur in the NWMR, NMR and SWMR**

Species Name	Common Name	Likely Occurrence / Distribution	Listing Advice
<i>Hoplostethus atlanticus</i>	Orange roughy, Deep-sea perch, Red roughy	SWMR	No conservation listing advice for this species. Refer to the Marine bioregional plan for the SWMR (DSEWPAC, 2012b) for further information
<i>Thunnus maccoyii</i>	Southern bluefin tuna	NWMR and SWMR	Threatened Species Scientific Committee (2010)
<i>Sphyrna lewini</i>	Scalloped hammerhead	NWMR, NMR and SWMR	Threatened Species Scientific Committee (2018)
<i>Centrophorus zeehaani</i>	Southern dogfish, Endeavour dogfish, Little gulper shark	SWMR	Threatened Species Scientific Committee (2013)
<i>Galeorhinus galeus</i>	School shark, Eastern school shark, Snapper shark, Tope, Soupfin shark	SWMR	Threatened Species Scientific Committee (2009)

## 5.2 Protected Sharks, Sawfishes and Rays in the NWMR

The EPBC Act Protected Matters search (**Appendix A**) identified seven species of shark and five species of river shark or sawfish listed as threatened and/or migratory within the NWMR. In addition, two species of ray (the reef manta ray and giant manta ray) are listed as migratory within the region (refer **Table 5-2**).

### 5.2.1 Sharks and Sawfishes

The shark species known to occur within the NWMR include: the whale shark, grey nurse shark, white shark, shortfin mako, and longfin mako (**Table 5-2**).

Five species of river shark or sawfish known to occur in the NWMR and include: the narrow sawfish, northern river shark, freshwater sawfish, green sawfish and dwarf sawfish (**Table 5-2**).

There are identified BIAs within the NWMR for the whale shark, freshwater sawfish, green sawfish, and dwarf sawfish (refer **Section 5.3.2**).

**Table 5-2 Information on the threatened shark and sawfish species within the NWMR**

Species	Preferred Habitat and Diet	Habitat Location
<b>Whale shark</b>	Preferred habitat: They have a widespread distribution in tropical and warm temperate seas, both oceanic and coastal (Last and Stevens, 2009). The species is widely distributed in Australian waters. Diet: Whale sharks are planktivorous sharks and feed on a variety of planktonic organisms including krill, jellyfish, and crab larvae (Last and Stevens, 2009).	Ningaloo Reef is the main known aggregation site for whale sharks in Australian waters and has the largest density of whale sharks per kilometre in the world (Martin, 2007). Refer <b>Table 5-3</b> for the BIA summary for the whale shark.
<b>Grey nurse shark (west coast population)</b>	Preferred habitat: Most commonly found in temperate waters on, or close to, the bottom of the continental shelf, from close inshore to depths of about 200 m (McAuley, 2004). Diet: A variety of teleost and elasmobranch fishes and some cephalopods (Gelsleichter <i>et al.</i> , 1999; Smale, 2005).	Details of movement patterns of the western sub-population are unclear (McAuley, 2004) and key aggregation sites have not been formally identified within the NWMR (Chidlow <i>et al.</i> , 2006). The NWMR represents the northern limit of the west coast population.

Species	Preferred Habitat and Diet	Habitat Location
<b>White shark</b>	<p>Preferred habitat: The species typically occurs in temperate coastal waters between the shore and the 100 m depth contour; however, adults and juveniles have been recorded diving to depths of 1000 m (Bruce <i>et al.</i>, 2006; Bruce, 2008).</p> <p>Diet: Smaller white sharks (less than 3 m in length) feed primarily on teleost and elasmobranch fishes, broadening their diet as larger sharks to include marine mammals (Last and Stevens, 2009).</p>	<p>There are no known aggregation sites for white sharks in the NWMR, and this species is most often found south of North-west Cape, in low densities (DSEWPAC, 2012a).</p> <p>Given the migratory nature of the species, most likely has a broad distribution within the NWMR. No BIAs identified for NWMR.</p>
<b>Shortfin mako</b>	<p>Preferred habitat: The shortfin mako shark is a pelagic species with a circumglobal, wide-ranging oceanic distribution in tropical and temperate seas (Mollet <i>et al.</i>, 2000). Tagging studies indicate shortfin makos spend most of their time in water less than 50 m deep but with occasional dives up to 880 m (Abascal <i>et al.</i>, 2011; Stevens <i>et al.</i>, 2010).</p> <p>Diet: Feeds on a variety of prey, such as teleost fishes, other sharks, marine mammals, and marine turtles (Campana <i>et al.</i>, 2005).</p>	<p>Given the migratory nature of the species, most likely has a broad distribution within the NWMR. No BIAs identified for NWMR.</p>
<b>Longfin mako</b>	<p>Preferred habitat: A pelagic species with a wide-ranging oceanic distribution in tropical and temperate seas (Mollet <i>et al.</i>, 2000).</p> <p>Diet: Primarily teleost fishes and cephalopods (primarily squid) (Last and Stevens, 2009).</p>	<p>Records on longfin mako sharks are sporadic and their complete geographic range is not well known (Reardon <i>et al.</i>, 2006).</p> <p>Given the migratory nature of the species, most likely has a broad distribution within the NWMR. No BIAs identified for NWMR.</p>
<b>Mackerel/Porbeagle shark</b>	<p>Preferred habitat: The porbeagle shark primarily inhabits offshore waters around the edge of the continental shelf. They occasionally move into coastal waters, but these movements are temporary (Campana and Joyce, 2004; Francis <i>et al.</i>, 2002). The porbeagle shark is known to dive to depths exceeding 1300 m (Campana <i>et al.</i>, 2010; Saunders <i>et al.</i>, 2011).</p> <p>Diet: Primarily teleost fish, elasmobranchs, and cephalopods (primarily squid) (Joyce <i>et al.</i>, 2002; Last and Stevens, 2009).</p>	<p>In Australia, the species occurs in waters from southern Queensland to south-west Australia (Last and Stevens, 2009). Distribution within the NWMR is unknown, but there are several records for this species on the NWS in the Atlas of Living Australia (ALA).</p>
<b>Oceanic whitetip shark</b>	<p>Preferred habitat: The oceanic whitetip shark is globally distributed in warm-temperate and tropical oceans (Andrzejczek <i>et al.</i>, 2018). The species may occur in tropical and sub-tropical offshore and coastal waters around Australia. They primarily occupy pelagic waters in the upper 200 m of the water column; however, they have been observed diving to depths of around 1000 m, potentially associated with foraging behaviour (Howey-Jordan <i>et al.</i>, 2013; D'Alberto <i>et al.</i>, 2017). The species is highly migratory, travelling large distances between shallow reef habitats in coastal waters and oceanic waters (Howey-Jordan <i>et al.</i>, 2013). The species does exhibit a strong preference for warm and shallow waters above 120 m.</p> <p>Diet: Opportunistic feeders and generally target a variety of finfishes and pelagic squid, depending on habitat. Target pelagics such as tuna in open ocean as noted by the large bycatch numbers in the long line fisheries.</p>	<p>Given the migratory nature of the species, most likely has a broad distribution within the NWMR. No BIAs identified for NWMR.</p>

Species	Preferred Habitat and Diet	Habitat Location
<b>Narrow sawfish</b>	Preferred habitat <sup>1</sup> : Shallow coastal, estuarine, and riverine habitats, however it may occur in waters up to 40 m deep (D'Anastasi <i>et al.</i> , 2013). Diet: Shoaling fishes, such as mullet, as well as molluscs and small crustaceans (Cliff and Wilson, 1994).	Shallow coastal waters of the Pilbara and Kimberly coasts (Last and Stevens, 2009).
<b>Northern river shark</b>	Preferred habitat <sup>1</sup> : Rivers, tidal sections of large tropical estuarine systems and macrotidal embayments, as well as inshore and offshore marine habitats (Pillans <i>et al.</i> , 2009; Thorburn and Morgan, 2004). Adults have been recorded only in marine environments. Juveniles and sub-adults have been recorded in freshwater, estuarine and marine environments (Pillans <i>et al.</i> , 2009). Diet: Variety of fish and crustaceans (Stevens <i>et al.</i> , 2005)	Within the NWMR records have come from both the west and east Kimberley, including King Sound, the Ord and King rivers, West Arm of Cambridge Gulf and also from Joseph Bonaparte Gulf (Thorburn and Morgan, 2004; Stevens <i>et al.</i> , 2005; Thorburn, 2006; Field <i>et al.</i> , 2008; Pillans <i>et al.</i> , 2008, Whitty <i>et al.</i> , 2008; Wynen <i>et al.</i> , 2008).
<b>Large-tooth (Freshwater) sawfish</b>	Preferred habitat: Sandy or muddy bottoms of shallow coastal waters, estuaries, river mouths and freshwater rivers, and isolated water holes. Diet: Shoaling fishes, such as mullet, as well as molluscs and small crustaceans (Cliff and Wilson, 1994).	Refer <b>Table 5-3</b> for the BIA summary for the freshwater sawfish.
<b>Green sawfish</b>	Preferred habitat <sup>1</sup> : Inshore coastal environments including estuaries, river mouths, embayments, and along sandy and muddy beaches, as well as offshore marine habitat (Stevens <i>et al.</i> , 2005; Thorburn <i>et al.</i> , 2003). Diet: Schools of baitfish and prawns (Pogonoski <i>et al.</i> , 2002), molluscs and small crustaceans (Cliff and Wilson, 1994).	Refer <b>Table 5-3</b> for the BIA summary for the green sawfish.
<b>Dwarf sawfish</b>	Preferred habitat <sup>1</sup> : Shallow (2 to 3 m) silty coastal waters and estuarine habitats, occupying relatively restricted areas and moving only small distances (Stevens <i>et al.</i> , 2008) Diet: Shoaling fish such as mullet, molluscs, and small crustaceans (Cliff and Wilson, 1994).	Refer <b>Table 5-3</b> for the BIA summary for the dwarf sawfish.

<sup>1</sup> Preferred habitat as described within the Sawfish and River Sharks Multispecies Recovery Plan (Commonwealth of Australia, 2015b).

## 5.2.2 Rays

Rays are commonly found in the NWMR. Two listed and migratory species of ray known to occur within the NWMR: the reef manta ray and giant manta ray.

No BIAs for either the reef or giant manta ray species have been identified in the NWMR.

**Table 5-3 Information on migratory ray species within the NWMR**

Species	Preferred Habitat and Diet	Habitat Location
<b>Reef manta ray</b>	Preferred habitat: The reef manta ray is commonly sighted within productive nearshore environments, such as island groups, atolls or continental coastlines. However, the species has also been recorded at offshore coral reefs, rocky reefs, and seamounts (Marshall <i>et al.</i> , 2009). Diet: Feed on planktonic organisms including krill and crab larvae.	A resident population of reef manta rays has been recorded at Ningaloo Reef. No BIAs identified for NWMR.
<b>Giant manta ray</b>	Preferred habitat: The species primarily inhabits near-shore environments along productive coastlines with regular upwelling, but they appear	The Ningaloo Coast is an important area for giant manta rays from March to August (Preen <i>et al.</i> , 1997).

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Species	Preferred Habitat and Diet	Habitat Location
	to be seasonal visitors to coastal or offshore sites including offshore island groups, offshore pinnacles and seamounts (Marshall <i>et al.</i> , 2011). Diet: Feed on planktonic organisms including krill and crab larvae.	No BIAs identified for NWMR.

### 5.3 Fish, Shark and Sawfish Biological Important Areas in the NWMR

A review of the National Conservation Values Atlas identified Biologically Important Areas (BIAs) for four species of shark and sawfish (whale shark, freshwater sawfish, green sawfish and dwarf sawfish) within the NWMR. The BIAs for the whale shark and the sawfish species include foraging, nursing and pupping areas. These are described in **Table 5-4**.



Table 5-4 Fish, whale shark and sawfish BIAs within the NWMR

Species	Woodside Activity Area			BIAs		
	Browse	NWS/S	NWC	Pupping	Nursing	Foraging
<b>Whale shark</b>	✓	✓	✓	No pupping BIA identified within the NWMR	No nursing BIA identified within the NWMR	Foraging (high density) in Ningaloo Marine Park and adjacent Commonwealth waters (March–July) Foraging northward from Ningaloo along the 200 m isobath (July – Nov).
<b>Green sawfish</b>	✓	✓	-	Pupping in Cape Keraudren (pupping occurs in summer in a narrow area adjacent to shoreline) Pupping in Willie Creek Pupping in Roebuck Bay Pupping in Cape Leveque Pupping in waters adjacent to Eighty Mile Beach Pupping (likely) in Camden Sound.	Nursing in Cape Keraudren Nursing in waters adjacent to Eighty Mile Beach	Foraging in Cape Keraudren Foraging in Roebuck Bay Foraging in Cape Leveque Foraging in Camden Sound
<b>Largetooth (freshwater) sawfish</b>	✓	✓	-	Pupping in the mouth of the Fitzroy River (January to May) Roebuck Bay (Jan – May) Pupping likely in waters adjacent to Eighty Mile Beach	Nursing (likely) in King Sound Roebuck Bay (Jan – May)	Foraging in the mouth of the Fitzroy River (January to May) Foraging in King Sound Roebuck Bay (Jan – May) Foraging in waters adjacent to Eighty Mile Beach
<b>Dwarf sawfish</b>	✓	✓	-	Pupping in King Sound Pupping in waters adjacent to Eighty Mile Beach	Nursing in King Sound Nursing waters adjacent to Eighty Mile Beach	Foraging in King Sound Foraging in Camden Sound Foraging in waters adjacent to Eighty Mile Beach

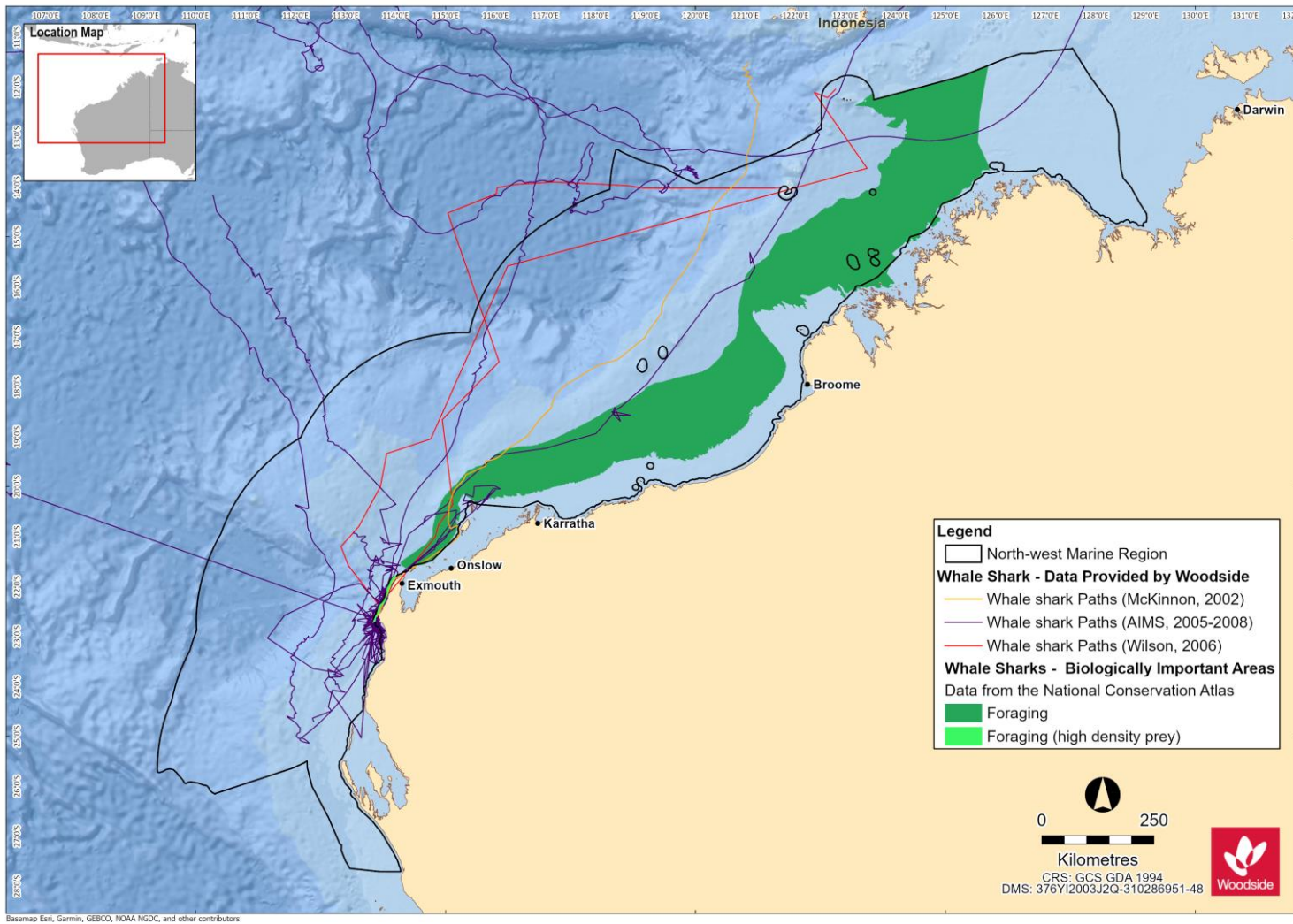


Figure 5-1 Whale shark BIAs for the NWMR and tagged whale shark tracks

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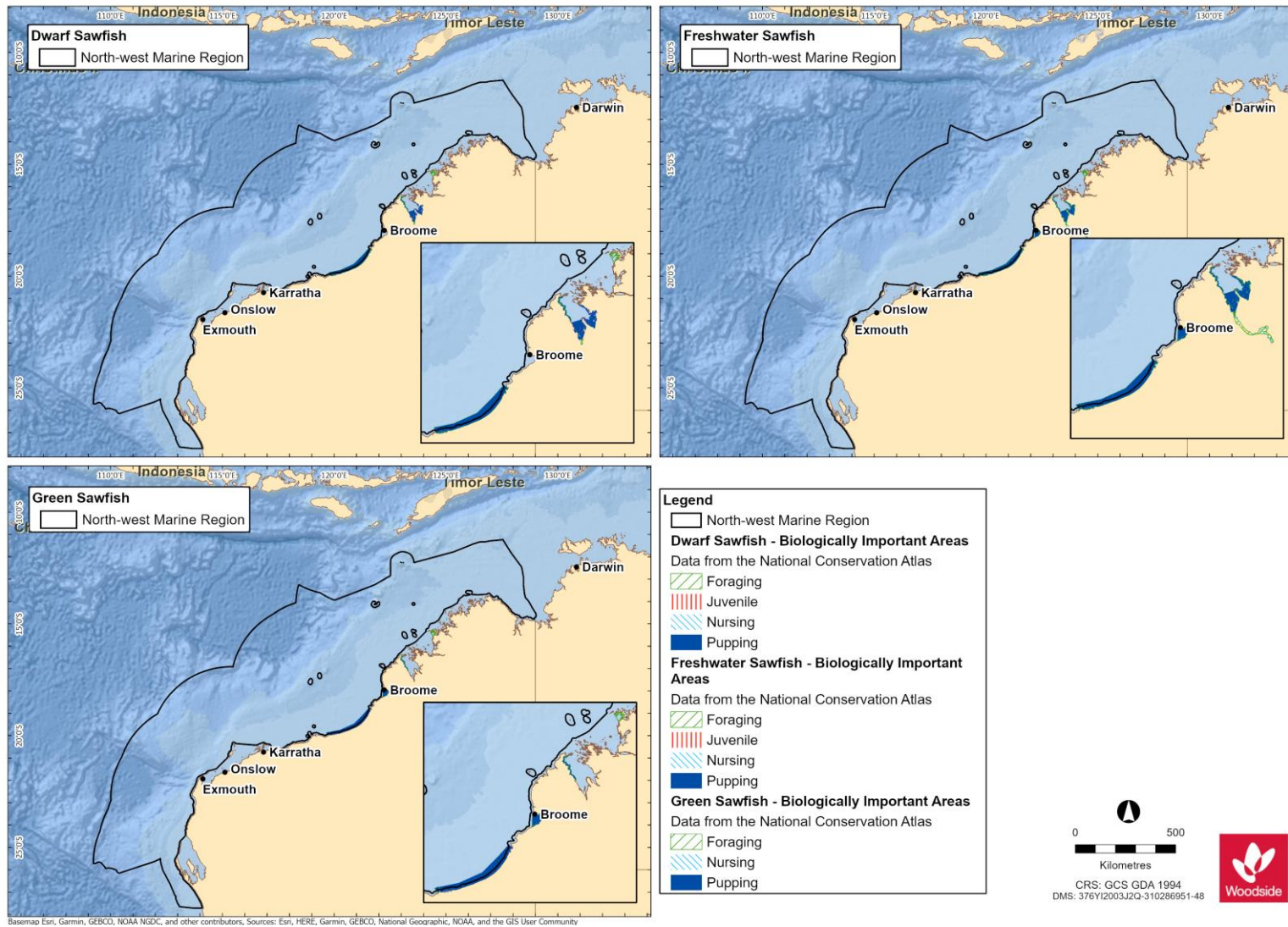


Figure 5-2 Sawfish BIAs for the NWMR

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## 5.4 Fish Assemblages of the NWMR

### 5.4.1 Regional Context for Fish Assemblages of NWMR

The NWMR contains a diverse range of fishes of tropical Indo-west Pacific affinity (Allen *et al.*, 1988). The region is characterised by the highest level of endemism and species diversity compared with other areas of the Australian continental slope. Last *et al.* (2005) recorded 1431 species from the three bioregions encompassing the continental slope, whilst also acknowledging some information gaps.

The NWMR is known for its demersal slope fish assemblages; the continental slope of the Timor Province and the North-west Transition supports more than 418 and 505 species of demersal fishes respectively, of which 64 are considered to be endemic. This is the second richest area for demersal fish species across the entire Australian continental slope. Conversely, the broad Southern Province, which covers most of southern Australia, supports 463 species, only 26 possibly being endemic. The continental slope demersal fish assemblages of the NWMR have been identified as a KEF (DEWHA, 2008), as described in **Section 9**.

The NWMR also features a diversity of pelagic fishes (those living in the pelagic zone) and benthopelagic fishes, including tuna, billfish, bramids, lutjanids, serranids and some sharks (DEWHA, 2007a). These species feed on salps and jellyfish, and more often on secondary consumers such as squid and bait fish. Water depth provides an indication of the level of interaction between pelagic and benthic communities within the NWMR; in waters deeper than 1000 m, for instance, the trophic system is pelagically-driven and benthic communities rely on particulates that fall to the seafloor (DEWHA, 2007a).

Pelagic fishes play an important ecological role within the NWMR; small pelagic fishes, such as lantern fish, inhabit a range of marine environments, including inshore and continental shelf waters and form a vital link in and between many of the region's trophic systems, feeding on pelagic phytoplankton and zooplankton and providing a food source for a wide variety of predators including large pelagic fishes, sharks, seabirds and marine mammals (Bulman, 2006; Mackie *et al.*, 2007). Large pelagic fishes, such as tuna, mackerel, swordfish, sailfish and marlin, are found mainly in oceanic waters and occasionally on the continental shelf (Brewer *et al.*, 2007). Both juvenile and adult phases of the large pelagic species are highly mobile and have a wide geographic distribution, although the juveniles more frequently inhabit warmer or coastal waters (DEWHA, 2008).

### 5.4.2 Listed Fish Species in the NWMR

The family Syngnathidae is a group of bony fishes that includes seahorses, pipefishes, pipehorses and seadragons. Along with syngnathids, members of the related Solenostomidae family (ghost pipefishes) are also found in the NWMR (DSEWPAC, 2012a).

There are 44 solenostomid and syngnathid species that are listed marine species that may occur within the NWMR, although no species is currently listed as threatened or migratory, according to the PMST report (**Appendix A**).

Syngnathids live in nearshore and inner shelf habitats, usually in shallow coastal waters, among seagrasses, mangroves, coral reefs, macroalgae dominated reefs, and sand or rubble habitats (Dawson, 1985; Lourie *et al.*, 1999, Lourie *et al.*, 2004; Vincent, 1996). Two species, the winged seahorse (*Hippocampus alatus*) and western pipehorse (*Solegnathus sp. 2*) have been identified in deeper waters of the NWMR (up to 200 m) (DSEWPAC, 2012a), however, these species were not identified by the Protected Matters search of the NWMR.

Knowledge about the distribution, abundance and ecology of both syngnathids and solenostomids in the NWMR is limited. No BIAs for syngnathids and solenostomids have been identified in the NWMR.

### 5.4.3 Browse

The proposed Browse activity area includes biologically important habitat for the whale shark and three sawfish species:

- whale shark (foraging northward from Ningaloo along the 200 m isobath (July – Nov),
- freshwater sawfish (pupping, nursing and foraging areas),
- green sawfish (pupping, nursing and foraging areas); and
- dwarf sawfish (pupping, nursing and foraging areas).

BIAs for the shark and sawfish species are outlined in **Table 5-4** and **Figure 5-1**.

The proposed Browse activity area has partial overlap with the Continental slope demersal fish communities KEF.

### 5.4.4 NWS / Scarborough

The NWS / Scarborough activity area includes biologically important habitat for the whale shark and three sawfish species:

- whale shark (foraging northward from Ningaloo along the 200 m isobath (July – Nov),
- freshwater sawfish (pupping, nursing and foraging areas),
- green sawfish (pupping, nursing and foraging areas); and
- dwarf sawfish (pupping, nursing and foraging areas).

BIAs for the whale shark and sawfish species are outlined in **Table 5-4** and **Figure 5-1**.

The NWS / Scarborough activity area has partial overlap with the Continental slope demersal fish communities KEF. The continental slope between North-west Cape and the Montebello Trough has more than 500 fish species, 76 of which are endemic, which makes it the most diverse slope bioregion in Australia (Last *et al.*, 2005).

### 5.4.5 North-west Cape

The North-west Cape activity area includes biologically important foraging habitat for the whale shark:

- whale shark, including:
  - Foraging (high density) in Ningaloo Marine Park and adjacent Commonwealth waters (March–July); and
  - Foraging northward from Ningaloo along the 200 m isobath (July – Nov).

BIAs for the whale shark are outlined in **Table 5-4** and **Figure 5-1**.

The North-west Cape activity area coincides with part of the Continental slope demersal fish communities KEF.

## 6. MARINE REPTILES

### 6.1 Regional Context for Marine Reptiles

The NWMR contains important habitat for listed marine reptiles, including areas that support key life stages such as nesting, internesting, migration and foraging for marine turtle species, and habitats supporting resident sea snake and crocodile populations.

Six of the seven marine turtle species occur in Australian waters, and all six (the green turtle, hawksbill turtle, loggerhead turtle, flatback turtle, leatherback turtle and olive ridley turtle) occur in the NWMR and NMR.

There are 25 listed species of sea snake reported within or adjacent to the NWMR (Guinea, 2007a; Udyawer *et al.*, 2016), of which four are endemic to reef habitats in the remote parts of the region. Nineteen (19) listed sea snake species are known to occur in the NMR, as reported in the Protected Matters search (**Appendix A**).

There are significantly fewer marine reptile species that frequently occur within the SWMR and presently include three species of listed marine turtle and one sea snake species. Other species of sea snake may occur because of the southward-flowing Leeuwin Current, as vagrants in the region (DSEWPAC, 2012b).

The following sections focus on the listed marine reptile species known to occur within the NWMR.

**Table 6-1** outlines the threatened and migratory marine reptile species that occur within the NWMR, with their conservation status and relevant recovery plans and/or conservation advice.

**Table 6-1 Marine reptile species identified by the EPBC Act PMST as potentially occurring within or utilising habitats in the NWMR for key life cycle stages**

Species Name	Common Name	Environment Protection and Biodiversity Conservation Act 1999			WA Biodiversity Conservation Act 2016	EPBC Act Part 13 Statutory Instrument
		Threatened Status	Migratory Status	Listed	Conservation Status	
<i>Caretta caretta</i>	Loggerhead turtle	Endangered	Migratory	Marine	Endangered	Recovery Plan for Marine Turtles in Australia 2017-2027 (Commonwealth of Australia, 2017)
<i>Chelonia mydas</i>	Green turtle	Vulnerable	Migratory	Marine	Vulnerable	
<i>Dermochelys coriacea</i>	Leatherback turtle	Endangered	Migratory	Marine	Vulnerable	
<i>Eretmochelys imbricata</i>	Hawksbill turtle	Vulnerable	Migratory	Marine	Vulnerable	
<i>Natator depressus</i>	Flatback turtle	Vulnerable	Migratory	Marine	Vulnerable	
<i>Lepidochelys olivacea</i>	Olive ridley turtle	Endangered	Migratory	Marine	Vulnerable	
<i>Aipysurus apraefrontalis</i>	Short-nosed sea snake	Critically endangered	N/A	Marine	Critically endangered	Approved Conservation Advice for <i>Aipysurus apraefrontalis</i> (Short-nosed Sea Snake) (DSEWPAC, 2011a)
<i>Aipysurus foliosquama</i>	Leaf-scaled sea snake	Critically endangered	N/A	Marine	Critically endangered	Approved Conservation Advice for <i>Aipysurus foliosquama</i> (Leaf-scaled Sea Snake) (DSEWPAC, 2011b)
<i>Crocodylus porosus</i>	Salt-water crocodile	N/A	Migratory	Marine	Other protected fauna	N/A

## 6.2 Marine Turtles in the NWMR

According to the Protected Matters search (**Appendix A**) six species of marine turtle known to occur within the NWMR are listed as threatened and migratory (three Vulnerable and three Endangered) under the EPBC Act—the green (*Chelonia mydas*), hawksbill (*Eretmochelys imbricata*), flatback (*Natator depressus*), loggerhead (*Caretta caretta*), leatherback (*Dermochelys coriacea*) and olive ridley (*Lepidochelys olivacea*) turtle (DSEWPAC, 2012a) (refer **Table 6-1**).

The NWMR supports globally significant breeding populations of four marine turtle species: the green, hawksbill, flatback and loggerhead turtle. Olive ridley turtles are known to forage within the NWMR, but there are only occasional records of the species nesting in the region. Leatherback turtles regularly forage over Australian continental shelf waters within the NWMR but there are also no records of the species nesting in the region (DSEWPAC, 2012a).

The six marine turtle species reported for the NWMR also occur within the NMR.

Three marine turtle species; the green, loggerhead, and leatherback turtle, have presumed feeding areas within the SWMR; however, no known nesting areas exist within the region (DSEWPAC, 2012b).

Discrete genetic stocks have evolved within each marine turtle species. This is the result of marine turtles returning to the location where they hatched. These genetically distinct stocks are defined by the presence of regional breeding aggregations. Stocks are composed of multiple rookeries in a region and are delineated by where there is little or no migration of individuals between nesting areas. Turtles from different stocks typically overlap at feeding grounds (Commonwealth of Australia, 2017). There are 17 genetic stocks across both the NWMR and NMR (nine in the NWMR, six in the NMR, and two overlapping both regions). Of these 17 genetic stocks, nine are known to occur within Woodside's three areas of activity (**Table 6-2**).

### 6.2.1 Life Cycle Stages

Marine turtles are highly migratory during non-reproductive life phases and have high site fidelity during breeding and nesting life phases. Majority of their lives are spent in the ocean, but the adult female marine turtles will come ashore to lay eggs in the sand above the high water mark on natal beaches (Commonwealth of Australia, 2017). **Figure 6-1** summarises the generalised life cycle of marine turtles. Species-specific life cycle information is outlined within the Recovery Plan for Marine Turtles of Australia (Commonwealth of Australia, 2017).



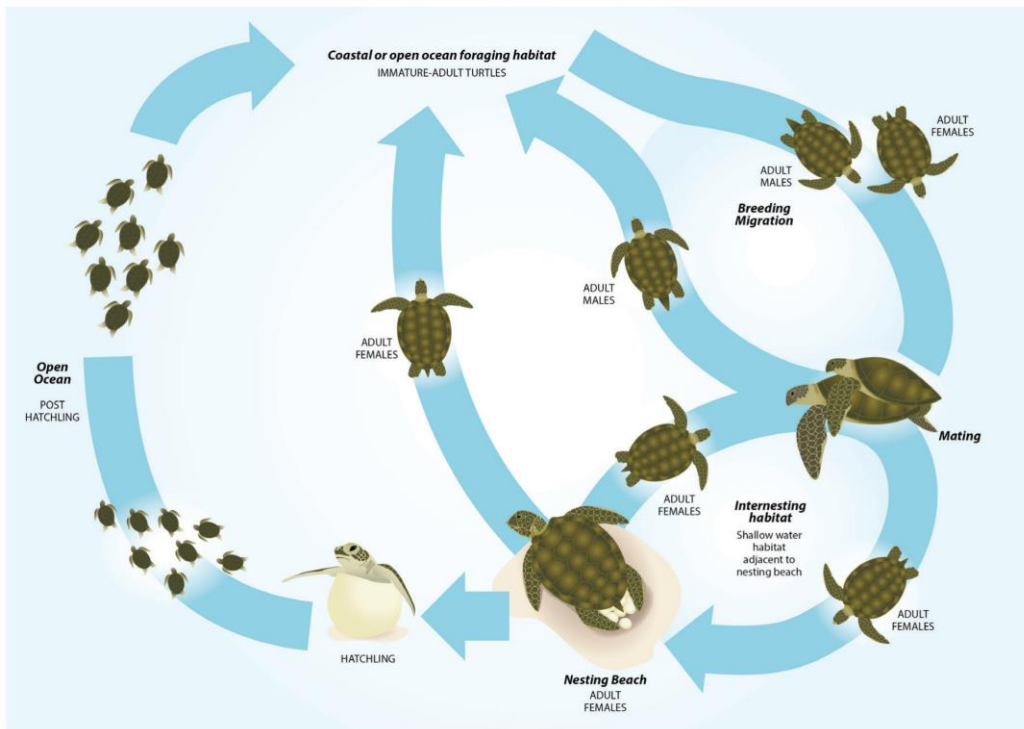


Figure 6-1 Generalised life cycle of marine turtles (Commonwealth of Australia, 2017)

### 6.2.2 Habitat Critical to Survival for Marine Turtles in the NWMR

The Recovery Plan for Marine Turtles of Australia (Commonwealth of Australia, 2017) identifies habitat critical to the survival of a species for marine turtle stocks under the EPBC Act. Habitat critical to survival is defined by the EPBC Act *Significant Impact Guidelines 1.1 – Matters of National Environmental Significance* as areas necessary:

- for activities such as foraging, breeding or dispersal;
- for the long-term maintenance of the species (including the maintenance of species essential to the survival of the species);
- to maintain genetic diversity and long term evolutionary development; and
- for the reintroduction of populations or recovery of the species.

The Recovery Plan for Marine Turtles of Australia (Commonwealth of Australia, 2017) has identified nesting locations and associated interesting areas as habitat critical to survival for four marine turtle species within the NWMR and these are identified, described and mapped in **Table 6-2** and **Figure 6-2**. No habitat critical to survival has been identified within the NWMR for olive ridley or leatherback turtles.

**Table 6-2** outlines the relevant genetic stock, habitat critical to survival and key life cycle stage seasonality of the four species of marine turtles within the NWMR.

Table 6-2 Genetic stock, habitat critical to survival and key life cycle stage seasonality of the four species of marine turtles within the NWMR

Species	Woodside Activity Area			Habitat Critical to Survival			
	Browse	NWS/S	NWC	Nesting (* Major Rookery <sup>1</sup> )	Internesting Buffer	Seasonality-Nesting	Preferred Habitat <sup>2</sup>
<b>Green Turtle</b>							
NWS Stock (G-NWS)	✓	✓	✓	Adele Island Maret Island Cassini Island Lacepede Islands* Barrow Island* Montebello Islands (all with sandy beaches)* Serrurier Island Dampier Archipelago Thevenard Island Northwest Cape* Ningaloo coast	20 km radius	Nov-Mar	Nearshore reef habitats in the photic zone.
Ashmore Reef Stock (G-AR)	✓	-	-	Ashmore Reef* Cartier Reef*		All year (peak: Dec-Jan)	
Scott Reef-Browse Island Stock (G-ScBr)	✓	-	-	Scott Reef (Sandy Islet)* Browse Island*		Nov-Mar	
<b>Hawksbill Turtle</b>							
Western Australia Stock (H-WA)	-	✓	-	Dampier Archipelago (including Rosemary Island and Delambre Island)* Montebello Islands (including Ah Chong Island, South East Island and Trimouille Island)* Lowendal Islands (including Varanus Island, Beacon Island and Bridled Island) Sholl Island	20 km radius	Oct-Feb	Nearshore and offshore reef habitats.

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Species	Woodside Activity Area			Habitat Critical to Survival			
	Browse	NWS/S	NWC	Nesting (* Major Rookery <sup>1</sup> )	Internesting Buffer	Seasonality-Nesting	Preferred Habitat <sup>2</sup>
<b>Flatback Turtle</b>							
Cape Domett Stock (F-CD)	✓	-	-	Cape Domett* Lacrosse Island	60 km radius	All year (peak: Jul-Sep)	Nearshore and offshore sub-tidal and soft bottomed habitats of offshore islands.
South-west Kimberley Stock (F-swKim)	-	✓	-	Eighty Mile Beach* Eco Beach* Lacepede Islands		Oct-Mar	
Pilbara Stock (F-Pil)	-	✓	-	Montebello Islands Mundabullangana Beach* Barrow Island* Cemetery Beach Dampier Archipelago (including Delambre Island* and Huay Island) Coastal islands from Cape Preston to Locker Island		Oct-Mar	
Unknown genetic stock Kimberley, Western Australia	✓	✓	-	Maret Islands Montilivet Islands Cassini Island Coronation Islands (includes Lamarck Island) Napier-Broome Bay Islands (West Governor Island, Sir Graham Moore Island – near Kalumbaru) Champagny, Darcy and Augustus Islands (Camden Sound)		May-July	

Species	Woodside Activity Area			Habitat Critical to Survival			
	Browse	NWS/S	NWC	Nesting (* Major Rookery <sup>1</sup> )	Interesting Buffer	Seasonality-Nesting	Preferred Habitat <sup>2</sup>
<b>Loggerhead Turtle</b>							
Western Australia Stock (LH-WA)	-	-	✓	Dirk Hartog Island* Muiron Islands* Gnaraloo Bay* Ningaloo coast	20 km radius	Nov-May	Nearshore and island coral reefs, bays and estuaries in tropical and warm temperate latitudes.

<sup>1</sup> Major rookeries as outlined in the Recovery Plan (Commonwealth of Australia, 2017)

<sup>2</sup> Preferred habitat as outlined in the Recovery Plan (Commonwealth of Australia, 2017)

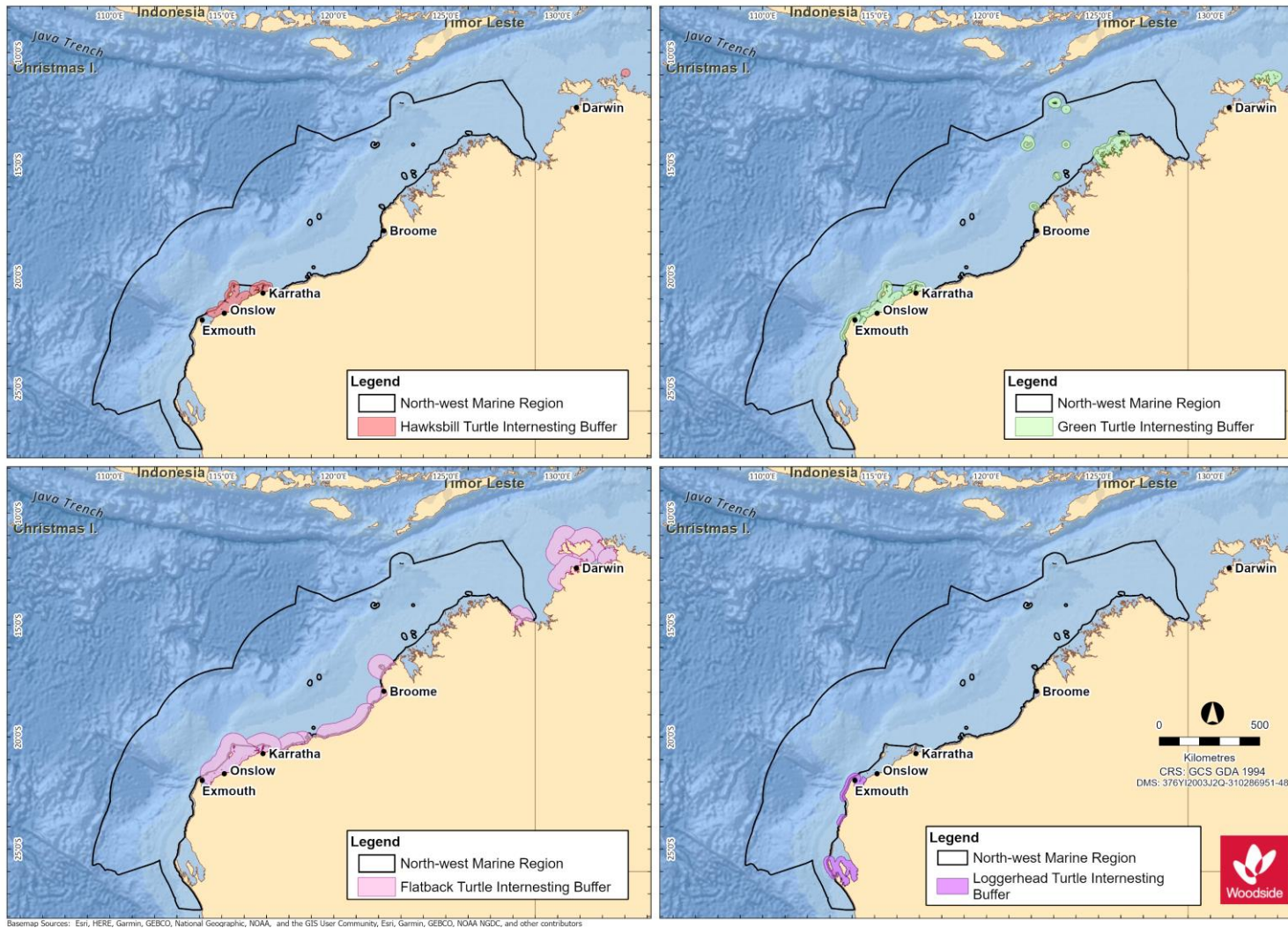


Figure 6-2 Marine turtle species habitat critical to survival (nesting beaches and interning buffers) for the NWMR

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### 6.3 Marine Turtle Biological Important Areas in the NWMR

A review of the National Conservation Values Atlas (DAWE, 2020<sup>2</sup>) identified BIAs for the four marine turtle species that occur within the NWMR. These are described in **Table 6-3**. Note that nesting and interesting BIAs are not listed in **Table 6-3** as they are defined as in the Recovery Plan as habitat critical to survival for marine turtles nesting beaches and interesting areas (refer **Table 6-2**).

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<sup>2</sup> <http://www.environment.gov.au/webgis-framework/apps/ncva/ncva.jsf>

Table 6-3 Marine turtle BIAs within the NWMR

Species	Woodside Activity Area			BIAs		
	Browse	NWS/S	NWC	Mating	Foraging	Migration <sup>3</sup>
Green turtle	✓	✓	✓	No mating BIA identified within the NWMR.	<p>Foraging inshore areas of Barrow Island</p> <p>Foraging at Montgomery Reef</p> <p>Foraging at Montebello Islands</p> <p>Foraging at Dixon Island</p> <p>Foraging around Ashmore Reef</p> <p>Foraging at Seringapatam Reef and Scott Reef</p> <p>Foraging in the De Grey River area to Bedout Island</p> <p>Foraging around the Islands between Cape Preston and Onslow and inshore of Barrow Island</p> <p>Foraging around Dampier Archipelago (islands to the west of the Burrup Peninsula)</p> <p>Foraging at Legendre Island and Huay Island</p> <p>Foraging around Delambre Island</p> <p>Foraging in the Joseph Bonaparte Gulf</p> <p>Foraging in waters adjacent to James Price Point</p>	<p>Green turtles can migrate more than 2600 km between their feeding and nesting grounds. Individual turtles foraging in the same area do not necessarily take the same migration route (Limpus <i>et al.</i>, 1992).</p> <p>Ferreira <i>et al.</i> (2021) broadly identified two migratory corridors, one used by the NWS stock-Pilbara and another used by the NWS stock-Kimberley and the Scott-Browse stock with some overlap at the northern and southern extents respectively. This study showed that the foraging distribution of green turtles from two stocks in WA expands throughout north-west and northern Australian coastal waters, including the NT and Queensland.</p>
Hawksbill turtle	✓	✓	✓	No mating BIA identified within the NWMR.	<p>Foraging around the Lowendal Island group</p> <p>Foraging at Delambre Island</p> <p>Foraging around Dixon Island</p> <p>Foraging in the De Grey River area to Bedout Island</p> <p>Foraging around the islands between Cape Preston and</p>	<p>Individuals may migrate up to 2400 km between their nesting and foraging grounds (DSEWPAC, 2012a).</p>

<sup>3</sup> Migration BIA does not exist for Marine Turtles – general information provided.

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Species	Woodside Activity Area			BIAs		
	Browse	NWS/S	NWC	Mating	Foraging	Migration <sup>3</sup>
					Onslow and inshore of Barrow Island Foraging around the islands of the Dampier Archipelago (to the west of the Burrup Peninsula) Foraging at Ashmore Reef	
Flatback turtle	✓	✓	-	Lacepede Islands Mating at Montebello Islands Mating at Dampier Archipelago (islands to the west of the Burrup Peninsula) Mating at Barrow Island A year-round internesting buffer biologically important area (BIA) of 80 km is located north and north-west of the Montebello Islands, extending 20 km further than the habitat critical to survival. However, use level for this BIA has been defined as very low (Commonwealth of Australia, 2017) and the habitat critical to survival internesting buffer is the legally recognised area of protection under the EPBC Act <i>Significant Impact Guidelines 1.1 – Matters of National Environmental Significance</i> Refer to the Marine Bioregional Plan for the North-west Marine Region (DSEWPAC, 2012a) for locations of seasonal 80 km internesting buffer BIAs for flatback turtles	Foraging at the islands between Cape Preston and Onslow and inshore of Barrow Island. Foraging at Montebello Islands Foraging at Dampier Archipelago (islands to the west of the Burrup Peninsula) Foraging at Legendre Island and Huay Island Foraging at Delambre Island Foraging in the Joseph Bonaparte Depression Foraging in waters adjacent to James Price Point	There is evidence that some flatback turtles undertake long-distance migrations between breeding and feeding grounds (Limpus <i>et al.</i> , 1983). However, flatback turtles generally do not have a pelagic phase to their lifecycle. Instead, hatchlings grow to maturity in shallow coastal waters thought to be close to their natal beaches (DSEWPAC, 2012a).

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Species	Woodside Activity Area			BIAs		
	Browse	NWS/S	NWC	Mating	Foraging	Migration <sup>3</sup>
Loggerhead turtle	✓	✓	-	No mating BIA identified within the NWMR	Foraging in the De Grey River area to Bedout Island Foraging on the Western Joseph Bonaparte Depression Foraging in the waters adjacent to James Price Point	Adult loggerhead turtles dispersing from Dirk Hartog Island beaches (near Shark Bay) have remained within WA waters from southern WA to the Kimberley. Turtles dispersing from the North-west Cape–Muiron Islands nesting area have ranged north as far as the Java Sea and the north-western Gulf of Carpentaria, and to south-west WA (DSEWPAC, 2012).
Olive ridley turtle	✓	✓	-	No mating BIA identified within the NWMR	Foraging in the Western Joseph Bonaparte Depression and Gulf Foraging in the Dampier Archipelago (islands to the west of the Burrup Peninsula)	Migration routes and distances between nesting beaches and foraging areas are not known for Australian olive ridley turtles.

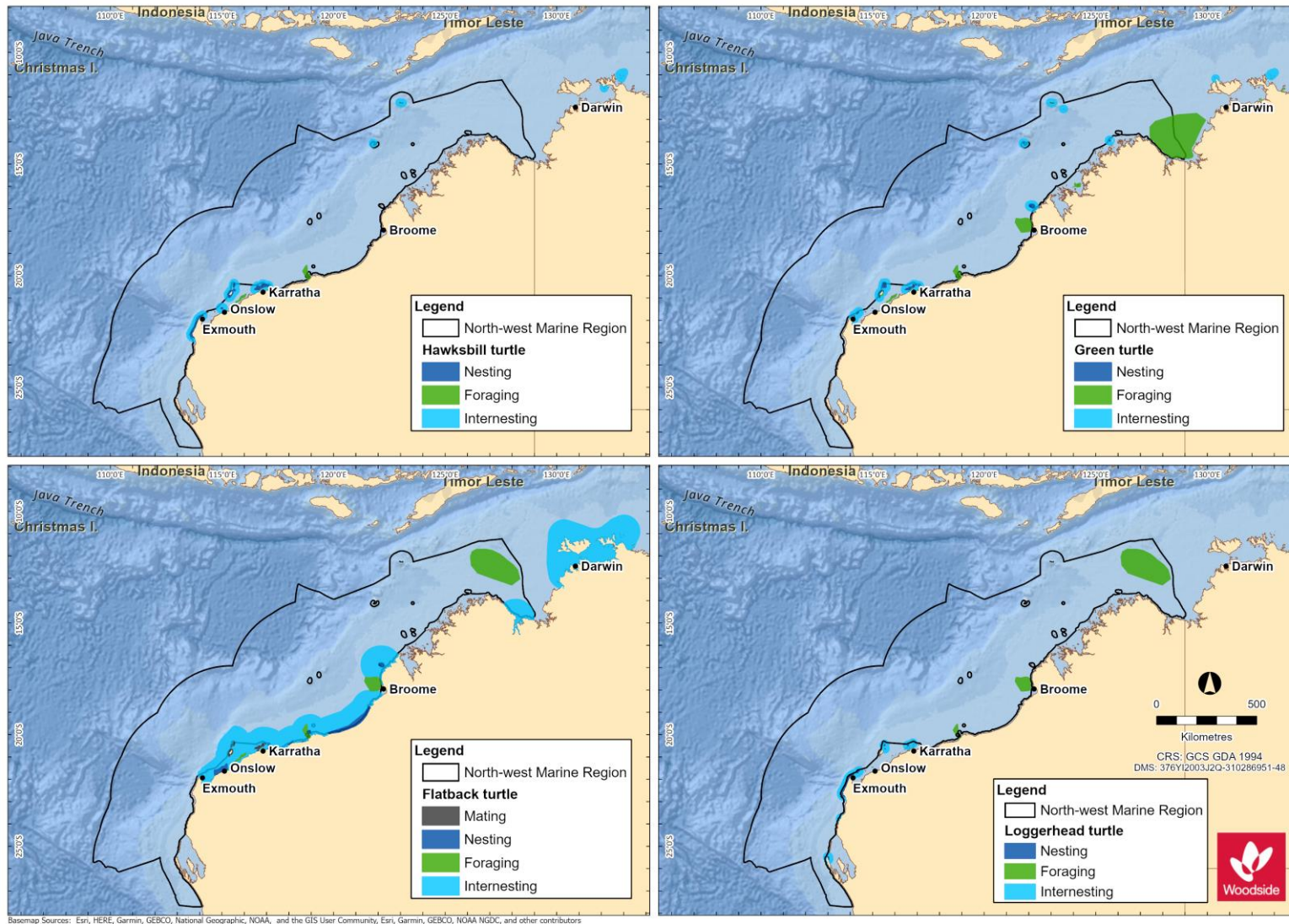


Figure 6-3 Marine turtle species BIA within the NWMR

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## 6.4 Marine Turtle Summary for NWMR

Six of the seven marine turtle species occur within the Woodside activity areas. Across all three areas, globally significant breeding populations of four marine turtle species; the green, hawksbill, flatback and loggerhead turtle, have been recorded.

However, offshore waters do not represent biologically important habitat for marine turtles in any of the three Woodside activity areas. Isolated records of transient individuals (on post-nesting migration) are expected, but there is no evidence of important habitat or behaviours for marine turtles in offshore, open water environment of the NWS, in general.

### 6.4.1 Browse

The proposed Browse activity area includes major nesting areas that support globally significant breeding populations of two marine turtle species:

- the green turtle, including two distinct genetic stocks (Ashmore Reef and Scott Reef-Browse Island); and
- the flatback turtle, Cape Domett genetic stock.

Locations of habitat critical for each of the two species are outlined in **Table 6-2** and **Figure 6-2**.

BIAs for the green and flatback turtle are outlined in **Table 6-3** and **Figure 6-3**.

**Table 6-4 Marine turtle key information for Browse activity area**

Species / Genetic Stock	Key Information
<b>Green Turtle</b>	
Ashmore Reef Stock (G-AR)	<p>The G-AR stock nests in a localised area of the Indian Ocean in the Ashmore Reef and Cartier Island AMP areas. Population estimates are not available for Ashmore Reef, although annual breeding numbers are thought to be in the low hundreds (Whiting, 2000).</p> <p>Designated habitat critical for the G-AR stock are the nesting locations of Ashmore Reef and Cartier Reef, and an internesting buffer of 20 km radius around these rookeries, year-round with peak internesting activity occurring December to January (refer Table 6 of the Recovery Plan).</p> <p>Juvenile and adult turtles forage within the tidal/sub-tidal habitats of offshore islands and coastal waters with coral reef, mangrove, sand, rocky reefs, and mudflats where there are algal turfs or seagrass meadows present (Commonwealth of Australia, 2017).</p>
Scott Reef-Browse Island Stock (G-ScBr)	<p>The G-ScBr stock is a discrete unit known to nest at only two locations within the north-east Indian Ocean—Sandy Islet and Browse Island. There is currently very limited data available for the G-ScBr stock, therefore population numbers are not known.</p> <p>Designated habitat critical for the G-ScBr stock are the nesting locations of Sandy Islet and Browse Island, and an internesting buffer of 20 km radius around these rookeries, for the period November to March (refer Table 6 of the Recovery Plan).</p> <p>Surveys conducted at Scott Reef in 2006, 2008 and 2009 indicate that the summer months from late November to February are the preferred breeding season for green turtles at Sandy Islet (Guinea, 2009).</p> <p>Satellite tagging studies (Pendoley, 2005; Guinea, 2011) have provided an indication of the behaviour and migratory routes of adult green turtles leaving Scott Reef. Most animals appear to swim through South Reef lagoon and disperse toward the Western Australian mainland via two distinct post-nesting migration pathways; travelling east and north toward the Bonaparte Archipelago and then north along the coast to foraging areas in NT waters, or travelling south to Cape Leveque and then south along the coast to the Turtle Islands off the mouth of the De Grey River in the Pilbara region (Ferreira <i>et al.</i>, 2021).</p>

Species / Genetic Stock	Key Information
<b>Flatback Turtle</b>	
Cape Domett Stock (F-CD)	<p>Cape Domett is an important high density nesting area. Combined with a smaller site at Lacrosse Island, the F-CD stock is one of the largest flatback turtle stocks in Australia. Average nesting abundance at Cape Domett is estimated at 3250 females per year (Whiting <i>et al.</i>, 2008).</p> <p>Designated habitat critical for the F-CD stock are the nesting locations of Cape Domett and Lacrosse Island, and an interesting buffer of 60 km radius around these rookeries, year-round with peak interesting activity occurring July to September.</p> <p>Extending further than the habitat critical interesting buffer, an interesting buffer BIA of 80 km is located at Cape Domett and Lacrosse Island.</p>

#### 6.4.2 North-west Shelf / Scarborough

The NWS / Scarborough activity area includes major nesting areas that support globally significant breeding populations of three marine turtle species, representing four discreet genetic stocks:

- the green turtle, NWS genetic stock;
- the hawksbill turtle, WA genetic stock; and
- the flatback turtle, South-west Kimberley stock and Pilbara genetic stocks.

Locations of habitat critical for each of the four species are outlined in **Table 6-2** and **Figure 6-2**.

BIAs for the green, hawksbill, and flatback are outlined in **Table 6-3** and **Figure 6-3**.

**Table 6-5 Marine turtle key information for NWS / Scarborough activity area**

Species / Genetic Stock	Key Information
<b>Green Turtle</b>	
NWS Stock (G-NWS)	<p>The G-NWS stock is one of the largest green turtle stocks in the world and the largest in the Indian Ocean. The G-NWS stock is estimated at approximately 20,000 individuals (DSEWPAC, 2012a) and the trend for the stock is reported as stable (Commonwealth of Australia, 2017).</p> <p>Major rookeries of the G-NWS stock within the NWS / Scarborough activity area are located at Barrow Island and the Montebello Islands. These areas are designated habitat critical for the stock and include an interesting buffer of 20 km radius around these rookeries, November to March.</p>
<b>Hawksbill Turtle</b>	
Western Australia Stock (H-WA)	<p>The H-WA stock is the largest in the Indian Ocean. The majority of the nesting for this stock is located in the Pilbara. The Dampier Archipelago has the largest nesting aggregation recorded. In particular, Rosemary Island supports the most significant hawksbill turtle rookery in the WA region and one of the largest in the Indian Ocean; approximately 500-1000 females nest on the island annually, more than at any other WA rookery (Pendoley, 2005; Pendoley <i>et al.</i>, 2016).</p> <p>Major rookeries of the H-WA stock within the NWS / Scarborough activity area are located at Rosemary Island, Delambre Island and the Montebello Islands. These areas are designated habitat critical for the stock and include an interesting buffer of 20 km radius around these rookeries, October to February.</p>
<b>Flatback Turtle</b>	
South-west Kimberley Stock (F-swKim)	<p>The genetic relationship between this nesting aggregation and the Cape Domett and Pilbara stocks is currently under review. Population numbers of the F-swKim stock are unknown.</p> <p>Major rookeries of the F-swKim stock are located at Eighty Mile Beach and Eco Beach. These areas are designated habitat critical for the stock and include an interesting buffer of 60 km radius around these rookeries, October to March.</p>

Species / Genetic Stock	Key Information
Pilbara Stock (F-Pil)	<p>The extent of genetic relatedness of flatback turtles along the WA coast is currently under review. Population numbers of the F-Pil stock are unknown. This stock nests on many islands in the Pilbara and southern Kimberley, with major rookeries at Mundabullangana Beach, Delambre Island and Barrow Island. These areas are designated habitat critical for the F-Pil stock and include an interesting buffer of 60 km radius around these rookeries, October to March.</p> <p>Extending further than the habitat critical interesting buffer, a year-round interesting buffer BIA of 80 km is located north and north-west of the Montebello Islands. However, use level for this BIA has been defined as very low (Commonwealth of Australia, 2017) and the habitat critical interesting buffer is the legally recognised area of protection under the EPBC Act <i>Significant Impact Guidelines 1.1 – Matters of National Environmental Significance</i>.</p> <p>Post-nesting satellite tracking indicates foraging occurs along the WA coast in water shallower than 130 m and within 315 km of shore (Commonwealth of Australia, 2017).</p>

### 6.4.3 North-west Cape

The North-west Cape activity area includes major nesting areas that support globally significant breeding populations of two marine turtle species, representing two discreet genetic stocks:

- the green turtle, NWS genetic stock; and
- the loggerhead turtle, Western Australia genetic stock.

Locations of habitat critical for each of the two species are outlined in **Table 6-2** and **Figure 6-2**.

BIAs for the green and loggerhead turtles are outlined in **Table 6-3** and **Figure 6-3**.

A 2018 survey, including on-beach monitoring of the Muiron Islands and Ningaloo Coast from North-west Cape to Bungelup (Rob *et al.*, 2019), supports the concept that North-west Cape and the Muiron Islands are major important nesting areas for green and loggerhead turtles, as identified in the Recovery Plan (Commonwealth of Australia, 2017).

**Table 6-6 Marine turtle key information for North-west Cape activity area**

Species / Genetic Stock	Key Information
<b>Green Turtle</b>	
NWS Stock (G-NWS)	<p>The G-NWS stock is one of the largest green turtle stocks in the world and the largest in the Indian Ocean. The G-NWS stock is estimated at approximately 20,000 individuals (DSEWPAC, 2012a) and the trend for the stock is reported as stable (Commonwealth of Australia, 2017).</p> <p>There is one major rookery of the G-NWS stock located within the North-west Cape activity area. Located on the mainland coast of the North-west Cape, this area is designated habitat critical for the stock and includes an interesting buffer of 20 km radius around the rookery, November to March.</p>
<b>Loggerhead Turtle</b>	
Western Australia Stock (LH-WA)	<p>The LH-WA stock is one of the largest in the world (Limpus, 2009). The trend for the stock is reported as stable (Commonwealth of Australia, 2017).</p> <p>Major rookeries of the LH-WA stock are located at Dirk Hartog Island, Muiron Islands and Gnaraloo Bay. These areas are designated habitat critical for the stock and include an interesting buffer of 20 km radius around these rookeries, November to May.</p> <p>Dirk Hartog Island in the Shark Bay Marine Park, with an average of 122 nests per day over 2.1 km (Reinhold and Whiting, 2014), is recognised as the most important loggerhead turtle rookery in WA (Commonwealth of Australia, 2016; as cited in Rob <i>et al.</i>, 2019).</p>

## 6.5 Sea Snakes

Sea snakes are commonly found in the NWMR and NMR, but less so in the SWMR, and occupy three broad habitat types: shallow water coral reef and seagrass habitats, deepwater soft bottom habitats away from reefs, and surface water pelagic habitats (Guinea, 2007a).

There are 25 listed species of sea snake reported within or adjacent to the NWMR (Guinea, 2007a; Udyawer *et al.*, 2016), of which four are endemic to reef habitats in the remote parts of the region:

- dusky sea snake (*Aipysurus fuscus*);
- large headed sea snake (*Hydrophis pacificus*);
- short-nosed sea snake (*Aipysurus apraefrontalis*); and
- leaf-scaled sea snake (*Aipysurus foliosquama*).

The short-nosed sea snake and the leaf-scaled sea snake are listed threatened species (Critically Endangered) under the EPBC Act (**Table 6-7**).

There is currently limited knowledge about the ranges and distribution patterns of sea snake species in the NWMR, in addition to a lack of understanding of population status and threats. Recent findings of *A. apraefrontalis* and *A. foliosquama* in locations outside of their previously defined ranges have highlighted the lack of information on species distributions in the NWMR (Udyawer *et al.*, 2016). Udyawer *et al.* (2020) used a correlative modelling approach to understand habitat associations and identify suitable habitats for five sea snake species (*A. apraefrontalis*, *A. foliosquama*, *A. fuscus*, *A. l. pooleorum* and *A. tenuis*). Species-specific habitat suitability was modelled across 804,244 km<sup>2</sup> of coastal waters along the NWS, and the resulting habitat suitability maps enabled the identification of key locations of suitable habitat for these five species (refer **Table 6-6**).

No habitat critical to survival or BIAs for sea snake species have been identified in the NWMR. While the Ashmore Reef and Cartier Island AMPs have been recognised for their high diversity and density of sea snakes (DSEWPAC, 2012a), surveys have revealed a steep decline in sea snake numbers at Ashmore Reef (Guinea, 2007b; Lukoschek *et al.*, 2013). Leaf-scaled and short-nosed sea snakes have been absent from surveys at Ashmore Reef since 2001, despite an increase in survey intensity (Guinea, 2006, 2007b; Guinea and Whiting, 2005; Lukoschek *et al.*, 2013). The reason for the decline is unknown.

**Table 6-7 Information on the two threatened sea snake species within the NWMR**

Species	Preferred Habitat and Diet	Habitat Location
<b>Short-nosed sea snake</b>	Preferred habitat: Primarily on the reef flats or in shallow waters of the outer reef edges to depths of 10 m (Minton <i>et al.</i> , 1975). Typically, movement is restricted to within 50 m of reef flat habitat (Guinea and Whiting, 2005). Diet: Primarily fishes and eels.	The short-nosed sea snake has been recorded from Exmouth Gulf to the reefs of the Sahul Shelf, although most records come from Ashmore and Hibernia reefs (Guinea and Whiting, 2005). Key locations of suitable habitat: Ashmore Reef, Exmouth Gulf, Muiron Islands, Montebello Islands (Udyawer <i>et al.</i> , 2020).
<b>Leaf-scaled sea snake</b>	Preferred habitat: The leaf-scaled sea snake occurs in shallow protected areas of reef flats, typically in water depth less than 10 m. Diet: Primarily shallow water coral-associated wrasse, gudgeons, clinids and eels (McCosker, 1975; Voris, 1972; Voris and Voris, 1983)	The leaf-scaled sea snake has only been recorded at Ashmore and Hibernia reefs (Guinea and Whiting, 2005), indicating it has a very limited distribution. Key locations of suitable habitat: Ashmore Reef, Shark Bay, Exmouth Gulf, Barrow Island and Montebello Islands (Udyawer <i>et al.</i> , 2020).

## 6.6 Crocodiles

The salt-water crocodile (*Crocodylus porosus*) is a listed migratory species under the EPBC Act known to occur within the NWMR. The species is found in most major river systems of the Kimberley, including the Ord, Patrick, Forrest, Durack, King, Pentecost, Prince Regent, Lawley, Mitchell, Hunter, Roe and Glenelg rivers. The largest populations occur in the rivers draining into the Cambridge Gulf and the Prince Regent River and Roe River systems. There have also been isolated records in rivers of the Pilbara region, around Derby near Broome and as far south as Carnarvon on the mid-west coast.

No BIAs for salt-water crocodile have been identified in the NWMR.

## 7. MARINE MAMMALS

### 7.1 Regional Context

The offshore waters of WA include important habitat for marine mammals, including areas that support key life stages such as breeding, foraging, and migration. Of the 45 species of cetacean occurring in Australian waters, 27 species occur regularly in the waters of the NWMR, nine species in the waters of the NMR and 33 species in the SWMR. The waters of the NWMR and the NMR also support significant populations of dugong (DSEWPAC, 2012a, c).

The NWMR is an important migratory pathway between feeding grounds in the Southern Ocean and breeding grounds in tropical waters of the NWMR for several cetacean species (DSEWPAC, 2012a). Numerous large mysticetes (baleen whale) species, in particular the humpback whale, are known to utilise the region for migration and calving, and the pygmy blue whale for foraging and as a migration pathway between southern feeding and northern breeding/feeding areas, north of the equator.

The SWMR is an important area for numerous marine mammal species including pinniped species, large, migratory whale species and resident coastal whale and dolphin species (DSEWPAC, 2012b).

The NMR and adjacent areas are important for several species of cetacean, particularly inshore dolphin species. These species, and other marine mammals, rely on the waters of the NMR and adjacent coastal areas for breeding and foraging. However, there is little knowledge of the seasonal movements, migrations and breeding seasonality for many of the marine mammal species in the NMR due to lack of extensive surveys (DSEWPAC, 2012c).

**Table 7-1** outlines the threatened and migratory marine mammal species that may occur within the NWMR, with their conservation status and relevant recovery plans and/or conservation advice.



Table 7-1 Marine mammal species identified by the EPBC Act PMST as occurring within the NWMR

Species Name	Common Name	Environment Protection and Biodiversity Conservation Act 1999			WA Biodiversity Conservation Act 2016	EPBC Act Part 13 Statutory Instrument
		Threatened Status	Migratory Status	Listed	Conservation Status	
<b>Cetaceans - Mysticeti</b>						
<i>Balaenoptera musculus</i>	Blue whale	Endangered	Migratory	Cetacean	Endangered	Conservation Management Plan for the Blue Whale - A Recovery Plan under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> 2015-2025 (Commonwealth of Australia, 2015a)
<i>Eubalaena australis</i>	Southern right whale	Endangered	Migratory	Cetacean	Vulnerable	Conservation Management Plan for the Southern Right Whale: A Recovery Plan under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> 2011-2021 (DSEWPAC, 2012d)
<i>Balaenoptera borealis</i>	Sei whale	Vulnerable	Migratory	Cetacean	Endangered	Conservation Advice <i>Balaenoptera borealis</i> sei whale (Threatened Species Scientific Committee, 2015a)
<i>Megaptera novaeangliae</i>	Humpback whale	Vulnerable	Migratory	Cetacean	Conservation dependent	Conservation Advice <i>Megaptera novaeangliae</i> humpback whale (Threatened Species Scientific Committee, 2015b)
<i>Balaenoptera physalus</i>	Fin whale	Vulnerable	Migratory	Cetacean	Endangered	Conservation Advice <i>Balaenoptera physalus</i> fin whale (Threatened Species Scientific Committee, 2015c)
<i>Balaenoptera edeni</i>	Bryde's whale	N/A	Migratory	Cetacean	N/A	N/A
<i>Balaenoptera bonaerensis</i>	Antarctic minke whale	N/A	Migratory	Cetacean	N/A	N/A
<b>Cetaceans - Odontoceti</b>						
<i>Physeter macrocephalus</i>	Sperm whale	N/A	Migratory	Cetacean	Vulnerable	N/A
<i>Orcinus orca</i>	Killer whale	N/A	Migratory	Cetacean	N/A	N/A
<i>Orcaella heinsohni</i>	Australian snubfin dolphin	N/A	Migratory	Cetacean	Priority	N/A
<i>Sousa chinensis</i>	Indo-Pacific humpback dolphin	N/A	Migratory	Cetacean	Priority	N/A

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Species Name	Common Name	Environment Protection and Biodiversity Conservation Act 1999			WA Biodiversity Conservation Act 2016	EPBC Act Part 13 Statutory Instrument
		Threatened Status	Migratory Status	Listed	Conservation Status	
<i>Tursiops aduncus</i>	Spotted bottlenose dolphin (Arafura/Timor Sea populations)	N/A	Migratory	Cetacean	N/A	N/A
<b>Sirenians and Pinnipeds</b>						
<i>Dugong dugon</i>	Dugong	N/A	Migratory	Marine	Other protected fauna	N/A
<i>Neophoca cinerea</i>	Australian sea lion	Endangered	N/A	Marine	Vulnerable	Recovery Plan for the Australian Sea Lion ( <i>Neophoca cinerea</i> ) 2013 (DSEWPAC, 2013a) Conservation Advice <i>Neophoca cinerea</i> Australian Sea Lion (Threatened Species Scientific Committee, 2020a) (in effect under the EPBC Act from 23-Dec-2020)

## 7.2 Cetaceans in the NWMR

Cetaceans are generally widely distributed and highly mobile. In general, distribution patterns reflect seasonal feeding areas, characterised by high productivity, and migration routes associated with reproductive patterns. The NWMR is thought to be an important migratory pathway between feeding grounds in the Southern Ocean and breeding grounds in tropical waters for several cetacean species (DSEWPAC, 2012a).

From the Protected Matters search, 34 EPBC Act listed species were recorded as potentially occurring or having habitat within the NWMR (**Appendix A**). Of those, 12 cetacean species are listed as threatened and/or migratory, including baleen whales, toothed whales and dolphins that occur within the NWMR (**Table 7-2**).

## 7.3 Dugongs in the NWMR

The dugong is listed as migratory under the EPBC Act. Dugongs inhabit seagrass meadows in coastal waters, estuarine creeks and streams, and reef systems (DSEWPAC, 2012a).

Some of the coastal waters adjacent to the NWMR support significant populations of dugongs, including Shark Bay, Exmouth Gulf, in and adjacent to Ningaloo Reef, in coastal waters along the Kimberley coast, and on the edge of the continental shelf at Ashmore Reef (DEWHA, 2008).

Although the patterns of dugong movement in WA are not well understood, it is thought that dugongs move in response to availability of seagrass (Marsh *et al.*, 1994; Preen *et al.*, 1997) and water temperature.

There are a number of BIAs for dugong within and adjacent to waters of the NWMR (refer **Section 7.5**).

## 7.4 Pinnipeds in the NWMR

The Australian sea lion is listed as a species that may occur, or may have habitat within the NWMR (Protected Matters search - **Appendix A**). It is included here as the Australian sea lion is the only pinniped endemic to Australia (Strahan, 1983) and has been recorded within the southern extent of the NWMR at Shark Bay, WA (Kirkwood *et al.*, 1992). The most northern known breeding colony is at the Houtman Abrolhos Islands in the SWMR. The Australian sea lion's breeding range extends from the Houtman Abrolhos Islands, WA to The Pages Island, east of Kangaroo Island, SA. The Australian sea lion was listed as endangered in 2020 (Threatened Species Scientific Committee, 2020a). An assessment of the status and trends in abundance of this endemic, coastal pinniped species (Goldsworthy *et al.* 2021) documented an overall reduction in pup abundance over three generations, providing strong evidence that the species meets IUCN endangered criteria.

There are no BIAs for the Australian sea lion in the NWMR.

Table 7-2 Information on the threatened/migratory marine mammal species within the NWMR

Species	Key Information
<b>Baleen whales (Mysticeti)</b>	
<b>Humpback whale</b>	<p>In Australian waters two genetically distinct populations migrate annually along the west (Group IV) and east coasts (Group V) between May and November. In WA, the migration pathway for the Group IV population (also known as Breeding Stock D) extends from Albany to the Kimberley coastline, passing through the NWMR (Threatened Species Scientific Committee, 2015b). Since the 1982 moratorium on commercial whaling population numbers have recovered significantly; from approximately 2000 to 3000 individuals in 1991, to between 19,200–33,850 individuals in 2008 (Bannister and Hedley, 2001; Bejder <i>et al.</i>, 2019; Hedley <i>et al.</i>, 2011). Aerial surveys off the WA coast undertaken between 2000 and 2008 produced a population estimate for the Group IV population of 26,100 individuals (CI 20,152–33,272) in 2008 (Salgado Kent <i>et al.</i>, 2012). Current population growth for the Group IV population is estimated to be between 9.7 and 13% per annum (Threatened Species Scientific Committee, 2015b). Using the Salgado-Kent <i>et al.</i> (2012) estimate of 26,100 individuals and an annual population growth rate of ~10%, current population size could be in excess of 75,000 individuals (Woodside, 2019).</p> <p>The Group IV population migrates northward from their Antarctic feeding grounds around May each year, reaching the NWMR around early June. The southward migration subsequently starts in mid-September, around the time of breeding and calving (typically August to September) (Threatened Species Scientific Committee, 2015b). Within the NWMR there are key calving areas between Broome and the northern end of Camden Sound, and resting areas in the southern Kimberley region, Exmouth Gulf and Shark Bay. In particular, high numbers of humpback whales are observed in Camden Sound and Pender Bay from June to September each year (Threatened Species Scientific Committee, 2015b). There are reports of neonates further south, suggesting that the calving areas may be poorly defined. Aerial photogrammetric surveys in 2013 and 2015 recorded large numbers of humpback whale calves along North-west Cape, with estimated minimum relative calf abundance of 463–603 in 2013 and 557–725 in 2015 (Irvine <i>et al.</i>, 2018). The majority of calves sighted in both years (85% in 2013; 94% in 2015) were neonates, and these observations indicate that a minimum of approximately 20% of the expected number of calves of this population are born near, or south of, North-west Cape. Thus, the calving grounds for the Group IV population extend south from Camden Sound to at least North-west Cape, 1000 km south-west of the currently recognized calving area (Irvine <i>et al.</i>, 2018).</p> <p>There are BIAs for migration and breeding and calving for the humpback whale along the WA coast and within the NWMR (refer <b>Table 7-3</b> and <b>Figure 7-1</b>).</p>
<b>Blue whale</b>	<p>There are two recognised sub-species of blue whale in the Southern Hemisphere, both of which are recorded in Australian waters. These are the southern (or 'true') blue whale (<i>Balaenoptera musculus</i>) and the 'pygmy' blue whale (<i>Balaenoptera musculus breviceauda</i>) (Commonwealth of Australia, 2015a). In general, southern blue whales occur in waters south of 60°S and pygmy blue whales occur in waters north of 55°S (i.e. not in the Antarctic). On this basis, nearly all blue whales sighted in the NWMR are likely to be pygmy blue whales.</p> <p>The East Indian Ocean (EIO) pygmy blue whale population is seasonally distributed from Indonesia (a potential breeding ground) to south-west of Australia and east across the Great Australian Bight and Bonney Upwelling to beyond the Bass Strait (Blue Planet Marine, 2020). Migration seems to be variable, with some individuals appearing as resident to areas of high productivity and others undertaking migrations across long distances (Commonwealth of Australia, 2015a). McCauley <i>et al.</i> (2018) describe three migratory stages around Australia for the EIO pygmy blue whale population: a 'southbound migratory stage' where whales travel southwards from Indonesian waters offshore from the WA coastline, mostly from October to December but possibly into January of the following year; a protracted 'southern Australian stage' (January to June) where animals spread across southern waters of the Indian Ocean and south of Australia; and a 'northbound migratory stage' (April to August) where animals travel north back to Indonesia again.</p> <p>There are currently insufficient data to accurately estimate population numbers of the pygmy blue whale in Australian waters (Blue Planet Marine, 2020; Commonwealth of Australia, 2015a). There are, however, two estimates of population size of the EIO pygmy blue whale for WA. McCauley and Jenner (2010) calculated the population to be between 662 and 1559 individuals in 2004 based on passive acoustics (whale vocalisations), and Jenner <i>et al.</i> (2008) (based on photographic mark and recapture) calculated between 712 and 1754 individuals, but both estimates did not account for animals</p>

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Species	Key Information
	<p>travelling further west into the Indian Ocean (McCauley <i>et al.</i>, 2018). More recent passive acoustic data estimates a 4.3% growth rate that applies to the proportion of EIO pygmy blue whales seasonally present in offshore water of the south-eastern Australia and may not reflect the full population but does imply an increasing population (McCauley <i>et al.</i>, 2018).</p> <p>The pygmy blue whale is typically present in the Perth Canyon from November to June, with an observed peak between March and May (Commonwealth of Australia, 2015a; Blue Planet Marine, 2020). The pygmy blue whale feeds in the Perth Canyon at depths of 200 to 300 m, which overlaps the typical distribution of krill (200–500 m water depth (day) to surface (night) (McCauley <i>et al.</i>, 2004; Commonwealth of Australia, 2015a). Other possible feeding grounds off the WA coast include the wider area around the Perth Canyon, and possible foraging areas off the Ningaloo Coast and at Scott Reef (Commonwealth of Australia, 2015a).</p> <p>Refer <b>Table 7-3</b> and <b>Figure 7-2</b> for the location and type of BIAs for blue whales in the NWMR. There is a migratory BIA for the pygmy blue whale within WA waters, which extends for most of the length of the NWMR within offshore waters.</p>
<b>Bryde's whale</b>	<p>The Bryde's whale is the least migratory of its genus and is restricted geographically from the equator to approximately 40°N and S, or the 20° isotherm (Bannister <i>et al.</i>, 1996). The species is known to exhibit inshore and offshore forms in other international locations that vary in morphology and migratory behaviours (Bannister <i>et al.</i>, 1996). This appears to also be the case within Australian waters. Bryde's whales have been identified as occurring in both oceanic and inshore waters, with the only key localities recognised in WA being in the Houtman Abrolhos Islands and north of Shark Bay (Bannister <i>et al.</i>, 1996). Data suggests offshore whales migrate seasonally, heading towards warmer tropical waters during the winter; however, information about migration within the NWMR is not well known (McCauley and Duncan, 2011). McCauley (2011) detected Bryde's whales using acoustic loggers deployed in and around Scott Reef from 2006 to 2009. Other acoustic logger data of Bryde's whale vocalisations recorded between Ningaloo and north of Darwin showed no apparent trends or seasonality (McCauley, 2011).</p> <p>There are no identified BIAs for this species in the National Conservation Values Atlas.</p>
<b>Southern right whale</b>	<p>The southern right whale occurs primarily in waters between about 20°S and 60°S and moves from high latitude feeding grounds in summer to warmer, low latitude, coastal locations in winter (Bannister <i>et al.</i>, 1996). Southern right whales aggregate in calving areas along the south coast of WA outside of the NWMR. However, there have been sightings in waters of the NWMR as far north as Ningaloo (Bannister and Hedley, 2001), and a stranding record exists for the far north Kimberley coast (ALA, 2020). Southern right whale calving grounds are found at mid to lower latitudes and are occupied during the austral winter and early-mid spring. They are regularly present on the southern Australian coast from about mid-May to mid-November, and peak periods for mating are from mid-July through August. Mating occurs within these breeding grounds as evidenced by many observations of intromission and mating behaviours. Southern right whales in south-western Australia appear to be increasing at the maximum biological rate but there is limited evidence of increase in south-eastern Australian waters (DSEWPAC, 2012d).</p> <p>There are no identified BIAs for this species in the NWMR.</p>
<b>Antarctic minke whale</b>	<p>The Antarctic minke whale is distributed worldwide and has been recorded off all Australian states (but not in the NT), feeding in cold waters and migrating to warmer waters to breed. It is thought that the Antarctic minke whale migrates up the WA coast to about 20°S to feed and possibly breed (Bannister <i>et al.</i>, 1996); however, detailed information about timing and location of migrations and breeding grounds within the NWMR is not well known. In the high latitudinal winter breeding grounds in other regions, the species appears to be distributed off the continental shelf edge. No population estimates are available for Antarctic minke whales in Australian waters.</p> <p>There are no identified BIAs for this species in the National Conservation Values Atlas.</p>
<b>Sei whale</b>	<p>The sei whale is a baleen whale with a worldwide oceanic distribution and is expected to seasonally migrate between low latitude wintering areas and high latitude summer feeding grounds (Bannister <i>et al.</i>, 1996; Prieto <i>et al.</i>, 2012). There are no known mating or calving areas in Australian waters. The species has a preference for deep waters, typically occurs in oceanic basins and continental slopes (Prieto <i>et al.</i>, 2012), and exhibits a migration pathway influenced by seasonal feeding and breeding patterns. Sei whales have been infrequently recorded in Australian waters (Bannister <i>et al.</i>, 1996). Reliable estimates of the sei whale population size in Australian waters are currently not possible due to a lack of dedicated surveys and their elusive characteristics. Similarly, the extent of occurrence and area of occupancy of sei whales in Australian waters cannot be calculated due to the</p>

Species	Key Information
	<p>rarity of sighting records. They will typically travel in small pods of three to five individuals, with some segregation by age, sex and reproductive status. Calving grounds are presumed to exist in low latitudes with mating and calving potentially occurring during winter months (Threatened Species Scientific Committee, 2015a).</p> <p>There are no known mating or calving areas in Australian waters, and there are no identified BIAs for this species in the National Conservation Values Atlas.</p>
<b>Fin whale</b>	<p>The fin whale is a large baleen whale distributed worldwide. Fin whales migrate annually between high latitude summer feeding grounds and lower latitude over-wintering areas (Bannister <i>et al.</i>, 1996) and follow oceanic migration paths. The species is uncommonly encountered in coastal or continental shelf waters. Australian Antarctic waters are important feeding grounds for fin whales but there are no known mating or calving areas in Australian waters (Morrice <i>et al.</i>, 2004). The species has been observed in groups of six to 10 individuals, as well as in pairs and alone (Threatened Species Scientific Committee, 2015c). Accurate distribution patterns are not known within Australian waters and the majority of data are from stranding events.</p> <p>Fin whales have been recorded vocalising off the Perth Canyon, WA, between January and April 2000 (McCauley <i>et al.</i>, 2000). It is currently not possible to accurately estimate the population size of fin whales in Australian waters predominantly due to the species' behaviour and local ecology, as the proportion of time they spend at the surface varies greatly depending on these factors. In addition, natural fluctuations of fin whales in Australian waters are unknown; however, long-range movements do appear to be prey-related. A recent study by Aulich <i>et al.</i> (2019) used passive acoustic monitoring as a tool to identify the migratory movements of fin whales in Australian waters. On the west coast, the earliest arrival of these animals occurred at Cape Leeuwin in April, and between May and October they migrated along the WA coastline to the Perth Canyon, which likely acts as a way-station for feeding (Aulich <i>et al.</i>, 2019). Some whales were found to continue migrating as far north as Dampier (Aulich <i>et al.</i>, 2019).</p> <p>There are no identified BIAs for this species in the National Conservation Values Atlas.</p>
<b>Toothed whales (Odontoceti)</b>	
<b>Sperm whale</b>	<p>Sperm whales are the largest of the toothed whales and are distributed worldwide in deep waters (greater than 200 m) off continental shelves and sometimes near shelf edges (Bannister <i>et al.</i>, 1996). The species tends to inhabit offshore areas at depths of 600 m or more and is uncommon in waters less than 300 m deep (Ceccarelli <i>et al.</i>, 2011). There is limited information about sperm whale distribution in Australian waters, however, they are usually found in deep offshore waters, with more dense populations close to continental shelves and canyons. In the open ocean, there is a generalised movement of sperm whales southwards in summer, and corresponding movement northwards in winter, particularly for males. Detailed information about the distribution and migration patterns of sperm whales off the WA coast is not available. Females with young may reside within the NWMR all year round, males may migrate through the region and the species may be associated with canyon habitats (Ceccarelli <i>et al.</i>, 2011).</p> <p>Sperm whales have been recorded in deep waters off North-west Cape and appear to occasionally venture into shallower waters in other areas. Twenty-three (23) sightings of sperm whales (variable pod sizes, ranging from one to six animals) were recorded by marine mammal observers (MMOs) during the North West Cape MC3D marine seismic survey (December 2016 to April 2017) (Woodside, 2020). These animals were observed in deep, continental slope waters of the Montebello Saddle (maximum distance of approximately 90 km from North-west Cape), and the waters overlying the Canyons linking the Cuvier Abyssal Plain and the Cape Range Peninsula KEF. The deep waters above the gully/saddle on the inner edge of the plateau (the Montebello Saddle) are thought to be important for sperm whales that may feed in the region (based on 19<sup>th</sup> Century whaling records; Townsend, 1935).</p> <p>There are no identified BIAs for this species in the NWMR.</p>
<b>Killer whale</b>	<p>The preferred habitat of killer whales includes oceanic, pelagic and neritic (relatively shallow waters over the continental shelf) regions, in both warm and cold waters. Killer whales appear to be more common in cold, deep waters; however, they have been observed along the continental slope and shelf, particularly near seal colonies, as well as in shallow coastal areas of WA (Bannister <i>et al.</i>, 1996; Thiele and Gill, 1999). The total number of killer whales in Australian waters is unknown, however, it may be that the total number of mature animals within waters around the continent is less than 10,000. Killer whales are known to make seasonal movements, and probably follow regular migratory routes, but no information is available for the</p>

Species	Key Information
	<p>species in Australian waters. Killer whales are top-level carnivores, and there are reports from around Australia of attacks on dolphins, juvenile humpback whales, blue whales, sperm whales, dugongs and Australian sea lions (Bannister <i>et al.</i>, 1996). Killer whales are known to target humpback whales, particularly calves, off Ningaloo Reef during the humpback southern migration season (Pitman <i>et al.</i>, 2015). Overall, observations suggest that humpback calves are a predictable, plentiful, and readily taken prey source for killer whales off Ningaloo Reef for at least five months of the year. Additionally, there are records of killer whales attacking dugongs in Shark Bay (Anderson and Prince, 1985). However, there are no recognised key localities or important habitats for killer whales within the NWMR (DSEWPAC, 2012a). There are no identified BIAs for this species in the NWMR.</p>
<b>Australian snubfin dolphin</b>	<p>Stranding and museum specimen records indicate that Australian snubfin dolphins occur only in waters off northern Australia, from approximately Broome on the west coast to the Brisbane River on the east coast (Parra <i>et al.</i>, 2002). Aerial and boat-based surveys indicate that Australian snubfin dolphins occur mostly in protected shallow waters close to the coast, and close to river and creek mouths (Parra, 2006; Parra <i>et al.</i>, 2006; Parra <i>et al.</i>, 2002). Within the NWMR, species has been found in the shallow coastal waters and estuaries along the Kimberley coast. Beagle and Pender bays on the Dampier Peninsula, and tidal creeks around Yampi Sound and between Kuri Bay and Cape Londonderry are important areas for Australian snubfin dolphins (DEWHA, 2008). Roebuck Bay has generally been considered the south-western limit of snubfin dolphin distribution across northern Australia, but the species has been recorded in Port Hedland harbour, the Dampier Archipelago, Montebello Islands, Exmouth Gulf and off North-west Cape (Allen <i>et al.</i>, 2012). A first comprehensive catalogue of snubfin dolphin sightings has been compiled for the Kimberley, north-west Western Australia (Bouchet <i>et al.</i> 2021) and documented that snubfin dolphins are consistently encountered in shallow water (&lt;21 m depth) close to (&lt;15 km) freshwater inputs with high detection rates in known hotspots such as Roebuck Bay and Cygnet Bay as well as suitable coastal habitat in the wider Kimberley region. Refer <b>Table 7-3</b> and <b>Figure 7-3</b> for the location and type of BIAs for Australian snubfin dolphins in the NWMR.</p>
<b>Indo-Pacific humpback dolphin (Australian humpback dolphin)</b>	<p>Previously included with <i>Sousa chinensis</i>, the Australian humpback dolphin (<i>S. sahalensis</i>) was elevated to a species in 2014. <i>S. chinensis</i> is now applied for humpback dolphins in the eastern Indian and western Pacific Oceans and <i>S. sahalensis</i> for humpback dolphins in the waters of the Sahul Shelf from northern Australia to southern New Guinea (Jefferson and Rosenbaum, 2014). The Australian humpback dolphin is listed as <i>S. chinensis</i> under EPBC Act.</p> <p>The Australian humpback dolphin (referred to as 'humpback dolphin' hereafter) inhabits the tropical/subtropical waters of the Sahul Shelf across northern Australia and southern Papua New Guinea (Jefferson and Rosenbaum, 2014). Based on historical stranding data, museum specimens and opportunistic sightings collected during aerial and boat-based surveys for other fauna it has been inferred that humpback dolphins occur from the WA/NT border south-west to Shark Bay (Hanf <i>et al.</i>, 2016). Allen <i>et al.</i> (2012) suggested that humpback dolphins use a range of inshore habitats, including both clear and turbid coastal waters across northern WA. The waters surrounding North-west Cape are an important area for the species. Boat-based surveys up to 5 km out from the coast (Brown <i>et al.</i>, 2012) recorded humpback dolphins from 0.3 to 4.5 km away from shore and in depths ranging from 1.2 to 20 m, with a mean of ~8 m. Other studies around North-west Cape, surveying waters up to 5 km from the coast, recorded humpback dolphins in water depths of up to 40 m (Hanf <i>et al.</i>, 2016). Based on density, site fidelity and residence patterns, North-west Cape is clearly an important habitat toward the south-western limit of this species' range (Hunt <i>et al.</i>, 2017).</p> <p>Aerial surveys targeting dugongs over the western Pilbara have recorded humpback dolphins more than 60 km from the mainland in shallow shelf waters (i.e. &lt;30 m deep) near Barrow Island and the western Lowendal Islands (Hanf, 2015). The species has also been recorded in fringing coral reef and shallow, sheltered sandy lagoons at the Montebello Islands (Raudino <i>et al.</i>, 2018). Over the past ten years a number of studies have focused on populations of humpback dolphins along the Kimberley coast, including Roebuck Bay, the Dampier Peninsula, Cone Bay, Yampi Sound, Prince Regent River and the Cambridge Gulf (Brown <i>et al.</i>, 2016).</p> <p>Refer <b>Table 7-3</b> and <b>Figure 7-4</b> for the location and type of BIAs for Indo-Pacific humpback dolphins in the NWMR.</p>
<b>Indo-Pacific bottlenose dolphin (Spotted bottlenose dolphin)</b>	<p>There are four known sub-populations of spotted bottlenose dolphins, of which the Arafura/Timor Sea populations were identified as potentially occurring within the NWMR. The species is restricted to inshore areas such as bays and estuaries, nearshore waters, open coast environments, and shallow offshore waters including coastal areas around oceanic islands, from Shark Bay to the western edge of the Gulf of Carpentaria. The species</p>

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Species	Key Information
	forages in a range of habitats but is generally restricted to water depths of less than 200 m (DSEWPAC, 2012a). Important foraging/breeding areas include the shallow coastal waters and estuaries along the Kimberley coast and Roebuck Bay. Refer <b>Table 7-3</b> the location and type of BIAs for spotted bottlenose dolphins in the NWMR.
<b>Sirenians</b>	
<b>Dugong</b>	Dugongs are distributed along the WA coast throughout the Gascoyne, Pilbara and Kimberley. Specific areas supporting dugong populations include: Shark Bay; Ningaloo and Exmouth Gulf; the Pilbara coast (Exmouth Gulf to De Grey River [Marsh <i>et al.</i> , 2002]); and Eighty Mile Beach and the Kimberley coast, including Roebuck Bay (Brown <i>et al.</i> , 2014). Dugong distribution is correlated with the seagrass habitats upon which it feeds, although water temperature has also been correlated with dugong movements and distribution (Preen <i>et al.</i> , 1997; Preen, 2004). Dugongs are known to migrate between seagrass habitats (hundreds of kilometres) (Sheppard <i>et al.</i> , 2006), and in Shark Bay they exhibit seasonal movements as a behavioural thermoregulatory response to winter water temperatures (Holley <i>et al.</i> , 2006; Marsh <i>et al.</i> , 2011). Aerial surveys since the mid-1980s indicate that dugong populations are now stable at a regional scale in Shark Bay and in the Exmouth/Ningaloo Reef. Refer <b>Table 7-3</b> and <b>Figure 7-5</b> for the location and type of BIAs for dugong in the NWMR.
<b>Pinnipeds</b>	
<b>Australian sea lion</b>	<p>The Australian sea lion is the only endemic pinniped (true seals, fur seals and sea lions) in Australian waters. It is a member of the Otariidae (eared seals) family. The birth interval in Australian sea lions is around 17–18 months. The Australian sea lion is unique among pinnipeds in being the only species that has a non-annual breeding cycle that is also temporally asynchronous across its range (DSEWPAC, 2013a; Threatened Species Scientific Committee, 2020a). This means the breeding period (copulation and birthing) in one colony will occur at different times to breeding in another colony. The Australian sea lion is considered to be a specialised benthic forager—that is, it feeds primarily on the sea floor. Studies have shown that the species will eat a range of prey, including fish, cephalopods (squid, cuttlefish and octopus), sharks, rays, rock lobsters and penguins (DSEWPAC, 2013a; Threatened Species Scientific Committee, 2020a). The Australian sea lion feeds on the continental shelf, most commonly in depths of 20–100 m, and they typically travel up to about 60 km from their colony on each foraging trip, with a maximum distance of around 190 km when over shelf waters.</p> <p>The current breeding distribution of the Australian sea lion extends from the Houtman Abrolhos Islands on the west coast of WA to the Pages Islands in SA. Sites for the 58 breeding colonies occurring in WA and SA are designated as habitat critical to the survival of the species under the Recovery Plan for the Australian sea lion (DSEWPAC, 2013a). Of these, four are located in the SWMR along the west coast of WA: Abrolhos Islands (Easter Group), Beagle Island, North Fisherman Island and Buller Island. There are also a number of foraging BIAs for both males and females along the west coast, extending from the Abrolhos Islands south to Rockingham.</p> <p>There is no designated habitat critical to survival or identified BIAs for this species in the NWMR. <b>Figure 7-6</b> shows the foraging BIAs for the Australian sea lion to the south of the NWMR.</p>



## 7.5 Biological Important Areas in the NWMR

BIAs representing important life cycle stages and behaviours for six species of marine mammal in the NWMR: the humpback whale, the pygmy blue whale, Australian snubfin dolphin, Australian humpback dolphin, spotted bottlenose dolphin and dugong, are presented in **Table 7-3**.

Table 7-3 Marine mammal BIAs within the NWMR

Species	Woodside Activity Area			BIAs				
	Browse	NWS/S	NWC	Resting	Foraging	Breeding	Calving	Migration
Humpback whale <sup>1</sup>	✓	✓	✓	Shark Bay Exmouth Gulf (north migration – early June) (south migration – late Aug to Oct) Southern Kimberley region	No foraging BIA identified within the NWMR	Kimberley coast from the Lacepede Islands to north of Camden Sound (mid Aug – early Sept)	Core calving in waters off the Kimberley coast from the Lacepede Islands to north of Camden Sound (mid Aug – early Sept)	Southern border of the NWMR to north of the Kimberley (arrive June)
Blue whale and Pygmy blue whale <sup>1</sup> <sup>2</sup>	✓	✓	✓	No resting BIA identified within the NWMR	Possible foraging areas off Ningaloo and Scott Reef	No breeding BIA identified within the NWMR	No calving BIA identified within the NWMR	Augusta to Derby. Along the shelf edge at depths of 500 m to 1000 m; appear close to Ningaloo coast Montebello Islands area on southern migration (north: April – Aug) (south: Oct – late Dec)
Australian snubfin dolphin <sup>1</sup>	✓	✓	-	No resting BIA identified within the NWMR	Roebuck Bay Cambridge Gulf Camden Sound area King Sound (south) King Sound (north) Yampi Sound Talbot Bay Maret Islands Bigge Island Admiralty Gulf Parry Harbour Bougainville Peninsula Vansittart Bay Anjo Peninsula Deep Bay Prince Regent River King George River Cape Londonderry	Roebuck Bay Cambridge Gulf Camden Sound area King Sound (south) King Sound (north) Yampi Sound Talbot Bay Maret Islands Bigge Island Admiralty Gulf Parry Harbour Bougainville Peninsula Vansittart Bay, Anjo Peninsula Napier Broome Bay Deep Bay Prince Regent River King George River Cape Londonderry	Roebuck Bay Cambridge Gulf Camden Sound area King Sound (south) King Sound (north) Yampi Sound Talbot Bay Maret Islands Bigge Island Admiralty Gulf Parry Harbour Bougainville Peninsula Vansittart Bay Anjo Peninsula Napier Broome Bay Deep Bay Prince Regent River	No migration BIA identified within the NWMR

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Species	Woodside Activity Area			BIAs				
	Browse	NWS/S	NWC	Resting	Foraging	Breeding	Calving	Migration
					Broome Bay Deep Bay Prince Regent River King George River Cape Londonderry Ord River	Ord River	King George River Cape Londonderry Ord River	
Indo-Pacific humpback dolphin	✓	✓	-	No resting BIA identified within the NWMR	Roebuck Bay Willie Creek Prince Regent River King Sound (north) Yampi Sound Talbot Bay Walcott Inlet Doubtful Bay Deception Bay Augustus Island Maret Islands Bigge Island King Sound, southern sector Vansittart Bay, Anjo Peninsula	Roebuck Bay Willie Creek Prince Regent River King Sound (north) Yampi Sound Talbot Bay Walcott Inlet Doubtful Bay Deception Bay Augustus Island	Roebuck Bay Willie Creek Prince Regent River	No migration BIA identified within the NWMR
Spotted bottlenose dolphin	✓	✓	✓	No resting BIA identified within the NWMR	Roebuck Bay Cambridge Gulf Camden Sound area King Sound (south) King Sound (north) Yampi Sound	Roebuck Bay Cambridge Gulf Camden Sound area King Sound (south) King Sound (north) Yampi Sound	No calving BIA identified within the NWMR	No migration BIA identified within the NWMR

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Species	Woodside Activity Area			BIAs				
	Browse	NWS/S	NWC	Resting	Foraging	Breeding	Calving	Migration
Dugong <sup>1</sup>	✓	✓	✓	No resting BIA identified within the NWMR	Exmouth Gulf Ningaloo Reef Shark Bay Roebuck Bay Dampier Peninsula	No breeding BIA identified within the NWMR	Exmouth Gulf Ningaloo Reef Shark Bay	Not listed as a migratory species

<sup>1</sup> DSEWPAC (2012a)

<sup>2</sup> Commonwealth of Australia (2015a)

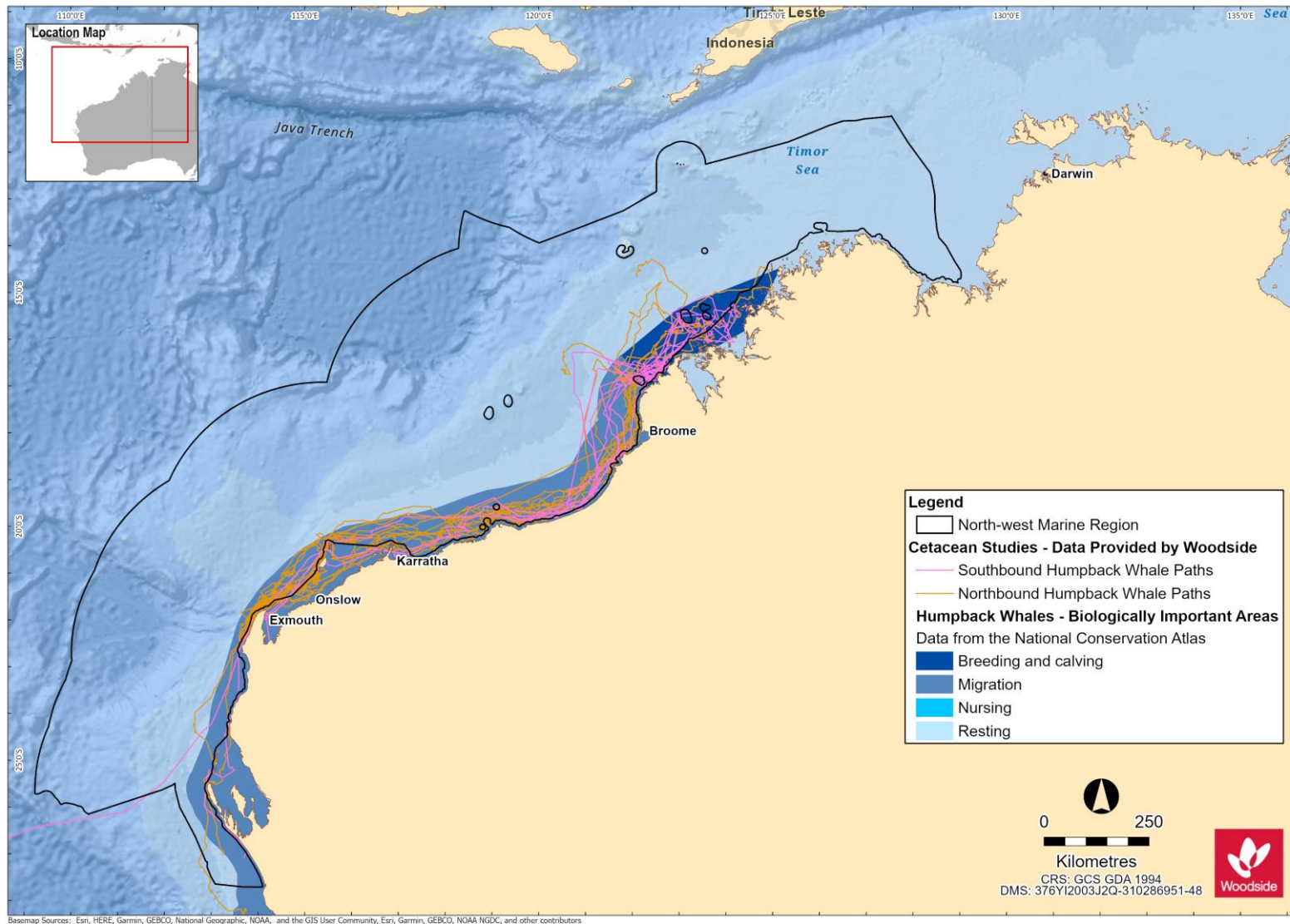
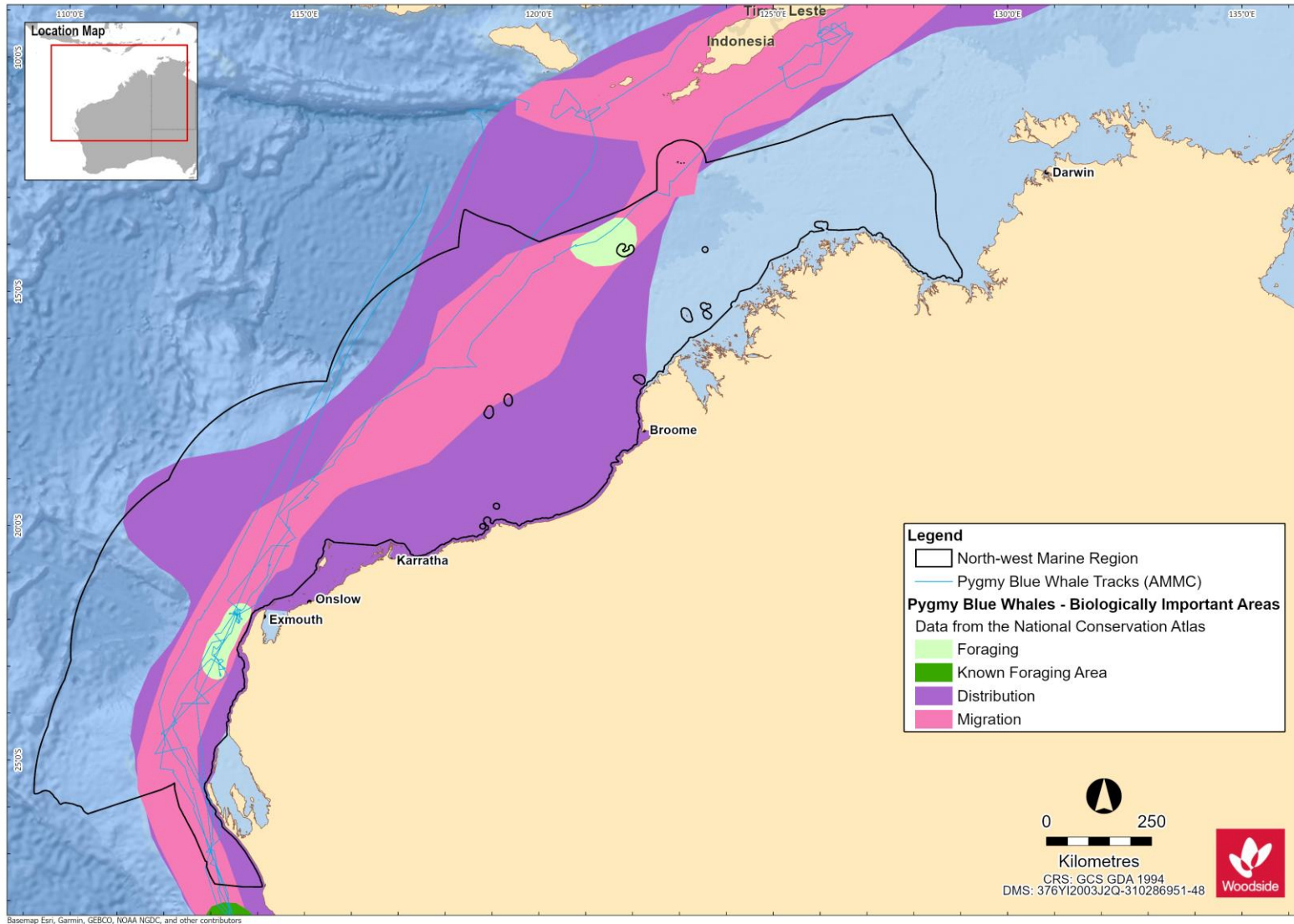


Figure 7-1 Humpback whale BIAs for the NWMR and tagged tracks for north and south bound migrations

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**Figure 7-2 Pygmy blue whale BIAs for the NWMR and tagged whale tracks for northbound migration**

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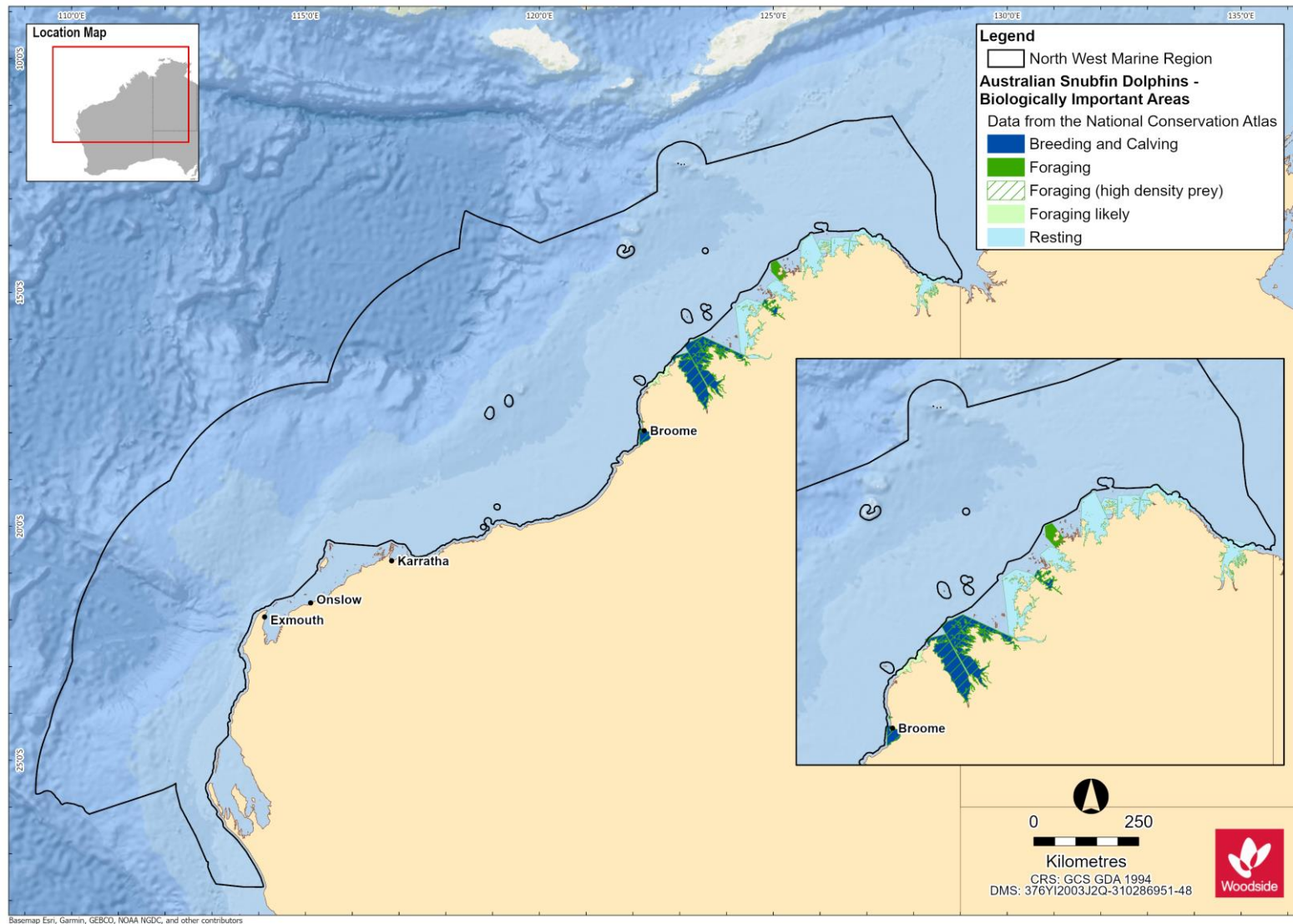


Figure 7-3 Australian snubfin dolphin BIAs for the NWMR

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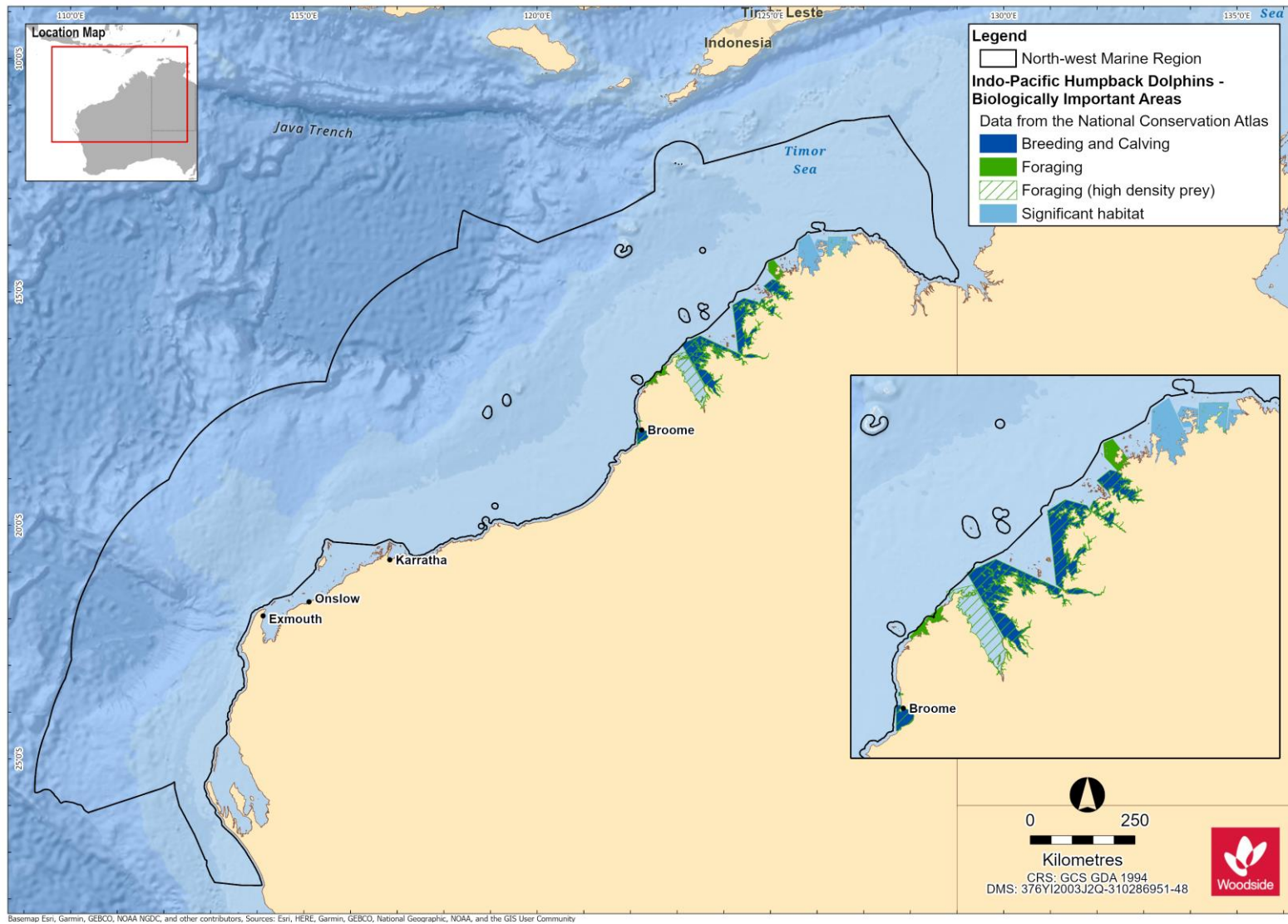


Figure 7-4 Indo-Pacific humpback dolphin BIAs for the NWMR

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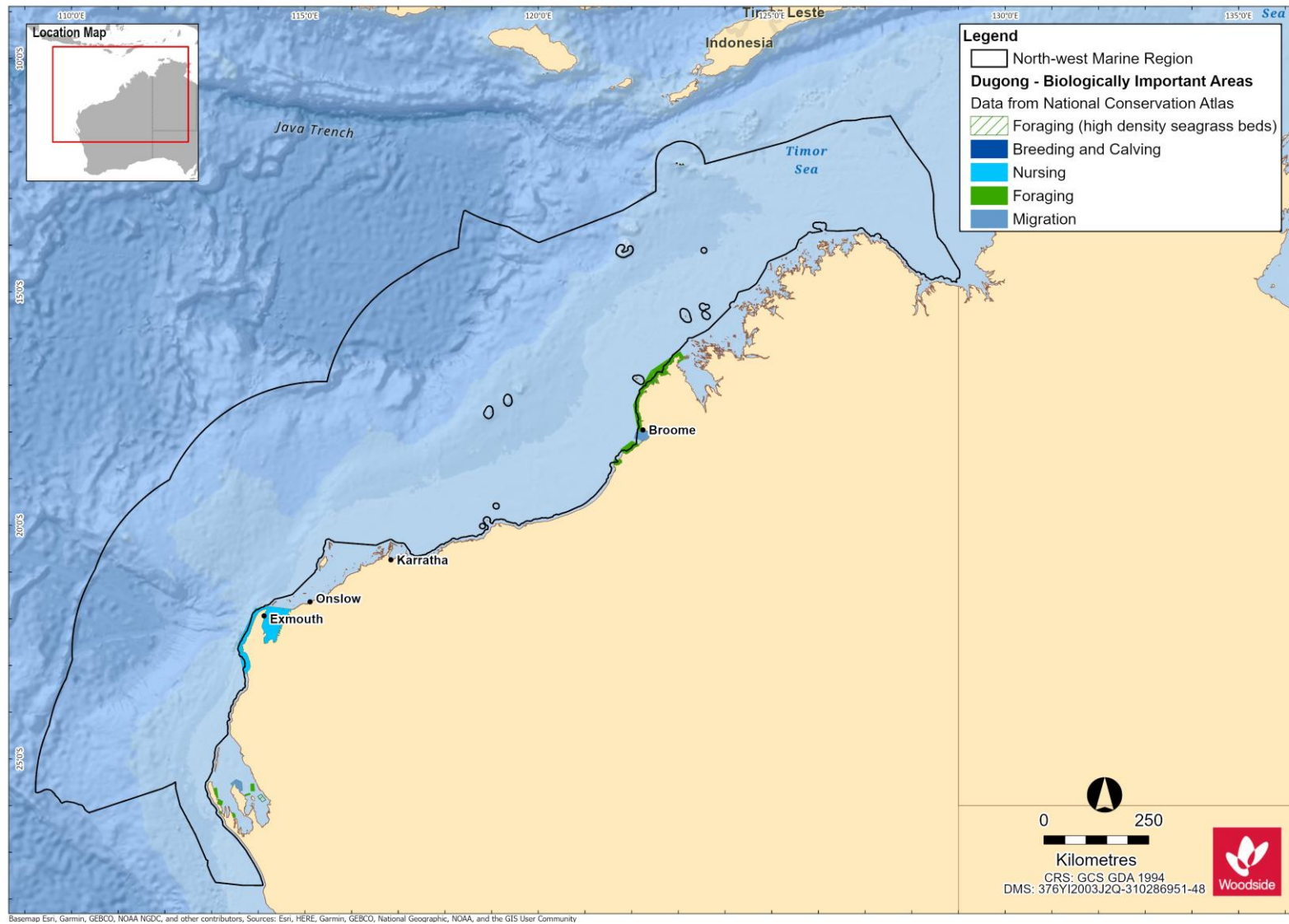
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**Figure 7-5 Dugong BIA's for the NWMR**

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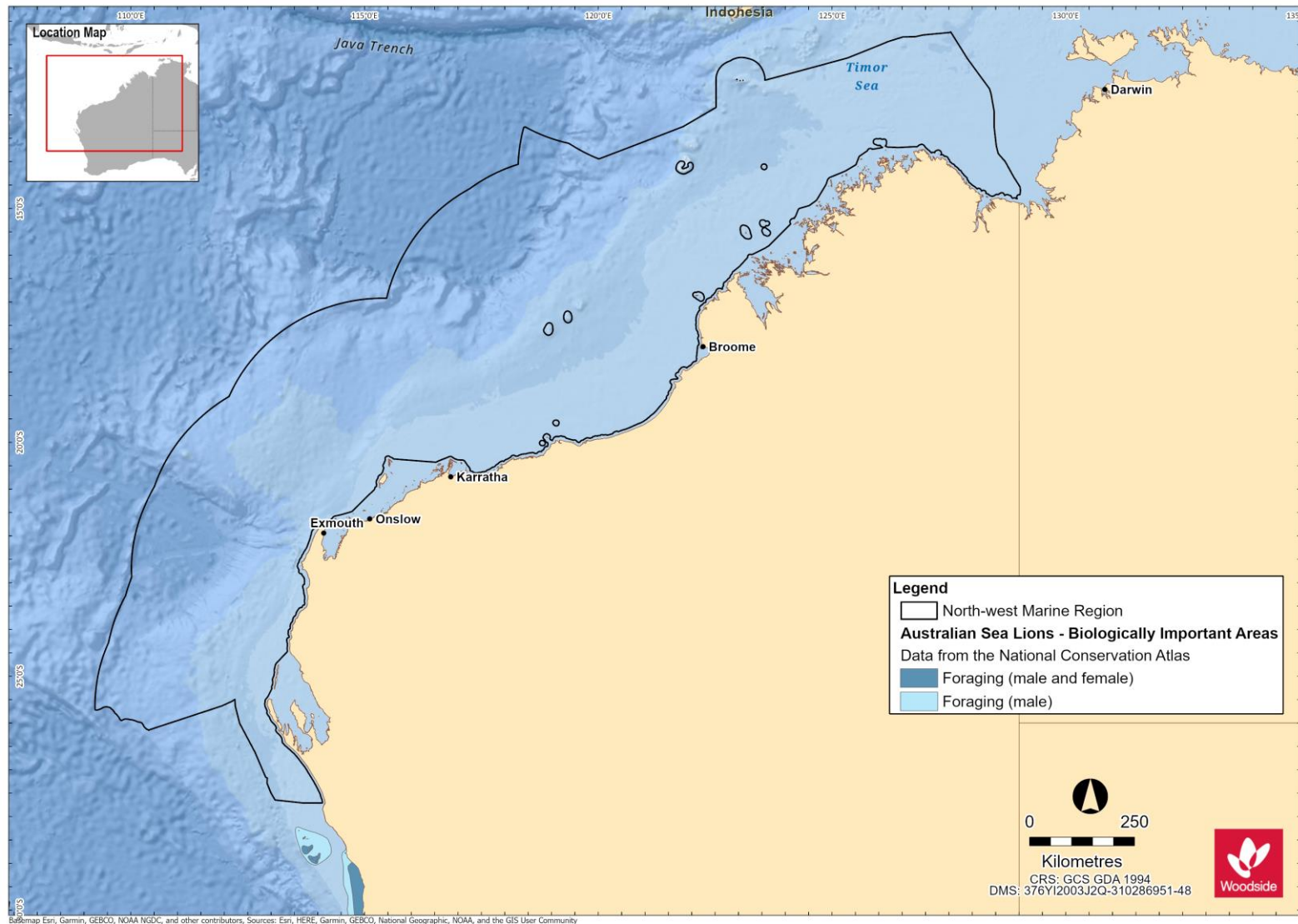


Figure 7-6 Australian sea lion BIAs in the northern extent of the SWMR closest to the NWMR

## 7.6 Marine Mammal Summary for the NWMR

### 7.6.1 Browse

The Browse activity area includes biologically important habitat for five threatened and/or migratory marine mammal species:

- blue whale and pygmy blue whale (foraging and migration areas);
- humpback whale (breeding, calving and migration areas);
- Indo-Pacific humpback dolphin (foraging, breeding and calving areas);
- Australian snubfin dolphin (foraging, breeding and calving areas); and
- dugong (foraging).

BIAs for the marine mammal species are outlined in **Table 7-3**.

### 7.6.2 North-west Shelf / Scarborough

The NWS / Scarborough activity area includes biologically important habitat for five threatened and/or migratory marine mammal species:

- blue whale and pygmy blue whale (foraging and migration areas);
- humpback whale (resting and migration areas);
- Indo-Pacific humpback dolphin (foraging, breeding and calving areas);
- Australian snubfin dolphin (foraging, breeding and calving areas); and
- dugong (foraging and calving areas).

BIAs for the marine mammal species are outlined in **Table 7-3**.

### 7.6.3 North-west Cape

The North-west Cape activity area includes biologically important habitat for three threatened and/or migratory marine mammal species:

- blue whale and pygmy blue whale (foraging and migration areas);
- humpback whale (resting and migration areas); and
- dugong (foraging and calving areas).

BIAs for the marine mammal species are outlined in **Table 7-3**.

## 8. SEABIRDS AND MIGRATORY SHOREBIRDS OF THE NWMR

### 8.1 Regional Context

The NWMR supports high numbers and species diversity of seabirds and migratory shorebirds including many that are EPBC Act listed, threatened and migratory. The NWMR marine bioregional plan reported 34 seabird species (listed as threatened, migratory and/or marine) that are known to occur, and 30 of 37 species of migratory shorebird species that regularly occur in Australia, are recorded at Ashmore Reef in the NWMR (DSEWPAC, 2012e). The NWMR marine bioregional plan also noted that Roebuck Bay and Eighty Mile Beach are internationally significant and recognised migratory shorebird locations.

Many migratory seabirds and shorebirds are protected through bilateral agreements between Australia and Japan (JAMBA), China (CAMBA) and the Republic of Korea (ROKAMBA), recognising the migratory route and important stopover and resting habitats of the East Asian-Australasian Flyway (EAAF). Important migratory bird habitats are also recognised as part of protected wetlands of the international significance under the Ramsar Convention. Important Bird Areas (IBAs) for the NWMR, which are also recognised as global Key Biodiversity Areas (KBAs) (BirdLife Australia<sup>4</sup>), include:

- Roebuck Bay KBA (and Ramsar site): Internationally significant migratory shorebird species.
- Mandora Marsh and Anna Plains KBA (adjacent to Eighty Mile Beach, Ramsar site): Internationally significant migratory shorebird species.
- Dampier Saltworks KBA: Internationally significant migratory shorebird species.
- Montebello Islands KBA: Shorebird and seabird species.
- Barrow Island KBA: Shorebird and seabird species.
- Exmouth Gulf Mangroves KBA: Internationally significant migratory shorebird species.

**Table 8-1** presents a list of the threatened and migratory seabird and shorebird species that occur within the NWMR, with their conservation status and relevant recovery plans and/or conservation advice.

4

[https://www.birdlife.org.au/projects/KBA#:~:text=The%20Key%20Biodiversity%20Areas%20\(KBAs,of%20advocacy%20for%20protected%20areas.](https://www.birdlife.org.au/projects/KBA#:~:text=The%20Key%20Biodiversity%20Areas%20(KBAs,of%20advocacy%20for%20protected%20areas.)

Accessed April, 2021.

**Table 8-1. Bird species (threatened/migratory) identified by the EPBC Act PMST and other sources of information as potentially occurring within the NWMR**

Species Name	Common Name	Environment Protection and Biodiversity Conservation Act 1999			WA Biodiversity Conservation Act 2016	EPBC Act Part 13 Statutory Instrument
		Threatened Status	Migratory Status	Listed	Conservation Status	
<b>Seabirds</b>						
<i>Macronectes giganteus</i>	Southern giant petrel	Endangered	Migratory	Marine	Migratory	National recovery plan for threatened albatrosses and giant petrels 2011-2016 (DSEWPAC, 2011c)
<i>Papasula abbotti</i>	Abbott's booby	Endangered	N/A	Marine	N/A	Conservation Advice for the Abbott's booby - <i>Papasula abbotti</i> (Threatened Species Scientific Committee, 2020b)
<i>Pterodroma mollis</i>	Soft-plumaged petrel	Vulnerable	N/A	Marine	N/A	Conservation Advice <i>Pterodroma mollis</i> soft-plumaged petrel (Threatened Species Scientific Committee, 2015f)
<i>Sternula nereis nereis</i>	Australian fairy tern	Vulnerable	N/A	N/A	Vulnerable	Conservation Advice for <i>Sternula nereis nereis</i> (Fairy Tern) (DSEWPAC, 2011d)
<i>Anous tenuirostris melanops</i>	Australian lesser noddy	Vulnerable	N/A	Marine	Endangered	Conservation Advice <i>Anous tenuirostris melanops</i> Australian lesser noddy (Threatened Species Scientific Committee, 2015e)
<i>Thalassarche carteri</i>	Indian yellow-nosed albatross	Vulnerable	Migratory	Marine	Endangered	National recovery plan for threatened albatrosses and giant petrels 2011-2016 (DSEWPAC, 2011c)
<i>Anous stolidus</i>	Common noddy	N/A	Migratory	Marine	Migratory	Draft Wildlife Conservation Plan for Seabirds (Commonwealth of Australia, 2019)
<i>Fregata ariel</i>	Lesser frigatebird	N/A	Migratory	Marine	Migratory	
<i>Fregata minor</i>	Great frigatebird	N/A	Migratory	Marine	Migratory	
<i>Sula leucogaster</i>	Brown booby	N/A	Migratory	Marine	Migratory	
<i>Sula sula</i>	Red-footed booby	N/A	Migratory	Marine	Migratory	

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Species Name	Common Name	Environment Protection and Biodiversity Conservation Act 1999			WA Biodiversity Conservation Act 2016	EPBC Act Part 13 Statutory Instrument
		Threatened Status	Migratory Status	Listed	Conservation Status	
<i>Onychoprion anaethetus</i> (listed as <i>Sterna anaethetus</i> )	Bridled tern	N/A	Migratory	Marine	Migratory	
<i>Thalasseus bergii</i>	Greater crested tern	N/A	Migratory	Marine	Migratory	
<i>Sternula albifrons</i>	Little tern	N/A	Migratory	Marine	Migratory	
<i>Sterna dougallii</i>	Roseate tern	N/A	Migratory	Marine	Migratory	
<i>Onychoprion fuscata</i>	Sooty tern	N/A	N/A	Marine	N/A	
<i>Hydroprogne caspia</i>	Caspian tern	N/A	Migratory	Marine	Migratory	
<i>Ardena pacifica</i>	Wedge-tailed shearwater	N/A	Migratory	Marine	Migratory	
<i>Puffinus assimillis</i>	Little shearwater	N/A	N/A	Marine	N/A	
<i>Ardena carneipes</i>	Flesh-footed shearwater	N/A	Migratory	Marine	Vulnerable	
<i>Calonectris leucomelas</i>	Streaked shearwater	N/A	Migratory	Marine	Migratory	
<i>Phaethon lepturus</i>	White-tailed tropicbird	N/A	Migratory	Marine	Migratory	
<i>Chroicocephalus novaehollandiae</i>	Silver gull	N/A	N/A	Marine	N/A	
<b>Migratory shorebirds</b>						
<i>Numenius madagascariensis</i>	Eastern curlew, Far Eastern curlew	Critically endangered	Migratory	Marine	Critically endangered	Conservation Advice <i>Numenius madagascariensis</i> eastern curlew (DOE, 2015a)
<i>Calidris ferruginea</i>	Curlew sandpiper	Critically endangered	Migratory	Marine	Critically endangered	Conservation Advice <i>Calidris ferruginea</i> curlew sandpiper (DOE, 2015b)
<i>Calidris tenuirostris</i>	Great knot	Critically endangered	Migratory	Marine	Critically endangered	Conservation Advice <i>Calidris tenuirostris</i> Great knot (Threatened Species Scientific Committee, 2016a)
<i>Limosa lapponica menzbieri</i>	Bar-tailed godwit ( <i>menzbieri</i> )	Critically endangered	Migratory	Marine	Critically endangered	Conservation Advice <i>Limosa lapponica menzbieri</i> Bar-tailed godwit (northern Siberia). (Threatened Species Scientific Committee, 2016c)

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Species Name	Common Name	Environment Protection and Biodiversity Conservation Act 1999			WA Biodiversity Conservation Act 2016	EPBC Act Part 13 Statutory Instrument
		Threatened Status	Migratory Status	Listed	Conservation Status	
<i>Calidris canutus</i>	Red knot	Endangered	Migratory	Marine	Endangered	Conservation Advice <i>Calidris canutus</i> Red knot (Threatened Species Scientific Committee, 2016b)
<i>Charadrius mongolus</i>	Lesser sand plover	Endangered	Migratory	Marine	Endangered	Conservation Advice <i>Charadrius mongolus</i> Lesser sand plover (Threatened Species Scientific Committee, 2016e)
<i>Charadrius leschenaultii</i>	Greater sand plover	Vulnerable	Migratory	Marine	Vulnerable	Conservation Advice <i>Charadrius leschenaultia</i> Greater sand plover (Threatened Species Scientific Committee, 2016d)
All migratory shorebird species	Wildlife Conservation Plan for Migratory Shorebirds (Commonwealth of Australia, 2015c).					

## 8.2 Seabirds in the NWMR

Seabirds are birds that are adapted to life within the marine environment (oceanic and coastal) and are generally long-lived, have delayed breeding and have fewer young than other bird species (Commonwealth of Australia, 2019). At least 34 seabird species listed as threatened, migratory and/or marine under the EPBC Act are known to occur regularly in the NWMR and include a variety of species of terns, noddies, petrels, shearwaters, frigatebirds, and boobies. Many of these species spend most of their lives at sea (predominately pelagic species), ranging over large distances to forage. These pelagic species only come onshore to breed and raise chicks at natal or high-fidelity breeding colonies on remote, offshore island locations in and adjacent to the NWMR. Many species are ecologically significant to the NWMR, as they are endemic to the region, can be present in large numbers in breeding seasons and non-breeding seasons, and many exhibit extensive annual migrations that include marine areas outside the Australian EEZ (DSEWPAC, 2012e).

The presence of seabirds within the NWMR is influenced by seabird species that migrate and forage in the area during the non-breeding season and this includes many seabird species that breed on the Houtman Abrolhos in the SWMR. Pelagic seabirds have been documented foraging at current boundaries and seasonal upwellings within the NWMR (refer to Sutton *et al.*, 2019). The Houtman Abrolhos Islands National Park located in the SWMR, is one of the most significant seabird breeding locations in the eastern Indian Ocean. Sixteen (16) species of seabirds breed there. Eighty percent of common (brown) noddies, 40% of sooty terns and all the lesser noddies found in Australia nest at the Houtman Abrolhos (Surman, 2019). Important seabird areas in the NWMR are as identified by the KBAs (refer to **Section 8.1**) and the information on a select number of seabird species documented for the NWMR (based on the screening criteria presented in **Section 3**), as presented in **Table 8-2**.

**Table 8-2 Information on threatened/migratory seabird species of the NWMR**

Species	Key Information
<b>Seabirds</b>	
<b>Southern giant petrel</b>	This species is included in the National recovery plan for threatened albatrosses and giant petrels. Habitat critical to survival is defined for breeding and foraging. There are six known breeding localities under Australian jurisdiction (for all species giant petrels) and all are located in the Southern Ocean including islands off Tasmania and within the Australian Antarctic Territory (DSEWPAC, 2011c). Habitat critical to survival identified for foraging is defined as waters south of 25 degrees latitude. The giant petrel species distribution is mainly within the Southern Ocean but this species does migrate into subtropical waters during the winter and its distribution includes the southern extent of the NWMR. No BIAs for this species are located in the NWMR.
<b>Abbott's booby</b>	The Abbott's booby is a large, long-lived seabird known to nest only at Christmas Island. The recovery of this species is strongly dependent on the protection of breeding habitat defined habitat critical to the survival of this species on Christmas Island (Threatened Species Scientific Committee, 2020b). This species spends much of its time at sea and known to forage over large distances offshore when nesting and its range includes off the coast of Java, near the Chagos and in the Banda Sea, and may possibly extend into the north-western extent of the NWMR. No BIAs for this species are located in the NWMR.
<b>Soft-plumaged petrel</b>	This petrel species breeds only at two locations in Australian waters within the Southern Ocean (one off Tasmania and Macquarie Island) (Threatened Species Scientific Committee, 2015f). As a mainly sub-Antarctic species they are usually distributed in cooler seas but distribution extends into subtropical waters and its known distribution includes the southern extent of the NWMR. No BIAs for this species are located in the NWMR.
<b>Australian fairy tern</b>	The Australian fairy tern is listed as Vulnerable for the sub-species only recorded for WA. It has a coastal distribution from Sydney, south to Tasmania and around southern WA up to the Dampier Archipelago and out on the offshore island groups of Barrow, Montebello and the Lowendals (DSEWPAC, 2011d). The Australian fairy tern feeds on small baitfish and roosts and nests on sandy beaches below vegetation. These behaviours, generally, occur in inshore waters of island archipelagos and on the Australian mainland shores and adjacent wetlands. Fairy terns breed from August to February. The Australian fairy tern is unlikely to be present
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Species	Key Information
	within the offshore environment of the NWMR. The largest breeding colony in Western Australia for this species is in the Houtman Abrolhos Islands, SWMR (Surman, 2019). For the description and location of BIAs in the NWMR, refer to <b>Table 8-3</b> and <b>Figure 8-2</b> .
<b>Australian lesser noddy</b>	The Houtman Abrolhos, WA is an important breeding habitat for the Australian lesser noddy in the eastern Indian Ocean. This species exhibits nesting habitat specialisation (white mangrove stands) and has a limited foraging range during the breeding season. Furthermore, the lesser noddy forages over shelf waters and appears not to disperse over their non-breeding period as they remain largely in the general vicinity or slightly to the south of the colony in the non-breeding season (February to September; Surman <i>et al.</i> , 2018). No BIAs for this species are located in the NWMR.
<b>Indian yellow-nosed albatross</b>	This species is included in the National recovery plan for threatened albatrosses and giant petrels. Habitat critical to survival is defined for breeding and foraging. There are six known breeding localities under Australian jurisdiction (for all species of albatrosses) and all are located in the Southern Ocean including islands off Tasmania and within the Australian Antarctic Territory (DSEWPAC, 2011c). Habitat critical to survival identified for foraging is defined as waters south of 25 degrees latitude. All albatross species distribution (including the Indian yellow-nose albatross) is mainly within the Southern Ocean but this species does migrate into subtropical waters during the winter and its distribution includes the southern extent of the NWMR. No BIAs for this species are located in the NWMR.
<b>Common noddy</b>	This species is listed as migratory and marine. The common (or brown) noddy is the largest species of noddy found in Australian waters. The species is widespread in tropical and subtropical areas beyond Australia. This seabird species is gregarious and normally occurs in flocks, up to hundreds of individuals, when feeding or roosting. The Houtman Abrolhos, WA is the primary breeding habitat for the common noddy in the Eastern Indian Ocean. This species spends their non-breeding season (March to August) in the NWS area, around 950 km north from the breeding colony (Surman <i>et al.</i> 2018). The species occurs within NWMR waters, particularly around offshore islands such as the Montebello Island group. This species is recorded on unmanned oil and gas platforms within the NWS. No BIAs for this species are located in the NWMR.
<b>Lesser frigatebird Great frigatebird</b>	Both species of frigatebird are listed as migratory and marine. Within the NWMR, the lesser frigatebird is known to breed on Adele, Bedout and West Lacepede islands, Ashmore Reef and Cartier Island (Commonwealth of Australia, 2019). The lesser frigatebird feeds mostly on fish and sometimes cephalopods, and all food is taken while the bird is in flight. Lesser frigatebirds generally forage close to breeding colonies. Breeding/foraging BIAs for the lesser frigatebird are located in the NWMR; refer to <b>Table 8-3</b> .
<b>Brown booby</b>	The brown booby is the most common booby, occurring throughout all tropical oceans bounded by latitudes 30° N and 30° S. There are large colonies on offshore islands within the NWMR such as the Lacepede Islands (one of the largest colonies in the world), Ashmore Reef, and other offshore Kimberley islands. This seabird species is a specialised plunge diver, mostly eating fish and some cephalopods (Commonwealth of Australia, 2019). Breeding/foraging BIAs for the brown booby are located in the NWMR; refer to <b>Table 8-3</b> and <b>Figure 8-3</b> .
<b>Red-footed booby</b>	Within the NWMR, its known breeding sites for this species include Ashmore Reef and Cartier Island. It is a pelagic species and generally occurs away from land. It mainly eats flying fish and squid. Prey abundance is reliant on the high productivity in slope areas off remote islands where the birds breed (Commonwealth of Australia, 2019). Breeding/foraging BIAs for the red-footed booby are located in the NWMR; refer to <b>Table 8-3</b> and <b>Figure 8-3</b> .
<b>Greater crested tern</b>	The greater crested tern has a widespread distribution recorded on islands and coastlines of tropical and subtropical areas, ranging from the Atlantic coast of South Africa, Indian Ocean and through south-east Asia and Australia. Outside the breeding season it can be found at sea throughout its range, with the exception of the central Indian Ocean (Commonwealth of Australia, 2019). The largest breeding colony in WA for this species is the Houtman Abrolhos Islands, SWMR (Surman, 2019). No BIAs for this species are located in the NWMR.
<b>Little tern</b>	There are three sub-populations of this species in Australia and two of these occur in the NWMR: northern Australian breeding sub-population occurring around Broome and extending across in to the NMR, and an east Asian breeding sub-population, with the terns present from Shark Bay to south-eastern Queensland during the austral summer. Little terns

Species	Key Information
	usually forage close to breeding colonies in the shallow water of estuaries (Commonwealth of Australia, 2019). For the description and location of BIAs in the NWMR, refer to <b>Table 8-3</b> and <b>Figure 8-2</b> .
<b>Roseate tern</b>	This species is generally tropical in distribution and there are many breeding populations in the NWMR, including Ashmore Reef, Napier Broome Bay, Bonaparte Archipelago, Lacepede Islands, Dampier Archipelago and the Lowendal Islands. A large number of non-breeding roseate terns have been observed at several remote locations in the Kimberley and there are high numbers also recorded for Eighty Mile Beach Ramsar site. The Kimberley colonies are likely to be another sub-species that breeds in east Asia. Roseate terns predominately eat small pelagic fish (Commonwealth of Australia, 2019). The largest breeding colony in Western Australia for this species is in the Houtman Abrolhos Islands, SWMR (Surman, 2019). For the description and location of BIAs in the NWMR, refer to <b>Table 8-3</b> and <b>Figure 8-2</b> .
<b>Wedge-tailed shearwater</b>	The wedge-tailed shearwater is a pelagic, marine seabird known from tropical and subtropical waters. Its distribution is widespread across the Indian and Pacific oceans. It is known to breed on the east and west coasts (and offshore islands) of Australia. This species is known to consume fish, cephalopods, and other biota primarily via contact-dipping. Wedge-tailed shearwaters are now understood to undertake extensive foraging trips (over thousands of kilometres over periods of days when chicking and provisioning young) and much longer and extensive pelagic travels over the north-west Indian Ocean during the non-breeding season, targeting current boundaries and upwellings. The species breeds throughout its range, mainly on vegetated islands, atolls and cays and excavates burrows in the ground where chicks are raised (Commonwealth of Australia, 2019). Large breeding colonies of the wedge-tailed shearwater are located on the Houtman Abrolhos islands (SWMR) (Surman <i>et al.</i> , 2018) and several locations in the NWMR including: Muiron Islands (North-west Cape), Varanus Island and the Dampier Archipelago in the Pilbara where burrow numbers were estimated to several hundred thousand to half a million such as on the Muiron Islands, though it is not known if all burrows are utilised on an annual basis (Birdlife Australia, 2018; Surman <i>et al.</i> , 2018). Cannell <i>et al.</i> (2019) satellite tracked adult wedge-tailed shearwaters during egg incubation and chick rearing on the Muiron Islands in January 2018. For the incubation trips, there was a strong consistency for the birds to travel towards seamounts, typically located north-west of the Muiron Islands, between Australia and Indonesia. One bird however remained south-west of the islands, in the Cape Range Canyon. A similar pattern to utilise areas associated with sea mounts was also observed for the long foraging trips during chick rearing, though some of the foraging was concentrated in deeper waters. A bimodal foraging strategy during chick-rearing was observed, with adults undertaking long foraging trips after a series of shorter foraging trips within the NWMR. Surman <i>et al.</i> (2018) reported most wedge-tailed shearwaters from the breeding colonies on the Houtman Abrolhos undertook extensive non-breeding migrations. This seabird species occupied waters adjacent or to the north of their nesting sites or migrated 4200 km north-west into the equatorial central Indian Ocean near the Ninety East Ridge during the non-breeding season (later April to mid-November). For the description and location of BIAs in the NWMR, refer to <b>Table 8-3</b> and <b>Figure 8-1</b> .
<b>Flesh-footed shearwater</b>	The species mainly occurs in the subtropics, over continental shelves and slopes and occasionally inshore waters, with individual birds pass through the tropics and over deeper waters during migration to the North Pacific and Indian oceans (Commonwealth of Australia, 2019). They are a common visitor to the waters off southern Australia, from south-western WA to south-eastern Queensland. The fleshy-footed shearwater is a trans-equatorial migrant, breeding from late September to May off south-western Australia, and migrating north by early May, across the southern Indian and possibly Indonesia to the northern Pacific Ocean. No BIAs for the flesh-footed shearwater are located in the NWMR.
<b>Streaked shearwater</b>	The streaked shearwater has a broad distribution in the western Pacific Ocean, breeding on the coast and offshore islands of Japan, Russia, China and the Korean Peninsula. During winter months (non-breeding season), the species undertakes trans-equatorial migration to the coasts of Vietnam, New Guinea, the Philippines, Australia, southern India and Sri Lanka. The streaked shearwater feeds mainly on fish and squid that it catches by surface-seizing and shallow plunges (Commonwealth of Australia, 2019). No BIAs for the streaked shearwater are located in the NWMR.
<b>White-tailed tropicbird</b>	Tropicbirds are predominately pelagic species and the white-tailed tropicbird forages in warm waters and over long distances (pan-tropical). The species is most common off north-west Australia. In the NWMR, this species is considered a sub-species and are limited in number and distribution. Nesting sites are known for Clerke Reef (Rowley Shoals) and Ashmore

Species	Key Information
	Reef. Christmas Island is also a known nesting site and the species can disperse several thousand kilometres during foraging trips. This species feeds mainly on fish and cephalopods, captured by deep plunge diving (Commonwealth of Australia, 2019). There are breeding BIAs at the Rowley Shoals and Ashmore Reef within the NWMR for the white-tailed tropicbird; refer to <b>Table 8-3</b> .
<b>Silver gull</b>	The silver gull is typically described as an inshore and coastal foraging seabird and has an Australian-wide distribution including locations within the NWMR. It is noted as it has been recorded on unmanned oil and gas platforms located within the NWS.

### 8.2.1 Biologically Important Areas in the NWMR

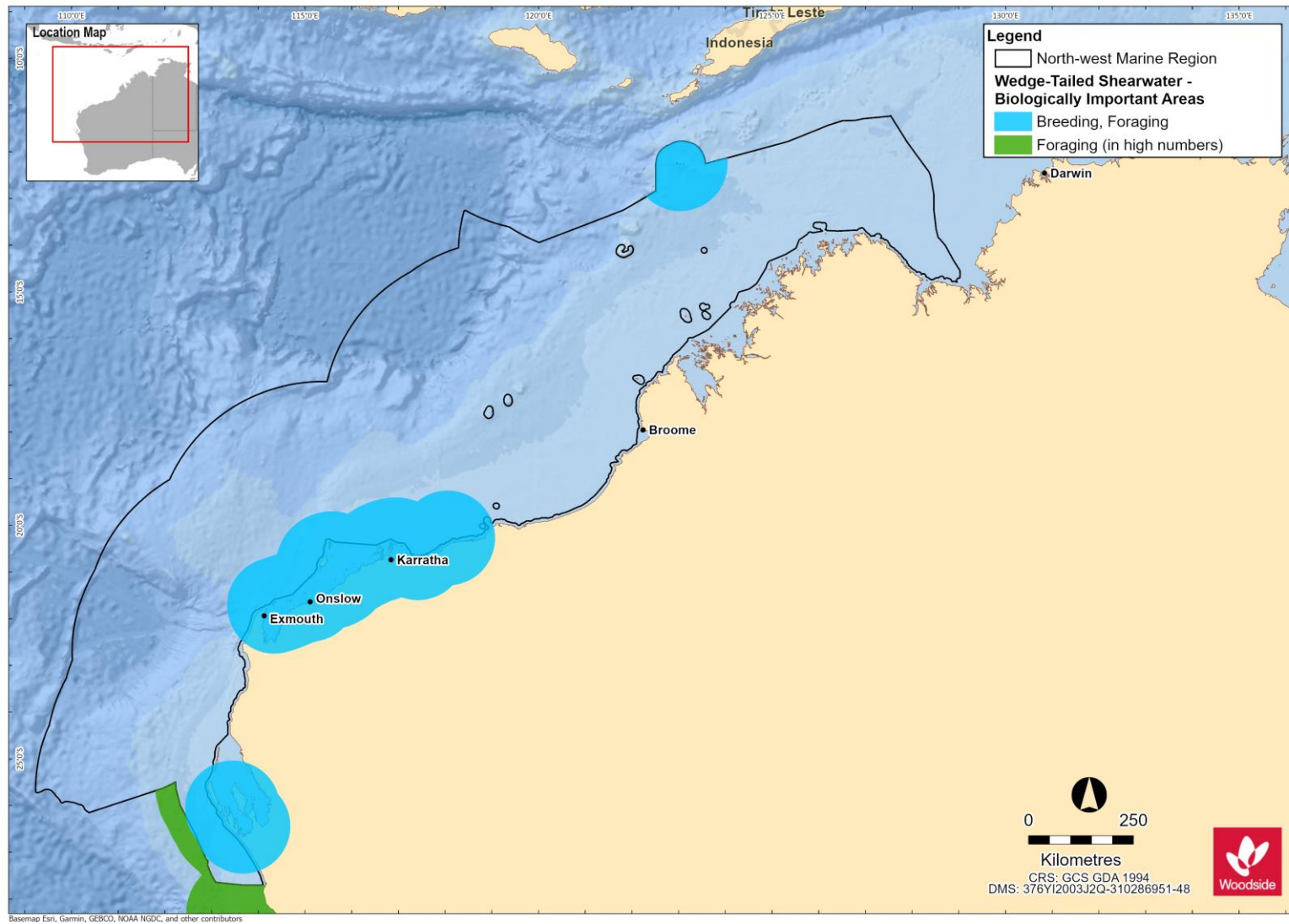
BIAs representing important life cycle stages and behaviours for eight species of seabird in the NWMR are presented in **Table 8-3**.

Table 8-3 Seabird BIAs within the NWMR

Seabird Species	Woodside Activity Area			BIAs			
	Browse	NWS/S	NWC	Breeding/foraging	Foraging	Breeding	Resting
Australia fairy tern	-	✓	✓	-	No foraging BIAs in the NWMR Foraging in high numbers: the BIA is located in the SWMR including the Houtman Abrolhos Islands	Dampier Archipelago, Montebello, Lowendal and Barrow Island Groups, south Ningaloo and barrier island of Shark Bay	-
Wedge-tailed shearwater	✓	✓	✓	Widespread area of the NWMR offshore and inshore waters	Foraging in high numbers: the BIA is located in the SWMR including the Houtman Abrolhos Islands	-	-
Great frigatebird	✓	-	-	Ashmore Reef, Adele Island	-	-	-
Lesser frigatebird	✓	✓	-	Off Eighty Mile Beach, Lacepedes, Adele Island, North Kimberley and Ashmore Reef	-	-	-
Brown booby	✓	✓	-	Off Eighty Mile Beach, Lacepedes, Adele Island, North Kimberley and Ashmore Reef	-	-	-
Red-footed booby	✓	-	-	Adele Island, Ashmore Reef	-	-	-
Little tern	✓	✓	-	Rowley Shoals, Adele Island	-	-	-
Roseate tern	✓	✓	✓	-	No foraging BIAs in the NWMR Foraging (provisioning young) and foraging BIAs located in the SWMR – Houtman Abrolhos Islands the	Dampier Archipelago, Montebello, Lowendal and Barrow Island Groups, south Ningaloo and barrier island of Shark Bay	Eighty Mile Beach

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Seabird Species	Woodside Activity Area			BIAs			
	Browse	NWS/S	NWC	Breeding/foraging	Foraging	Breeding	Resting
					nearest BIA to the NWMR		
White-tailed tropicbird	✓	-	-			Rowley Shoals Ashmore Reef	



**Figure 8-1 Wedge-tailed shearwater BIAs for the NWMR**

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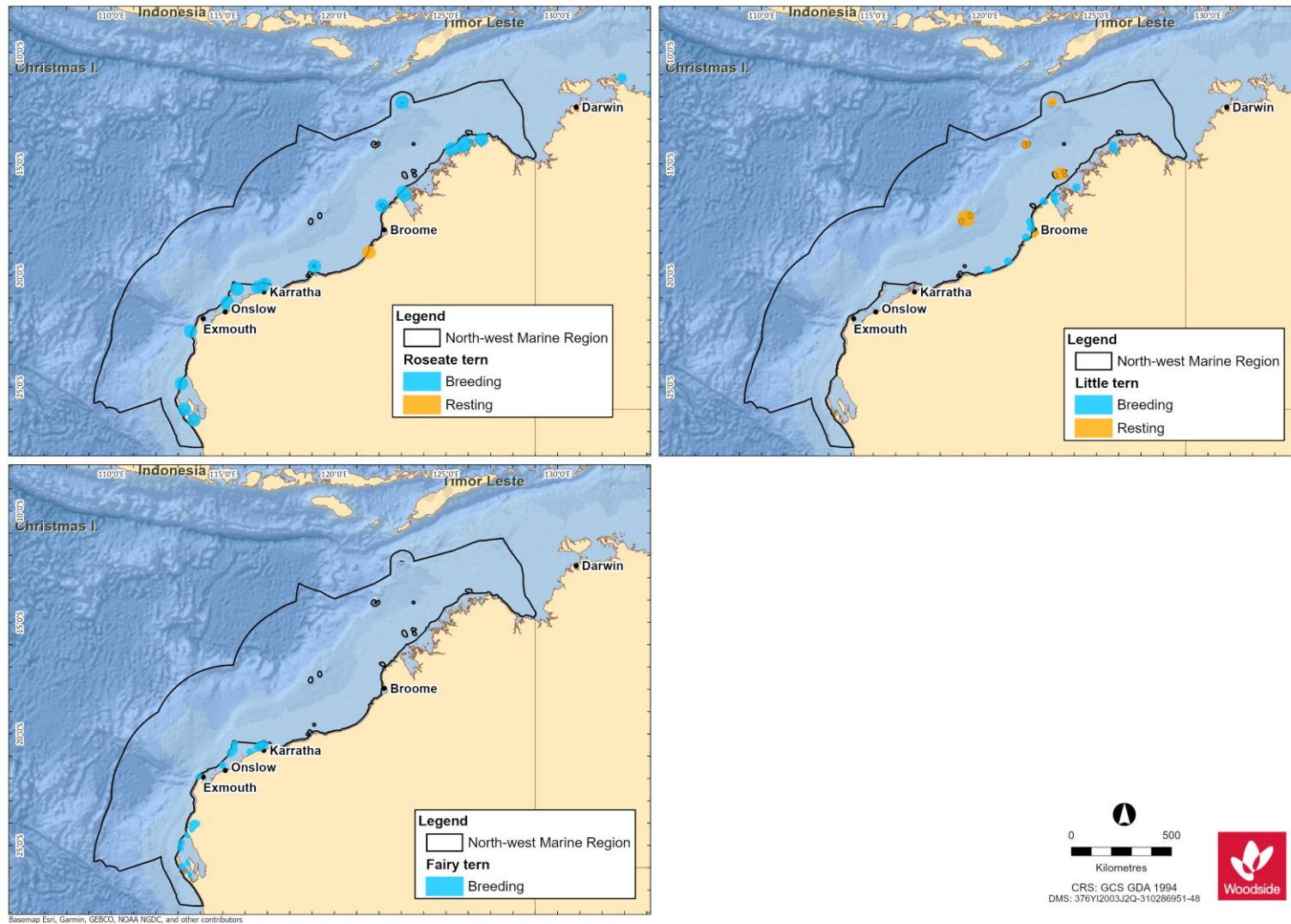


Figure 8-2 Tern species BIAs for the NWMR

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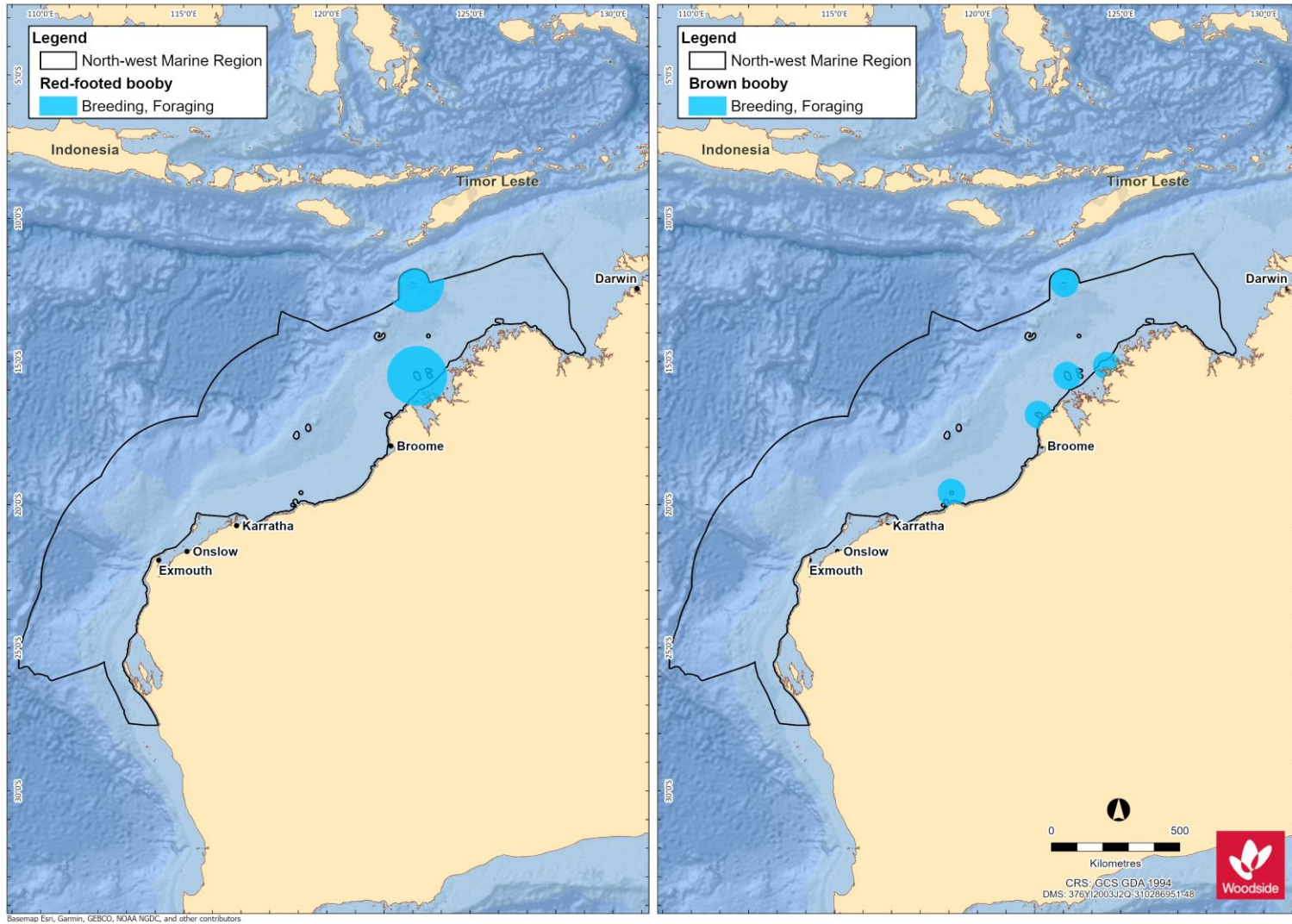


Figure 8-3 Red-footed and brown booby BIAs for the NWMR

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## 8.2.2 Seabird Summary for NWMR

### 8.2.2.1 Browse

The Browse activity area includes biologically important habitat for seven threatened and/or migratory seabird species:

- wedge-tailed shearwater (breeding/foraging);
- great and lesser frigatebirds (breeding/foraging);
- brown booby (breeding/foraging);
- red-footed booby (breeding/foraging);
- little tern (breeding/foraging);
- roseate tern (breeding and resting); and,
- white-tailed tropicbird (breeding).

BIAs for the seabird species are outlined in **Table 8-3**.

### 8.2.2.2 NWS / Scarborough

The NWS / Scarborough activity area includes biologically important habitat for five threatened and/or migratory seabird species:

- wedge-tailed shearwater (breeding/foraging);
- lesser frigatebird (breeding/foraging);
- brown booby (breeding/foraging);
- little tern (breeding/foraging); and
- roseate tern (breeding and resting).

BIAs for the seabird species are outlined in **Table 8-3**.

### 8.2.2.3 North-west Cape

The North-west Cape activity area includes biologically important habitat for five threatened and/or migratory seabird species:

- Australian fairy tern (breeding);
- wedge-tailed shearwater (breeding/foraging); and
- roseate tern (breeding and resting).

BIAs for the seabird species are outlined in **Table 8-3**.

## 8.3 Shorebirds

Shorebirds (migratory and resident species) are generally associated with wetland or coastal environments, and the NWMR hosts a large number of many shorebird species, particularly in the Austral summer (refer to **Appendix A** for the EPBC Act PMST reports on listed species of shorebirds). Shorebirds may use coastal environments for feeding, nesting or migratory stopovers. In coastal environments, shorebirds generally feed during low tide on exposed intertidal mud and sand flats, and roost in suitable habitat above the high water mark. Many shorebird species undergo annual migrations, typically breeding at high latitudes of the Northern Hemisphere and migrating south for the non-breeding season and Australia is part of the East Asian-Australasian Flyway (EAAF). The EAAF extends from breeding grounds in the Russian tundra, Mongolia and Alaska

southwards through east and south-east Asia, to non-breeding areas of Indonesia, Papua New Guinea, Australia and New Zealand (Weller and Lee, 2017). The EAAF is of most relevance to the NWMR. There are 37 species of shorebird which annually migrate to Australia via the EAAF and 36 of these species spend the austral summer (non-breeding season) foraging and roosting in coastal and wetland habitats (Commonwealth of Australia, 2015c; Weller and Lee, 2017).

Ashmore Reef is documented as a BIA for migratory shorebirds in the NWMR (DSEWPAC, 2012a).

**Table 8-4. Information on threatened/migratory shorebird species of the NWMR**

Species	Key Information
<b>Shorebirds</b>	
<b>Eastern curlew, Far eastern curlew</b>	This species is the largest, migratory shorebird in the world, with a long neck, long legs and a very long downcurved bill and is a long-haul flyer. The eastern curlew is a coastal species with a continuous distribution north from Barrow Island to the Kimberley region. The species is endemic to the EAAF and is a non-breeding visitor to Australia from August to March, primarily foraging on crabs and molluscs in intertidal mudflats. During the non-breeding season in Australia, this species is most associated with sheltered coasts, especially estuaries, bays, harbours, inlets and coastal lagoons, with large intertidal mudflats or sandflats, often with beds of seagrass (DOE, 2015a).
<b>Curlew sandpiper</b>	The curlew sandpiper breeds in northern Siberia but has a non-breeding range that extends from western Africa to Australia, with small numbers reaching New Zealand (Bamford <i>et al.</i> , 2008). In Australia, curlew sandpipers occur around the coasts and are also quite widespread inland, though in smaller numbers. Records occur in all states and the NT during the non-breeding period, and also during the breeding season when many non-breeding one-year old birds remain in Australia rather than migrating north along the EAAF. The species preferred habitat for foraging is mudflats and nearby shallow waters in sheltered coastal areas such as estuaries, bay, inlets and lagoons (DOE, 2015b).
<b>Great knot</b>	The great knot breeds in the Northern Hemisphere and undertakes biannual migrations along the EAAF to non-breeding habitat in Australia. The great knot winters in Australia and has been recorded around the entirety of the Australian coast the greatest numbers are found in northern Western Australia (Pilbara (Dampier Archipelago) and Kimberley and the Northern Territory. In Australia, this species prefers sheltered, coastal habitat with large intertidal mudflats or sandflats (inkling inlets, bays, harbours, estuaries and lagoons). High numbers (exceeding several thousand birds are regularly recorded from Roebuck Bay. The great knot feeds on a variety of invertebrates by pecking at or just below the surface of moist mud or sand (Threatened Species Scientific Committee, 2016a).
<b>Bar-tailed godwit (<i>menzbieri</i>)</b>	The bar-tailed godwit is a large, migratory shorebird and there are two sub-species in the EAAF ( <i>Limosa lapponica baueri</i> and <i>L. l. menzbieri</i> ). The sub-species <i>L. l. menzbieri</i> breeds in northern Siberia and spends its non-breeding period mostly in the north of WA but also in South-east Asia. The bar-tailed godwit ( <i>menzbieri</i> ) usually forages near the water in shallow water, mainly in tidal estuaries and harbours with a preference for exposed sandy or soft mud substrates on intertidal flats, banks and beaches (Threatened Species Scientific Committee, 2016c).
<b>Red knot (<i>piersmai</i>)</b>	This species is a small to medium migratory shorebird. There are two sub-species that cannot be distinguished from each other in nonbreeding plumage, however, <i>Calidris canutus piersmai</i> tend to overwinter almost exclusively in north-west Australia. The red knot migrates long distances from breeding grounds in high northern latitudes, where it breeds during the boreal summer, to the Southern Hemisphere during the austral summer with migration along the EAAF. Very large numbers are recorded for the north-west Australia and is common in all suitable habitats around the coast, including inland clay pans near Roebuck Bay (where the species roosts). The red knot usually forages in soft substrate along the waters edge on intertidal mudflats, sandflats and sandy beaches of sheltered coasts (Threatened Species Scientific Committee, 2016b).
<b>Lesser sand plover</b>	The lesser sand plover is a small to medium shorebird and one of 36 migratory shorebirds that breed in the Northern Hemisphere during the boreal summer and are known to annually migrate to the non-breeding grounds of Australia along the EAAF for the austral summer. There are five different sub-species and it is most likely the non-breeding ranges of the sub-species <i>Charadrius m. mongolus</i> overlaps with the NWMR. This species is widespread in coastal regions, preferring sandy beaches, mudflats of coastal bays and estuaries (Threatened Species Scientific Committee, 2016e).
<b>Greater sand plover</b>	The greater sand plover is a small to medium shorebird and in its non-breeding plumage is difficult to distinguish from the lesser sand plover. This species breeds in the Northern

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Species	Key Information
	Hemisphere and undertakes annual migrations to and from Southern Hemisphere feeding grounds in the austral summer along the EAAF. The species distribution in Australia during the non-breeding season is widespread, in WA the greater sand plover is widespread between Northwest Cape and Roebuck Bay (Threatened Species Scientific Committee, 2016d).

## 9. KEY ECOLOGICAL FEATURES

Key ecological features (KEFs) are elements of the Commonwealth marine environment that are considered to be important for a marine region's biodiversity or ecosystem function and integrity. KEFs have been identified by the Australian Government based on advice from scientists about the ecological processes and characteristics of the area.

KEFs meet one or more of the following criteria:

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

Thirteen KEFs are designated within the NWMR, twelve KEFs within the SWMR and eight KEFs within the NMR. These KEFs have been identified in the Protected Matters search (**Appendix A**) and outlined in **Table 9-1**, **Table 9-2** and **Table 9-3**, and **Figure 9-1**, **Figure 9-2** and **Figure 9-3**.

Table 9-1 Key Ecological Features (KEF) within the NWMMR

KEF Name	Woodside Activity Area			Values <sup>1</sup>	Description
	Browse	NWS/S	NW Cape		
<b>Carbonate bank and terrace system of the Sahul Shelf</b>	✓	-	-	<p>Unique seafloor feature with ecological properties of regional significance</p> <p>Regionally important because of their role in enhancing biodiversity and local productivity relative to their surrounds. The carbonate banks and terraces provide areas of hard substrate in an otherwise soft sediment environment which are important for sessile species</p>	<p>The Carbonate banks and terrace system of the Sahul Shelf are located in the western Joseph Bonaparte Gulf and to the north of Cape Bougainville and Cape Londonderry. The carbonate banks and terraces are part of a larger complex of banks and terraces that occurs on the Van Diemen Rise in the adjacent NMR.</p> <p>The bank and terrace system of the Van Diemen Rise covers approximately 31,278 km<sup>2</sup> and forms part of the larger system associated with the Sahul Banks to the north and Londonderry Rise to the east. The feature is characterised by terrace, banks, channels and valleys (DSEWPAC, 2012c). The banks, ridges and terraces of the Van Diemen Rise are raised geomorphic features with relatively high proportions of hard substrate that support sponge and octocoral gardens. These, in turn, provide habitat to other epifauna, by providing structure in an otherwise flat environment (Przeslawski <i>et al.</i>, 2011). Plains and valleys are characterised by scattered epifauna and infauna that include polychaetes and ascidians. These epibenthic communities support higher order species such as olive ridley turtles, sea snakes and sharks (DSEWPAC, 2012c)</p>
<b>Pinnacles of the Bonaparte Basin</b>	✓	-	-	<p>Unique seafloor feature with ecological properties of regional significance</p> <p>Provide areas of hard substrate in an otherwise soft sediment environment and so are important for sessile species</p> <p>Recognised as a biodiversity hotspot for sponges</p> <p>The Pinnacles of the Bonaparte Basin KEF is located within both the NWMMR and NMR (refer <b>Table 9-3</b>)</p>	<p>The Pinnacles of the Bonaparte Basin provide areas of hard substrate in an otherwise relatively featureless environment, the pinnacles are likely to support a high number of species, although a better understanding of the species richness and diversity associated with these structures is required (DSEWPAC, 2012a, 2012c). Covering &gt;520 km<sup>2</sup> within the Bonaparte Basin, this feature contains the largest concentration of pinnacles along the Australian margin. The Pinnacles of the Bonaparte Basin are thought to be the eroded remnants of underlying strata; it is likely that the vertical walls generate local upwelling of nutrient-rich water, leading to phytoplankton productivity that attracts aggregations of planktivorous and predatory fish, seabirds, and foraging turtles (DSEWPAC, 2012a, 2012c).</p>
<b>Ashmore Reef and Cartier Island and surrounding Commonwealth waters</b>	✓	-	-	<p>High productivity, biodiversity and aggregation of marine life that apply to both the benthic and pelagic habitats within the feature</p>	<p>Ashmore Reef is the largest of only three emergent oceanic reefs present in the north-eastern Indian Ocean and is the only oceanic reef in the region with vegetated islands. Ashmore contains a large reef shelf, two large lagoons, several channelled carbonate sand flats, shifting sand cays, an extensive reef flat, three vegetated islands—East, Middle and West islands—and</p>

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KEF Name	Woodside Activity Area			Values <sup>1</sup>	Description
	Browse	NWS/S	NW Cape		
					surrounding waters. Rising from a depth of more than 100 m, the reef platform is at the edge of the NWS and covers an area of 239 km <sup>2</sup> . Ashmore Reef and Cartier Island and the surrounding Commonwealth waters are regionally important for feeding and breeding aggregations of birds and other marine life; they are areas of enhanced primary productivity in an otherwise low-nutrient environment (DSEWPAC, 2012a). Ashmore Reef supports the highest number of coral species of any reef off the WA coast.
<b>Seringapatam Reef and the Commonwealth waters in the Scott Reef complex</b>	✓	-	-	Support diverse aggregations of marine life, have high primary productivity relative to other parts of the region, are relatively pristine and have high species richness, which apply to both the benthic and pelagic habitats within the feature	Seringapatam Reef and the Commonwealth waters in the Scott Reef complex are regionally important in supporting the diverse aggregations of marine life, high primary productivity, and high species richness associated with the reefs themselves. As two of the few offshore reefs in the north-west, they provide an important biophysical environment in the region (DSEWPAC, 2012a).
<b>Continental slope demersal fish communities</b>	✓	✓	✓	High biodiversity of demersal fish assemblages, including high levels of endemism	The diversity of demersal fish assemblages on the continental slope in the Timor Province, the Northwest Transition and the North-west Province is high compared to elsewhere along the Australian continental slope (DSEWPAC, 2012a). The continental slope between North-west Cape and the Montebello Trough has more than 500 fish species, 76 of which are endemic, which makes it the most diverse slope bioregion in Australia (Last <i>et al.</i> , 2005). The slope of the Timor Province and the Northwest Transition also contains more than 500 species of demersal fishes of which 64 are considered endemic (Last <i>et al.</i> , 2005), making it the second richest area for demersal fishes throughout the whole continental slope.  Demersal fish species occupy two distinct demersal biomes associated with the upper slope (225–500 m water depths) and the mid-slope (750–1000 m). Although poorly known, it is suggested that the demersal slope communities rely on bacteria and detritus-based systems comprised of infauna and epifauna, which in turn become prey for a range of teleost fishes, molluscs and crustaceans (Brewer <i>et al.</i> , 2007). Higher-order consumers may include carnivorous fishes, deepwater sharks, large squid, and toothed whales (Brewer <i>et al.</i> , 2007). Pelagic production is phytoplankton-based, with hot spots around oceanic reefs and islands (Brewer <i>et al.</i> , 2007).

KEF Name	Woodside Activity Area			Values <sup>1</sup>	Description
	Browse	NWS/S	NW Cape		
<b>Ancient coastline at 125 m depth contour</b>	✓	✓	✓	<p>Unique seafloor feature with ecological properties of regional significance</p> <p>Provides areas of hard substrate and therefore may provide sites for higher diversity and enhanced species richness relative to surrounding areas of predominantly soft sediment</p>	<p>Several steps and terraces as a result of Holocene sea level changes occur in the region, with the most prominent of these features occurring as an escarpment along the NWMR and Sahul Shelf at a water depth of 125 m.</p> <p>The Ancient Coastline is not continuous throughout the NWMR and coincides with a well-documented eustatic stillstand at about 130 m worldwide (Falkner <i>et al.</i>, 2009).</p> <p>Where the Ancient Coastline provides areas of hard substrate, it may contribute to higher diversity and enhanced species richness relative to soft sediment habitat (Falkner <i>et al.</i>, 2009). Parts of the Ancient Coastline, represented as rocky escarpment, are considered to provide biologically important habitat in an area predominantly made up of soft sediment.</p> <p>The escarpment type features may also potentially facilitate mixing within the water column due to upwelling, providing a nutrient-rich environment. Although the Ancient Coastline adds additional habitat types to a representative system, the habitat types are not unique to the coastline as they are widespread on the upper shelf (Falkner <i>et al.</i>, 2009)</p>
<b>Canyons linking the Argo Abyssal Plain and Scott Plateau</b>	-	✓	-	<p>Facilitates nutrient upwelling, creating enhanced productivity and encouraging diverse aggregations of marine life</p>	<p>Interactions with the Leeuwin Current and strong internal tides are thought to result in upwelling at the canyon heads, thus creating conditions for enhanced productivity in the region (Brewer <i>et al.</i>, 2007). As a result, aggregations of whale sharks, manta rays, humpback whales, sea snakes, sharks, predatory fishes and seabirds are known to occur in the area due to its enhanced productivity (Sleeman <i>et al.</i>, 2007).</p>
<b>Glomar Shoal</b>	-	✓	-	<p>An area of high productivity and aggregations of marine life including commercial and recreational fish species</p>	<p>Glomar Shoal is a submerged littoral feature located about 150 km north of Dampier on the Rowley shelf at depths of 33–77 m (Falkner <i>et al.</i>, 2009). Studies by Abdul Wahab <i>et al.</i> (2018) found a number of hard coral and sponge species in water depths less than 40 m. One hundred and seventy (170) different species of fishes were detected with greatest species richness and abundance in shallow habitats (Abdul Wahab <i>et al.</i>, 2018). Fish species present include a number of commercial and recreational species such as Rankin cod, brown striped snapper, red emperor, crimson snapper, bream and yellow-spotted triggerfish (Falkner <i>et al.</i>, 2009; Fletcher and Santoro, 2009). These species have recorded high catch rates associated with Glomar Shoal, indicating that the shoal is likely to be an area of high productivity.</p>

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KEF Name	Woodside Activity Area			Values <sup>1</sup>	Description
	Browse	NWS/S	NW Cape		
<b>Mermaid Reef and Commonwealth waters surrounding Rowley Shoals</b>	-	✓	-	Regionally important in supporting high species richness, higher productivity and aggregations of marine life	The Mermaid Reef and Commonwealth waters surrounding the Rowley Shoals KEF and is adjacent to the three nautical mile State waters limit surrounding Clerke and Imperieuse reefs, and include the Mermaid Reef Marine Park as described in <b>Section 10</b> . The reefs provide a distinctive biophysical environment in the region. They have steep and distinct reef slopes and associated fish communities. In evolutionary terms, the reefs may play a role in supplying coral and fish larvae to reefs further south via the southward flowing Indonesian Throughflow. Both coral communities and fish assemblages differ from similar habitats in eastern Australia (Done <i>et al.</i> , 1994).
<b>Exmouth Plateau</b>	-	✓	✓	Unique seafloor feature with ecological properties of regional significance, which apply to both benthic and pelagic habitats Likely to be an important area of biodiversity as it provides an extended area offshore for communities adapted to depths of approximately 1000 m	The Exmouth Plateau is a large, mid-slope, continental margin plateau that lies off the northwest coast of Australia. It ranges in depth from about 500 to more than 5000 m and is a major structural element of the Carnarvon Basin (Miyazaki and Stagg, 2013). The large size of the Exmouth Plateau and its expansive surface may modify deep water flow and be associated with the generation of internal tides; both of which may subsequently contribute to the upwelling of deeper, nutrient-rich waters closer to the surface (Brewer <i>et al.</i> , 2007). Satellite observations suggest that productivity is enhanced along the northern and southern boundaries of the plateau (Brewer <i>et al.</i> , 2007). Sediments on the plateau suggest that biological communities include scavengers, benthic filter feeders and epifauna (DSEWPAC, 2012a). Fauna in the pelagic waters above the plateau are likely to include small pelagic species and nekton attracted to seasonal upwellings, as well as larger predators such as billfishes, sharks and dolphins (Brewer <i>et al.</i> , 2007). Protected and migratory species are also known to pass through the region, including whale sharks and cetaceans.
<b>Canyons linking the Cuvier Abyssal Plain and the Cape Range Peninsula</b>	-	-	✓	Unique seafloor feature with ecological properties of regional significance The feature is an area of moderately enhanced productivity, attracting aggregations of fish and higher-order consumers such as large predatory	The canyons are associated with upwelling as they channel deep water from the Cuvier Abyssal Plain up onto the slope. This nutrient-rich water interacts with the Leeuwin Current at the canyon heads (DSEWPAC, 2012a). Aggregations of whale sharks, manta rays, sea snakes, sharks, large predatory fish, and seabirds are known to occur in this area.



KEF Name	Woodside Activity Area			Values <sup>1</sup>	Description
	Browse	NWS/S	NW Cape		
				fish, sharks, toothed whales and dolphins Likely to be important due to their historical association with sperm whale aggregations	
<b>Commonwealth waters adjacent to Ningaloo Reef</b>	-	-	✓	High productivity and diverse aggregations of marine life The Commonwealth waters adjacent to Ningaloo Reef and associated canyons and plateau are interconnected and support the high productivity and species richness of Ningaloo Reef, globally significant as the only extensive coral reef in the world that fringes the west coast of a continent	The Leeuwin and Ningaloo currents interact, leading to areas of enhanced productivity in the Commonwealth waters adjacent to Ningaloo Reef. Aggregations of whale sharks, manta rays, humpback whales, sea snakes, sharks, large predatory fish, and seabirds are known to occur in this area (DSEWPAC, 2012a). The spatial boundary of this KEF, as defined in the NCVA, is defined as the waters contained in the existing Ningaloo AMP provided in <b>Section 10</b> .
<b>Wallaby Saddle</b>	-	-	✓	High productivity and aggregations of marine life: Representing almost the entire area of this type of geomorphic feature in the NWMR. It is a unique habitat that neither occurs anywhere else nearby (within hundreds of kilometres) nor with as large an area (Falkner <i>et al.</i> 2009)	The Wallaby Saddle may be an area of enhanced productivity. Historical whaling records provide evidence of sperm whale aggregations in the area of the Wallaby Saddle, possibly due to the enhanced productivity of the area and aggregations of baitfish (DSEWPAC, 2012a).

<sup>1</sup>: Values description sourced from Marine bioregional plan for the North-west Marine Region (DSEWPAC, 2012a) and the Department of Agriculture, Water and the Environment (DAWE) SPRAT database.

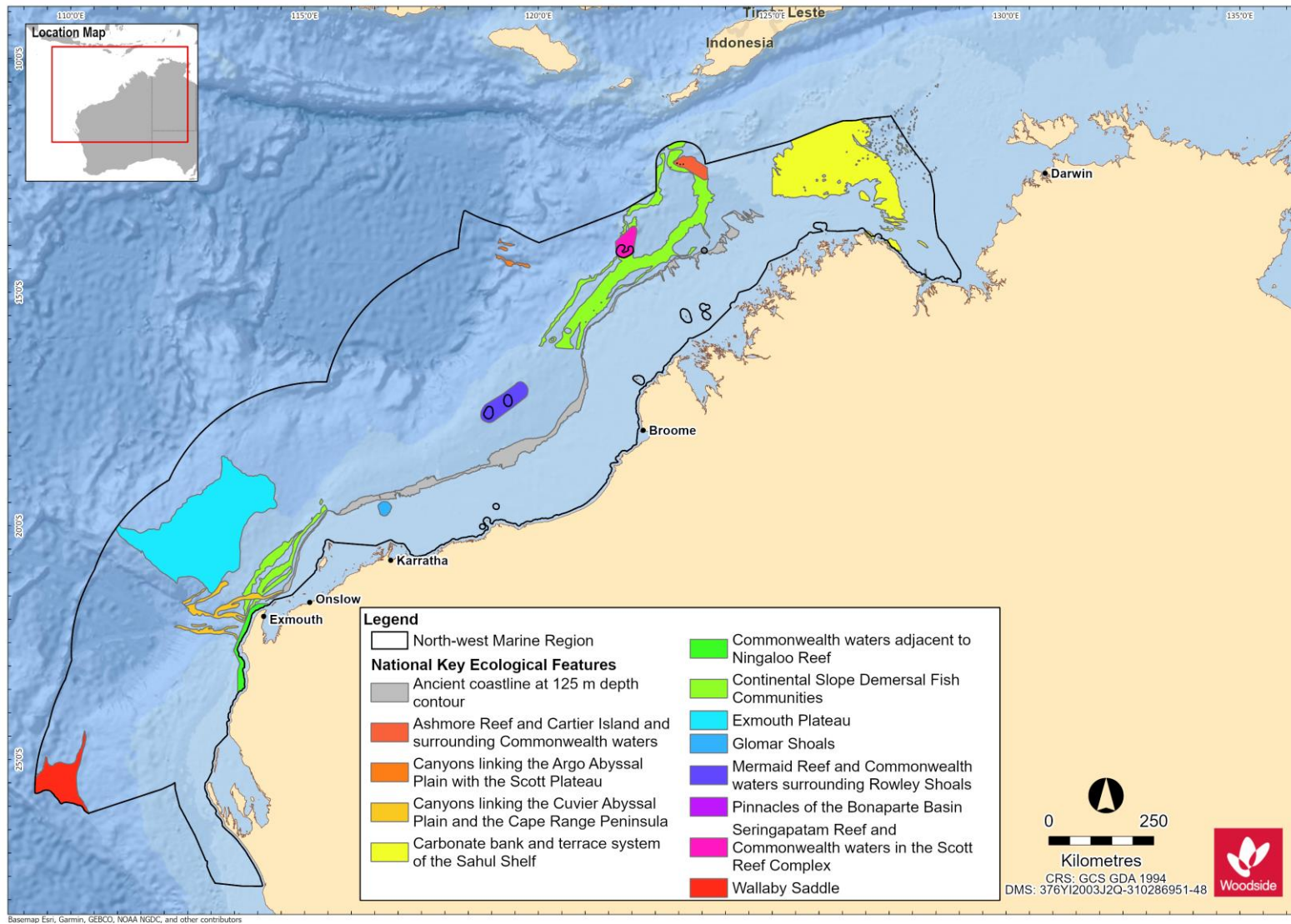


Figure 9-1 Key Ecological Features (KEFs) within the NWMR.

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Table 9-2 Key Ecological Features (KEF) within the SWMR

KEF Name	Values <sup>1</sup>	Description
<b>Albany Canyons group and adjacent shelf break</b>	High productivity and aggregations of marine life, and unique seafloor feature with ecological properties of regional significance Both benthic and demersal habitats within the feature are of conservation value	The Albany Canyons group is thought to be associated with small, periodic subsurface upwelling events, which may drive localised regions of high productivity. The canyons are known to be a feeding area for sperm whale and sites of orange roughly aggregations. Anecdotal evidence also indicates that this area supports fish aggregations that attract large predatory fish and sharks.
<b>Ancient coastline at 90-120 m depth</b>	Relatively high productivity and aggregations of marine life, and high levels of biodiversity and endemism The feature creates topographic complexity, that may facilitate benthic biodiversity and enhanced biological productivity	Benthic biodiversity and productivity occur where the ancient coastline forms a prominent escarpment, such as in the western Great Australian Bight, where the sea floor is dominated by sponge communities of significant biodiversity and structural complexity.
<b>Cape Mentelle upwelling</b>	Facilitates nutrient upwelling, supporting high productivity and diverse aggregations of marine life	The Cape Mentelle upwelling draws relatively nutrient-rich water from the base of the Leeuwin Current, up the continental slope and onto the inner continental shelf, where it results in phytoplankton blooms at the surface. The phytoplankton blooms provide the basis for an extended food chain characterised by feeding aggregations of small pelagic fish, larger predatory fish, seabirds, dolphins and sharks.
<b>Commonwealth marine environment surrounding the Houtman Abrolhos Islands (and adjacent shelf break)</b>	High levels of biodiversity and endemism within benthic and pelagic habitats	The Houtman Abrolhos Islands and surrounding reefs support a unique mix of temperate and tropical species, resulting from the southward transport of species by the Leeuwin Current over thousands of years. The Houtman Abrolhos Islands are the largest seabird breeding station in the eastern Indian Ocean. They support more than one million pairs of breeding seabirds.

KEF Name	Values <sup>1</sup>	Description
<b>Commonwealth marine environment surrounding the Recherche Archipelago</b>	Aggregations of marine life and high levels of biodiversity and endemism within benthic and demersal communities	The Recherche Archipelago is the most extensive area of reef in the SWMR. Its reef and seagrass habitat supports a high species diversity of warm temperate species, including 263 known species of fish, 347 known species of molluscs, 300 known species of sponges, and 242 known species of macroalgae. The islands also provide haul-out (resting areas) and breeding sites for Australian sea lions and New Zealand fur seals.
<b>Commonwealth marine environment within and adjacent to the west-coast inshore lagoons</b>	High productivity and aggregations of marine life within benthic and pelagic habitats Important for benthic productivity and recruitment for a range of marine species	These lagoons are important for benthic productivity, including macroalgae and seagrass communities, and breeding and nursery aggregations for many temperate and tropical marine species. They are important areas for the recruitment of commercially and recreationally important fish species. Extensive schools of migratory fish visit the area annually, including herring, garfish, tailor and Australian salmon.
<b>Commonwealth marine environment within and adjacent to Geographe Bay</b>	High productivity and aggregations of marine life, and high levels of biodiversity, recruitment within benthic and pelagic communities	Geographe Bay is known for its extensive beds of tropical and temperate seagrass that support a diversity of species, many of them not found anywhere else. The bay provides important nursery habitat for many species. Juvenile dusky whaler sharks use the shallow seagrass habitat as nursery grounds for several years, before ranging out to adult feeding grounds along the shelf break. The seagrass also provides valuable habitat for fish and invertebrates (Carruthers <i>et al.</i> , 2007). It is also an important resting area for migratory humpback whales.
<b>Diamantina Fracture Zone</b>	Unique seafloor feature with ecological properties of regional significance which apply to its benthic and demersal habitats	The Diamantina Fracture Zone is a rugged, deep- water environment of seamounts and numerous closely spaced troughs and ridges. Very little is known about the ecology of this remote, deep- water feature, but marine experts suggest that its size and physical complexity mean that it is likely to support deep-water communities characterised by high species diversity, with many species found nowhere else.
<b>Naturaliste Plateau</b>	Unique seafloor feature with ecological properties of regional significance including high species diversity and endemism which apply to its benthic and demersal habitats	The Naturaliste Plateau is Australia's deepest temperate marginal plateau. The combination of its structural complexity, mixed water dynamics and relative isolation indicate that it supports deep- water communities with high species diversity and endemism.
<b>Perth Canyon and adjacent shelf break, and other west-coast canyons</b>	An area of higher productivity that attracts feeding aggregations of deep-diving mammals and large predatory fish. It is also recognised as a unique seafloor feature with ecological properties of regional significance	The Perth Canyon is the largest known undersea canyon in Australian waters. Deep ocean currents rise to the surface, creating a nutrient-rich cold- water habitat attracting feeding aggregations of deep-diving mammals, such as pygmy blue whales and large predatory fish that feed on aggregations of small fish, krill and squid.

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KEF Name	Values <sup>1</sup>	Description
<b>Western demersal slope and associated fish communities of the Central Western Province</b>	Provides important habitat for demersal fish communities and supports species groups that are nationally or regionally important to biodiversity	The western demersal slope provides important habitat for demersal fish communities, with a high level of diversity and endemism. A diverse assemblage of demersal fish species below a depth of 400 m is dominated by relatively small benthic species such as grenadiers, dogfish and cucumber fish. Unlike other slope fish communities in Australia, many of these species display unique physical adaptations to feed on the sea floor (such as a mouth position adapted to bottom feeding), and many do not appear to migrate vertically in their daily feeding habits.
<b>Western rock lobster</b>	A species that plays a regionally important ecological role	This species is the dominant large benthic invertebrate in the region. The lobster plays an important trophic role in many of the inshore ecosystems of the SWMR. Western rock lobsters are an important part of the food web on the inner shelf, particularly as juveniles.

<sup>1</sup>. Values description sourced from Marine bioregional plan for the South-west Marine Region (DSEWPAC, 2012b) and the Department of Agriculture, Water and the Environment (DAWE) SPRAT database

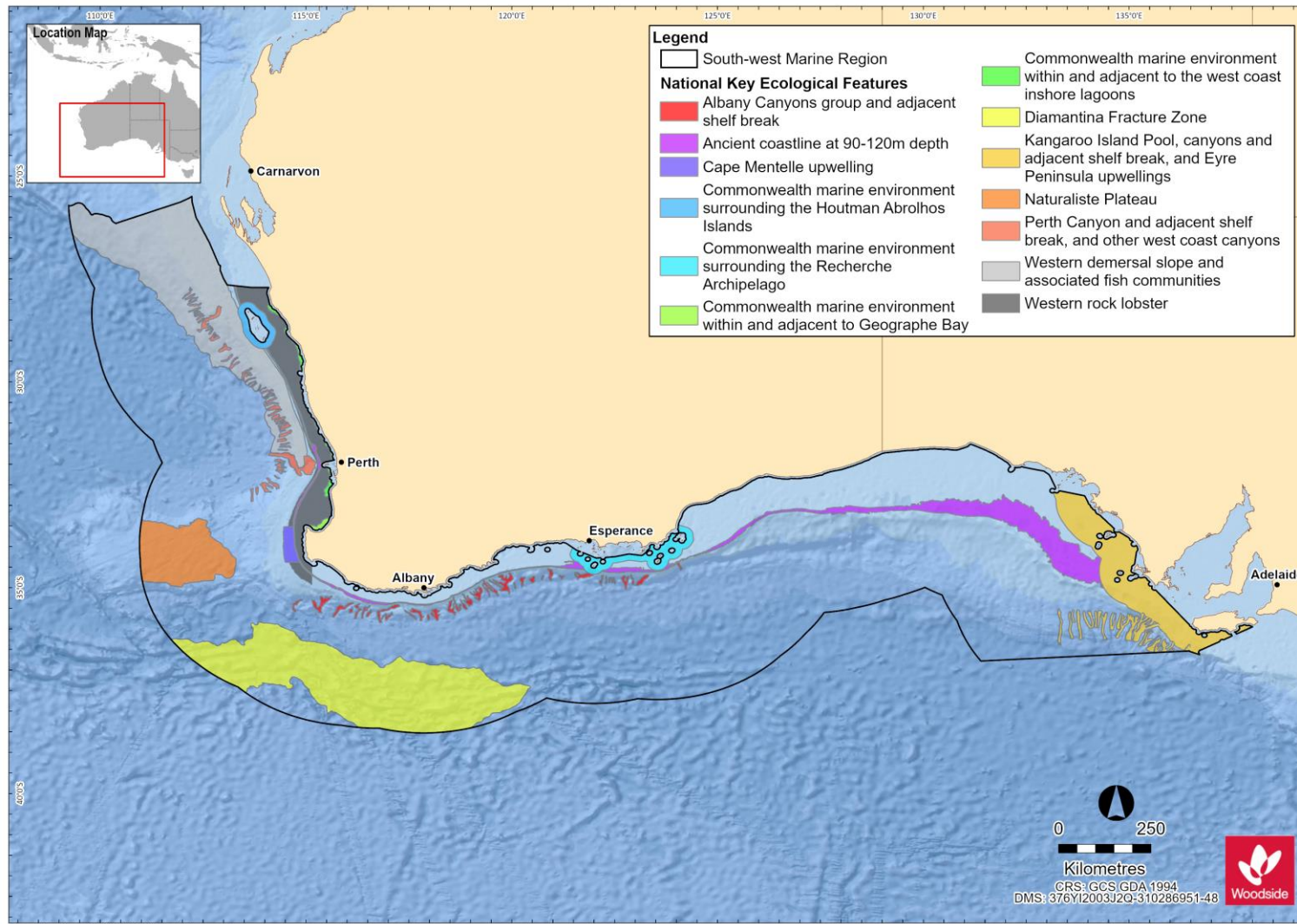


Figure 9-2. Key Ecological Features (KEFs) within the SWMR

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Table 9-3 Key Ecological Features (KEF) within the NMR

KEF Name	Values <sup>1</sup>	Description
<b>Carbonate bank and terrace system of the Van Diemen Rise</b>	Important for its role in enhancing biodiversity and local productivity relative to its surrounds and for supporting relatively high species diversity The feature has been identified as a sponge biodiversity hotspot (Przeslawski <i>et al.</i> 2014)	The bank and terrace system of the Van Diemen Rise is part of the larger system associated with the Sahul Banks to the north and Londonderry Rise to the east; it is characterised by terrace, banks, channels and valleys. The variability in water depth and substrate composition may contribute to the presence of unique ecosystems in the channels. Species present include sponges, soft corals and other sessile filter feeders associated with hard substrate sediments of the deep channels; epifauna and infauna include polychaetes and ascidians. Olive ridley turtles, sea snakes and sharks are also found associated with this feature.
<b>Gulf of Carpentaria basin</b>	Regional importance for biodiversity, endemism and aggregations of marine life relevant to benthic and pelagic habitats	The Gulf of Carpentaria basin is one of the few remaining near-pristine marine environments in the world. Primary productivity in the Gulf of Carpentaria basin is mainly driven by cyanobacteria that fix nitrogen but is also strongly influenced by seasonal processes. The soft sediments of the basin are characterised by moderately abundant and diverse communities of infauna and mobile epifauna dominated by polychaetes, crustaceans, molluscs, and echinoderms. The basin also supports assemblages of pelagic fish species including planktivorous and schooling fish, with top predators such as shark, snapper, tuna, and mackerel.
<b>Gulf of Carpentaria coastal zone</b>	High productivity, aggregations of marine life (including several endemic species) and high biodiversity compared to broader region	Nutrient inflow from rivers adjacent to the NMR generates higher productivity and more diverse and abundant biota within the Gulf of Carpentaria coastal zone than elsewhere in the region. The coastal zone is near pristine and supports many protected species such as marine turtles, dugongs, and sawfishes. Ecosystem processes and connectivity remain intact; river flows are mostly uninterrupted by artificial barriers and healthy, diverse estuarine and coastal ecosystems support many species that move between freshwater and saltwater environments.
<b>Pinnacles of the Bonaparte Basin</b>	Unique seafloor feature with ecological properties of regional significance Provide areas of hard substrate in an otherwise soft sediment environment and so are important for sessile species Recognised as a biodiversity hotspot for sponges The Pinnacles of the Bonaparte Basin KEF is located within both the NWMR and NMR (refer <b>Table 9-1</b> )	Covering more than 520 km <sup>2</sup> within the Bonaparte Basin, this feature contains the largest concentration of pinnacles along the Australian margin. The Pinnacles of the Bonaparte Basin are thought to be the eroded remnants of underlying strata; it is likely that the vertical walls generate local upwelling of nutrient-rich water, leading to phytoplankton productivity that attracts aggregations of planktivorous and predatory fish, seabirds and foraging turtles.

KEF Name	Values <sup>1</sup>	Description
<b>Plateaux and saddle north-west of the Wellesley Islands</b>	High species abundance, diversity and endemism of marine life	Abundance and species density are high in the plateaux and saddle as a result of increased biological productivity associated with habitats rather than currents. Submerged reefs support corals that are typical of northern Australia, including corals that have bleach-resistant zooxanthellae; and particular reef fish species that are different to those found elsewhere in the Gulf of Carpentaria. Species present include marine turtles and reef fish such as coral trout, cod, mackerel, and shark. Seabirds frequent the plateaux and saddle, most likely due to the presence of predictable food resources for feeding offspring.
<b>Shelf break and slope of the Arafura Shelf</b>	The Shelf break and slope of the Arafura Shelf is defined as a key ecological feature for its ecological significance associated with productivity emanating from the slope It also forms part of a unique biogeographic province (Last <i>et al.</i> , 2005)	The shelf break and slope of the Arafura Shelf is characterised by continental slope and patch reefs and hard substrate pinnacles. The ecosystem processes of the feature are largely unknown in the region; however, the Indonesian Throughflow and surface wind-driven circulation are likely to influence nutrients, pelagic dispersal and species and biological productivity in the region. Biota associated with the feature is largely of Timor–Indonesian Malay affinity.
<b>Submerged coral reefs of the Gulf of Carpentaria</b>	High aggregations of marine life, biodiversity and endemism Twenty per cent of the reefs found in the NMR are situated within this KEF (Harris <i>et al.</i> , 2007)	The submerged coral reefs of the Gulf of Carpentaria are characterised by submerged patch, platform and barrier reefs that form a broken margin around the perimeter of the Gulf of Carpentaria basin, rising from the sea floor at depths of 30–50 m. These reefs provide breeding and aggregation areas for many fish species including mackerel and snapper and offer refuges for sea snakes and apex predators such as sharks. Coral trout species that inhabit the submerged reefs are smaller than those found in the Great Barrier Reef and may prove to be an endemic sub-species.
<b>Tributary Canyons of the Arafura Depression</b>	High productivity and high levels of species diversity and endemism of marine life within the benthic and pelagic habitats of the feature	The tributary canyons are approximately 80–100 m deep and 20 km wide. The largest of the canyons extend some 400 km from Cape Wessel into the Arafura Depression, and are the remnants of a drowned river system that existed during the Pleistocene era. Sediments in this feature are mainly calcium-carbonate rich, although sediment type varies from sandy substrate to soft muddy sediments and hard, rocky substrate. Marine turtles, deep sea sponges, barnacles and stalked crinoids have all been identified in the area.

<sup>1</sup>. Values description sourced from *Marine bioregional plan for the North Marine Region (DSEWPAC, 2012c)* and *Department of Agriculture, Water and the Environment (DAWE) SPRAT database*.



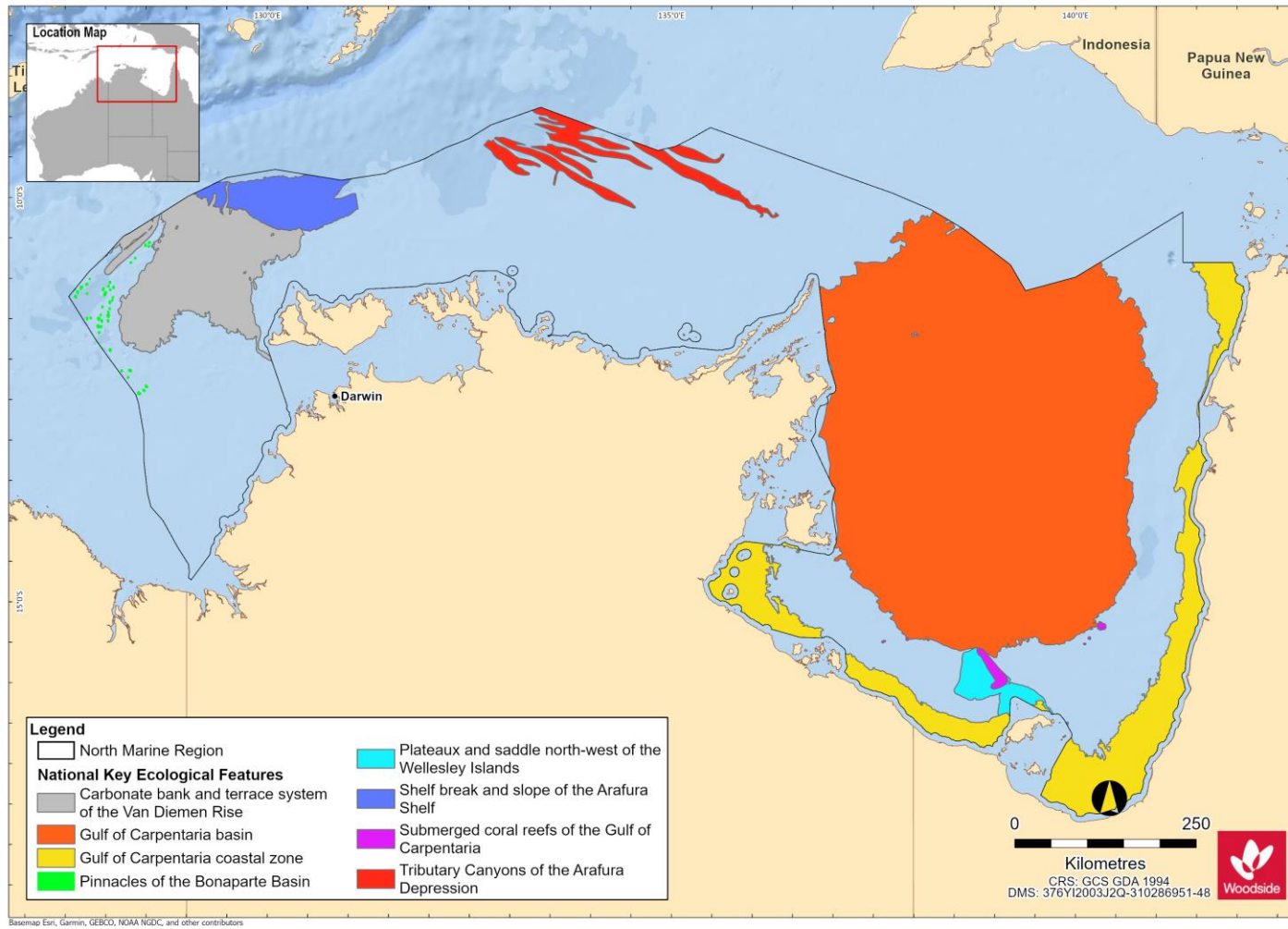


Figure 9-3. Key Ecological Features (KEFs) within the NMR

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## 10. PROTECTED AREAS

### 10.1 Regional Context

Protected areas included World Heritage Properties, National Heritage Places, Wetlands of International Importance, Australian Marine Parks, State Marine Parks and Reserves, Threatened Ecological Communities and the Australian Whale Sanctuary. The PMST Reports (**Appendix A**) shows that there are twenty-nine protected areas found in the NWMR, eighteen in the SWMR and nine in the NMR.

**Table 10-1**, **Table 10-2** and **Table 10-3** outline the protected areas of each of the marine regions NWMR, SWMR and NMR, respectively.

### 10.2 World Heritage Properties

Properties nominated for World Heritage listing are inscribed on the list only after they have been carefully assessed as representing the best examples of the world's cultural and natural heritage. Only World Heritage listings classed as natural are discussed in this section. World Heritage sites classed as cultural are discussed in **Section 11**.

The list of Australia's World Heritage Properties and the PMST Reports (**Appendix A**) show two World Heritage Properties within the NWMR (**Table 10-1**), no World Heritage Properties within the SWMR (**Table 10-2**), and though not reported in the NMR PMST Report, Kakadu National Park and World Heritage Area is included in **Table 10-3**.

### 10.3 National and Commonwealth Heritage Places - Natural

The National Heritage List is Australia's list of natural, historic, and Indigenous places of outstanding significance to the nation. The National Heritage List Spatial Database describes the place name, class (Indigenous, natural, historic), and status. Commonwealth Heritage Places are a collection of sites recognised for their Indigenous, historical and/or natural values which are owned or controlled by the Australian Government.

Only National and Commonwealth Heritage Places classed as natural are discussed in this section. Heritage Places classed as indigenous or historic are discussed in **Section 11**.

A search of the National Heritage List Spatial Database and the PMST Reports (**Appendix A**) identified three natural National Heritage Places in the NWMR (**Table 10-1**), three in the SWMR (**Table 10-2**) and for the NMR, Kakadu National Park (not included in the PMST report) is included in **Table 10-3**.

A search of the Commonwealth Heritage List identified four natural commonwealth heritage places within the NWMR (**Table 10-1**).

### 10.4 Wetlands of International Importance (listed under the Ramsar Convention)

Australia has 65 Ramsar wetlands that cover >8.3 million ha. Ramsar wetlands are those that are representative, rare, or unique wetlands, or that are important for conserving biological diversity.

The List of Wetlands of International Importance held under the Ramsar Convention and the PMST Reports (**Appendix A**) identified four Ramsar Sites with coastal features within the NWMR (**Table 10-1**), four in the SWMR (**Table 10-2**) and two for the New Territory, included for the NMR (**Table 10-3**).

### 10.5 Australian Marine Parks

Australian Marine Parks (AMPs), proclaimed under the EPBC Act in 2007 and 2013, are located in Commonwealth waters that start at the outer edge of State and Territory waters, generally three

nautical miles (~5.5 km) from the shore, and extend to the outer boundary of Australia's EEZ, 200 nm (~370 km) from the shore.

PMST Reports (**Appendix A**) show sixteen AMPs within the NWMR (**Table 10-1**), ten within the SWMR (**Table 10-2**) and eight within the NMR (**Table 10-3**).

## 10.6 Threatened Ecological Communities

No Threatened Ecological Communities (TECs) as listed under the EPBC Act are known to occur within the marine waters of the NWMR, SWMR or NMR as indicated by the PMST Reports (**Appendix A**).

## 10.7 Australian Whale Sanctuary

The Australian Whale Sanctuary has been established to protect all whales and dolphins found in Australian waters. Under the EPBC Act all cetaceans (whales, dolphins and porpoises) are protected in Australian waters.

The Australian Whale Sanctuary includes all Commonwealth waters from the three nautical mile State/Territory waters limit out to the boundary of the EEZ (i.e. out to 200 nm and further in some places). Within the Sanctuary it is an offence to kill, injure or interfere with a cetacean. Severe penalties apply to anyone convicted of such offences.

## 10.8 State Marine Parks and Reserves

State Marine Parks and Reserves, proclaimed under the *Conservation and Land Management Act 1984* (CALM Act), are located in State waters and vested in the WA Conservation and Parks Commission. State Marine Parks and Reserves of Western Australia have been considered, with 14 occurring in the NWMR (**Table 10-1**) and six occurring in the SWMR (**Table 10-2**).

## 10.9 Summary of Protected Areas within the NWMR

Table 10-1 Protected Areas within the NWMR

Protected Area	Woodside Activity Area			IUCN Protected Area Category* or Relevant Park Zone	Description	Conservation Values
	Browse	NWS/S	NW Cape			
<b>World Heritage Properties</b>						
Shark Bay World Heritage Property	-	-	✓		The Shark Bay World Heritage Property is adjacent to the Shark Bay AMP and was included on the World Heritage List in 1991.	Universal values of the Shark Bay World Heritage Property include large and diverse seagrass beds, stromatolites and populations of dugong and threatened species. Inscribed under Natural Criteria vii, viii, ix and x.
The Ningaloo Coast World Heritage Property	-	-	✓		The Ningaloo Coast World Heritage Property lies within the Ningaloo AMP and was included on the World Heritage List in 2011.	Universal values of the Ningaloo Coast World Heritage Property include high marine species diversity and abundance; in particular, Ningaloo Reef supports both tropical and temperate marine reptiles and mammals. Inscribed under Natural Criteria vii and x.
<b>National Heritage Places - Natural</b>						
Shark Bay	-	-	✓		The Shark Bay National Heritage Place consists of the same area included in the Shark Bay World Heritage Property (refer above) and was established on the National Heritage List in 2007.	The national heritage place has a number of exceptional natural features, including one of the largest and most diverse seagrass beds in the world, colonies of stromatolites and rich marine life including a large population of dugongs, and also provides a refuge for a number of other globally threatened species. Shark Bay meets the national heritage listing criteria a, b, c, d, e, f, g, h and i.
The Ningaloo Coast	-	-	✓		The Ningaloo Coast National Heritage Place consists of the same area included in the Ningaloo	The Ningaloo Coast contains one of the best developed near-shore reefs in the world, being home to rugged limestone peninsulas, spectacular coral and sponge gardens and the whale shark.

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Protected Area	Woodside Activity Area			IUCN Protected Area Category* or Relevant Park Zone	Description	Conservation Values
	Browse	NWS/S	NW Cape			
					Coast World Heritage Property (refer above) and was established on the National Heritage List in 2010.	The Ningaloo Coast meets the national heritage listing criteria a, b, c, d, and f.
The West Kimberley	✓	✓	-		The West Kimberley National Heritage Place covers an area of around 192,000 km <sup>2</sup> located in the north-west of Australia from Broome to Wyndham, and was established on the National Heritage List in 2011.	The Kimberley plateau, north-western coastline and northern rivers of the West Kimberley provide a vital refuge for many native plants and animals that are found nowhere else or which have disappeared from much of the rest of Australia. In addition, Roebuck Bay is internationally recognised as one of Australia's most significant sites for migratory wading birds. The national heritage place also contains a remarkable history of Aboriginal occupation, with many places of indigenous sacred value. The West Kimberley meets the national heritage listing criteria a, b, c, d, e, f, g, h and i.
<b>Commonwealth Heritage Places - Natural</b>						
Mermaid Reef – Rowley Shoals	-	✓	-	N/A	The Mermaid Reef – Rowley Shoals Commonwealth Heritage Place is located within the boundary of the Mermaid Reef Marine National Nature Reserve. The site was listed as a Commonwealth Heritage Place in 2004.	The Mermaid Reef-Rowley Shoals Commonwealth Heritage Place is regionally important for the diversity of its fauna and together with Clerke and Imperieuse reefs, has biogeographical significance due to the presence of species which are at, or close to, the limits of their geographic ranges, including fishes known previously only from Indonesian waters. Rowley Shoals is important for benchmark studies as one of the few places off the north-west coast of Western Australia which have been the site of major biological collection trips by the WA Museum.

Protected Area	Woodside Activity Area			IUCN Protected Area Category* or Relevant Park Zone	Description	Conservation Values
	Browse	NWS/S	NW Cape			
Ashmore Reef National Nature Reserve	✓	-	-		The Ashmore Reef Commonwealth Heritage Place is located within the boundary of the Ashmore Reef Marine Park (refer AMPs below). The site was listed as a Commonwealth Heritage Place in 2004.	Ashmore Reef has major significance as a staging point for wading birds migrating between Australia and the Northern Hemisphere and supports high concentrations of breeding seabirds, many of which are nomadic and typically breed on small isolated islands. Ashmore Reef is an important scientific reference area for migratory seabirds, sea snakes and marine invertebrates. The Ashmore Reef Commonwealth Heritage Place is significant for its history of human occupation and use. The island is believed to have been visited by Indonesian fisherman since the early eighteenth century. The islands were used both for fishing and as a staging point for voyages to the southern reefs off Australia's coast.
Scott Reef and Surrounds – Commonwealth Area	✓	-	-		Scott Reef and Surrounds Commonwealth Heritage Place is located within the Western Australian Coastal Waters surrounding North and South Scott Reef. The site was listed as a Commonwealth Heritage Place in 2004.	The Scott Reef and Surrounds Commonwealth Heritage Place is regionally important for the diversity of its fauna and has biogeographical significance due to the presence of species which are at, or close to, the limits of their geographic ranges, including fish known previously only from Indonesian waters. Scott Reef is recognised as important for scientific research and benchmark studies due to its age, the extensive documentation of its geophysical and physical environmental characteristics and its use as a site of major biological collection trips and surveys by the WA Museum and the Australian Institute of Marine Science.

Protected Area	Woodside Activity Area			IUCN Protected Area Category* or Relevant Park Zone	Description	Conservation Values
	Browse	NWS/S	NW Cape			
Ningaloo Marine Area – Commonwealth Waters	-	-	✓		The Ningaloo Marine Area Commonwealth Heritage Place is located within the Commonwealth waters of the Ningaloo Marine Park (refer AMPs below). The site was listed as a Commonwealth Heritage Place in 2004.	The Ningaloo Marine Area Commonwealth Heritage Place provides a migratory pathway for humpback whales and foraging habitat for whale sharks. The place is an important breeding area for billfish and manta ray. The Ningaloo Marine Area provides opportunities for scientific research relating to aspects of the area's unique features including tourism (marine ecology, whales, turtles, whale sharks, fish and oceanography).
<b>Wetlands of International Importance (Ramsar)</b>						
Ashmore Reef National Nature Reserve	✓	-	-	Ramsar	The Ashmore Reef Ramsar site is located within the boundary of the Ashmore Reef Marine Park (refer AMPs below). The site was listed under the Ramsar Convention in 2002.	Ashmore Reef Ramsar site supports internationally significant populations of seabirds and shorebirds, is important for turtles (green, hawksbill and loggerhead) and dugong, and has the highest diversity of hermatypic (reef-building) corals on the WA coast. It is known for its abundance and diversity of sea snakes. However, since 1998 populations of sea snakes at Ashmore Reef have been in decline.
Eighty Mile Beach	-	✓	-	Ramsar	The Eighty Mile Beach Ramsar site covers an area of 1250 km <sup>2</sup> , located along a long section of the Western Australian coastline adjacent to the Eighty Mile Beach AMP (refer below).	The Eighty Mile Beach Ramsar site includes saltmarsh and a raised peat bog more than 7000 years old. The site contains the most important wetland for waders in north-western Australia, supporting up to 336,000 birds, and is especially important as a land fall for waders migrating south for the austral summer.
Roebuck Bay	-	✓	-	Ramsar	The Roebuck Bay Ramsar site covers an area of 550	The Roebuck Bay Ramsar site is recognised as one of the most important areas for migratory shorebirds in Australia.

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Protected Area	Woodside Activity Area			IUCN Protected Area Category* or Relevant Park Zone	Description	Conservation Values
	Browse	NWS/S	NW Cape			
					km <sup>2</sup> , located south of Broome and adjacent to the Roebuck AMP (refer below).	The site regularly supports over 100,000 waterbirds, with numbers being highest in the austral spring when migrant species breeding in the Palearctic stop to feed during migration.
Ord River Floodplain	✓			Ramsar	The Ord River Floodplain Ramsar Site is in the East Kimberley region and encompasses an extensive system of river, seasonal creek, tidal mudflat, and floodplain wetlands. The Ramsar Site is a nursery, feeding and/or breeding ground for migratory birds, waterbirds, fish, crabs, prawns, and crocodiles.	The site represents the best example of wetlands associated with the floodplain and estuary of a tropical river system in the Tanami-Timor Sea Coast Bioregion in the Kimberley. In addition, the False Mouths of the Ord are the most extensive mudflat and tidal waterway complex in Western Australia.
<b>Wetlands of National Importance (DAWE, 2019)</b>						
Ashmore Reef	✓	-	-		Ashmore Reef is a shelf-edge platform reef located among the Sahul Banks of north-western Australia. It covers an area of 583 km <sup>2</sup> and consists of three islets surrounded by intertidal reef and sand flats.	These islets are major seabird nesting sites with 20 breeding species recorded to date. The total bird population has been estimated to exceed 100,000 during the peak breeding season. The marine reserve also has the highest diversity of marine fauna of the reefs on the NWS and differs from other reefs and coastal areas in the region. The area meets criteria 1, 3, 4 and 5 for inclusion on the Directory of Important Wetlands in Australia.
Mermaid Reef	-	✓	-		Mermaid Reef Marine Park covers an area of around 540 km <sup>2</sup> , located ~280 km west north-west of Broome, and is the most north-easterly atoll of the Rowley Shoals.	The reefs of the Mermaid Reef Marine Park have biogeographic value due to the presence of species that are at or close to the limit of their distribution. The coral communities are one of the special values of Mermaid Reef. The area meets criteria 1, 2 and 3 for inclusion on the Directory of Important Wetlands in Australia.

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	Browse	NWS/S	NW Cape			
Exmouth Gulf East	-	-	✓		Exmouth Gulf East covers an area of 800 km <sup>2</sup> and includes wetlands in the eastern part of Exmouth Gulf, from Giralia Bay; to Urala Creek, Locker Point.	The Exmouth Gulf East is an outstanding example of tidal wetland systems of low coast of north-west Australia, with well- developed tidal creeks, extensive mangrove swamps and broad saline coastal flats. The site is one of the major population centres for dugong in WA and its seagrass beds and extensive mangroves provide nursery and feeding areas for marine fishes and crustaceans in the Gulf. The area meets criteria 1, 2 and 3 for inclusion on the Directory of Important Wetlands in Australia.
Hamelin Pool	-	-	✓		Hamelin Pool covers an area of 900 km <sup>2</sup> in the far south-east part of Shark Bay.	Hamelin Pool is an outstanding example of a hypersaline marine embayment and supports extensive microbialite (subtidal stromatolite) formations, which are the most abundant and diverse examples of growing marine microbialites in the world. The area meets criteria 1 and 6 for inclusion on the Directory of Important Wetlands in Australia.
Shark Bay East	-	-	✓		Shark Bay East covers a 250 km area of coastline comprising tidal wetlands, and marine waters less than 6 m deep at low tide, in the east arm of Shark Bay.	The site is an outstanding example of a very large, shallow marine embayment, with particularly extensive occurrence of seagrass beds and substantial areas of intertidal mud/sandflats and mangrove swamp. The site supports what is probably the world's largest discrete population of dugong; it is also a major nursery and/or feeding area for turtles, rays, sharks, other fishes, prawns and other marine fauna; and is a major migration stop-over area for shorebirds. The area meets criteria 1, 2, 3, 4, 5 and 6 for inclusion on the Directory of Important Wetlands in Australia.
<b>Australian Marine Parks (DNP, 2018a)</b>						
Abrolhos Marine Park	-	-	✓	II, IV, VI	Abrolhos Marine Park is located adjacent to the WA Houtman Abrolhos Islands, covering a large offshore	Abrolhos Marine Park is significant because it contains habitats, species and ecological communities associated with four bioregions:

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Protected Area	Woodside Activity Area			IUCN Protected Area Category* or Relevant Park Zone	Description	Conservation Values
	Browse	NWS/S	NW Cape			
					<p>area of 88,060 km<sup>2</sup> extending from the WA State waters boundary to the edge of Australia's EEZ.</p> <p>The Abrolhos Marine Park is located within both the NWMR and SWMR.</p>	<ul style="list-style-type: none"> <li>• Central Western Province</li> <li>• Central Western Shelf Province</li> <li>• Central Western Transition</li> <li>• South-west Shelf Transition</li> </ul> <p>It includes seven KEFs: Commonwealth marine environment surrounding the Houtman Abrolhos Islands; Demersal slope and associated fish communities of the Central Western Province; Mesoscale eddies; Perth Canyon and adjacent shelf break, and other west-coast canyons; Western rock lobster; Ancient coastline at 90-120 m depth; and Wallaby Saddle.</p> <p>The AMP supports a range of species including species listed as threatened, migratory, marine or cetacean under the EPBC Act. BIAs within the AMP include foraging and breeding habitat for seabirds, foraging habitat for Australian sea lions and white sharks, and a migratory pathway for humpback and pygmy blue whales. The AMP is adjacent to the northernmost Australian sea lion breeding colony in Australia on the Houtman Abrolhos Islands.</p>
Carnarvon Canyon Marine Park	-	-	✓	IV	Carnarvon Canyon Marine Park covers an area of 6177 km <sup>2</sup> , located ~300 km north-west of Carnarvon.	Carnarvon Canyon Marine Park is significant because it contains habitats, species and ecological communities associated with the Central Western Transition bioregion. The AMP supports a range of species, including species listed as threatened, migratory, marine or cetacean under the EPBC Act. There is limited information about species' use of this AMP.
Shark Bay Marine Park	-	-	✓	VI	Shark Bay Marine Park covers an area of 7443 km <sup>2</sup> located ~60 km offshore of Carnarvon, adjacent to the Shark Bay World Heritage Property and National Heritage Place.	Shark Bay Marine Park is significant because it contains habitats, species and ecological communities associated with two bioregions: <ul style="list-style-type: none"> <li>• Central Western Shelf Province</li> <li>• Central Western Transition.</li> </ul> The AMP supports a range of species including species listed as threatened, migratory, marine or cetacean under

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Protected Area	Woodside Activity Area			IUCN Protected Area Category* or Relevant Park Zone	Description	Conservation Values
	Browse	NWS/S	NW Cape			
						the EPBC Act. BIAs within the AMP include breeding habitat for seabirds, interesting habitat for marine turtles, and a migratory pathway for humpback whales.
Gascoyne Marine Park	-	-	✓	II, IV, VI	Gascoyne Marine Park covers an area of 81,766 km <sup>2</sup> , located ~20 km off the west coast of the Cape Range Peninsula, adjacent to the Ningaloo Marine Park.	Gascoyne Marine Park is significant because it contains habitats, species and ecological communities associated with three bioregions: <ul style="list-style-type: none"> <li>• Central Western Shelf Transition</li> <li>• Central Western Transition</li> <li>• Northwest Province.</li> </ul> It includes four KEFs: Canyons linking the Cuvier Abyssal Plain and the Cape Range Peninsula; Commonwealth waters adjacent to Ningaloo Reef; Continental slope demersal fish communities; and Exmouth Plateau. The AMP supports a range of species including species listed as threatened, migratory, marine or cetacean under the EPBC Act. BIAs within the AMP include breeding habitat for seabirds, interesting habitat for marine turtles, a migratory pathway for humpback whales, and foraging habitat and migratory pathway for pygmy blue whales.
Ningaloo Marine Park	-	-	✓	II, IV	Ningaloo Marine Park covers an area of 2435 km <sup>2</sup> , stretching ~300 km along the west coast of the Cape Range Peninsula, and is adjacent to the WA Ningaloo Marine Park and Gascoyne Marine Park.	Ningaloo Marine Park is significant because it contains habitats, species and ecological communities associated with four bioregions: <ul style="list-style-type: none"> <li>• Central Western Shelf Transition</li> <li>• Central Western Transition</li> <li>• Northwest Province</li> <li>• Northwest Shelf Province.</li> </ul> It includes three KEFs: Canyons linking the Cuvier Abyssal Plain and the Cape Range Peninsula; Commonwealth waters adjacent to Ningaloo Reef; and Continental slope demersal fish communities. The AMP supports a range of species including species listed as threatened, migratory, marine or cetacean under the EPBC Act. BIAs within the AMP include breeding and

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Protected Area	Woodside Activity Area			IUCN Protected Area Category* or Relevant Park Zone	Description	Conservation Values
	Browse	NWS/S	NW Cape			
						or foraging habitat for seabirds, interesting habitat for marine turtles, a migratory pathway for humpback whales, foraging habitat and migratory pathway for pygmy blue whales, breeding, calving, foraging and nursing habitat for dugong and foraging habitat for whale sharks.
Montebello Marine Park	-	✓	-	VI	Montebello Marine Park covers an area of 3413 km <sup>2</sup> , located offshore of Barrow Island and 80 km west of Dampier extending from the WA State waters boundary, and is adjacent to the WA Barrow Island and Montebello Islands Marine Parks.	Montebello Marine Park is significant because it contains habitats, species and ecological communities associated with the Northwest Shelf Province bioregion. It includes one KEF: Ancient coastline at 125 m depth contour. The AMP supports a range of species including species listed as threatened, migratory, marine or cetacean under the EPBC Act. BIAs within the AMP include breeding habitat for seabirds, interesting, foraging, mating, and nesting habitat for marine turtles, a migratory pathway for humpback whales and foraging habitat for whale sharks.
Dampier Marine Park	-	✓	-	II, IV, VI	Dampier Marine Park covers an area of 1252 km <sup>2</sup> , located ~10 km north-east of Cape Lambert and 40 km from Dampier extending from the WA State waters boundary.	Dampier Marine Park is significant because it contains habitats, species and ecological communities associated with the Northwest Shelf Province bioregion. The AMP provides protection for offshore shelf habitats adjacent to the Dampier Archipelago, and the area between Dampier and Port Hedland, and is a hotspot for sponge biodiversity. The AMP supports a range of species including those listed as threatened, migratory, marine or cetacean under the EPBC Act. BIAs within the AMP include breeding and foraging habitat for seabirds, interesting habitat for marine turtles and a migratory pathway for humpback whales.
Eighty Mile Beach Marine Park	-	✓	-	VI	Eighty Mile Beach Marine Park covers an area of 10,785 km <sup>2</sup> , located ~74 km north-east of Port Hedland, adjacent to the	Eighty Mile Beach Marine Park is significant because it contains habitats, species and ecological communities associated with the Northwest Shelf Province and consists of shallow shelf habitats, including terrace, banks and shoals.

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Protected Area	Woodside Activity Area			IUCN Protected Area Category* or Relevant Park Zone	Description	Conservation Values
	Browse	NWS/S	NW Cape			
					WA Eighty Mile Beach Marine Park.	The AMP supports a range of species including species listed as threatened, migratory, marine or cetacean under the EPBC Act. BIAs within the AMP include breeding, foraging and resting habitat for seabirds, interesting and nesting habitat for marine turtles, foraging, nursing and pupping habitat for sawfishes and a migratory pathway for humpback whales.
Argo – Rowley Terrace Marine Park	✓	✓	-	II, VI, VI (Trawl)	Argo-Rowley Terrace Marine Park covers an area of 146,003 km <sup>2</sup> , located ~270 km north-west of Broome, and extends to the limit of Australia's EEZ. The AMP is adjacent to the Mermaid Reef Marine Park and the WA Rowley Shoals Marine Park.	Argo-Rowley Marine Park is significant because it contains habitats, species and ecological communities associated with two bioregions: <ul style="list-style-type: none"> <li>• Northwest Transition</li> <li>• Timor Province.</li> </ul> It includes two KEFs: Canyons linking the Argo Abyssal Plain with the Scott Plateau; and Mermaid Reef and Commonwealth waters surrounding Rowley Shoals. The AMP supports a range of species including species listed as threatened, migratory, marine or cetacean under the EPBC Act. BIAs within the AMP include resting and breeding habitat for seabirds and a migratory pathway for the pygmy blue whale.
Mermaid Reef Marine Park	-	✓	-	II	Mermaid Reef Marine Park covers an area of 540 km <sup>2</sup> , located ~280 km north-west of Broome, adjacent to the Argo-Rowley Terrace Marine Park and ~13 km from the WA Rowley Shoals Marine Park. Mermaid Reef is one of three reefs forming the Rowley Shoals. The other two are Clerke Reef and Imperieuse Reef, to the	Mermaid Reef Marine Park is significant because it contains habitats, species and ecological communities associated with the Northwest Transition. It includes one KEF: Mermaid Reef and Commonwealth waters surrounding Rowley Shoals. The Rowley Shoals have been described as the best geological examples of shelf atolls in Australian waters. The AMP supports a range of species, including species listed as threatened, migratory, marine or cetacean under the EPBC Act. BIAs within the AMP include breeding habitat for seabirds and a migratory pathway for the pygmy blue whale.

Protected Area	Woodside Activity Area			IUCN Protected Area Category* or Relevant Park Zone	Description	Conservation Values
	Browse	NWS/S	NW Cape			
					south-west of the AMP, which are included in the WA Rowley Shoals Marine Park.	
Roebuck Marine Park	-	✓	-	VI	Roebuck Marine Park covers an area of 304 km <sup>2</sup> , located ~12 km offshore of Broome, and is adjacent to the WA Yawuru Nagulagun/Roebuck Bay Marine Park.	Roebuck Marine Park is significant because it contains habitats, species and ecological communities associated with the Northwest Shelf Province and consists entirely of shallow continental shelf habitat. The AMP supports a range of species including species listed as threatened, migratory, marine or cetacean under the EPBC Act. BIAs within the AMP include breeding and resting habitat for seabirds, foraging and internesting habitat for marine turtles, a migratory pathway for humpback whales and foraging habitat for dugong.
Kimberley Marine Park	✓	✓	-	II, IV, VI	Kimberley Marine Park covers an area of 74,469 km <sup>2</sup> , located ~100 km north of Broome, extending from the WA State waters boundary north from the Lacepede Islands to the Holothuria Banks offshore from Cape Bougainville.	Kimberley Marine Park is significant because it includes habitats, species and ecological communities associated with three bioregions: <ul style="list-style-type: none"> <li>• Northwest Shelf Province</li> <li>• Northwest Shelf Transition</li> <li>• Timor Province.</li> </ul> It includes two KEFs: Ancient coastline at 125 m depth contour; and Continental slope demersal fish communities. The AMP supports a range of species, including protected species listed as threatened, migratory, marine or cetacean under the EPBC Act. BIAs within the AMP include breeding and foraging habitat for seabirds, internesting and nesting habitat for marine turtles, breeding, calving and foraging habitat for inshore dolphins, calving, migratory pathway and nursing habitat for humpback whales, migratory pathway for pygmy blue whales, foraging habitat for dugong and foraging habitat for whale sharks.
Ashmore Reef Marine Park	✓	-	-	Ia, IV	Ashmore Reef Marine Park covers an area of 583 km <sup>2</sup> , located ~630 km north of	Ashmore Reef Marine Park is significant because it includes habitats, species and ecological communities associated with the Timor Province. It includes two KEFs:

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Protected Area	Woodside Activity Area			IUCN Protected Area Category* or Relevant Park Zone	Description	Conservation Values
	Browse	NWS/S	NW Cape			
					Broome and 110 km south of the Indonesian island of Roti. The AMP is located in Australia's External Territory of Ashmore and Cartier Islands and is within an area subject to a Memorandum of Understanding (MoU) between Indonesia and Australia, known as the MoU Box.	Ashmore Reef and Cartier Island and surrounding Commonwealth waters; and Continental slope demersal fish communities. The AMP supports a range of species, including species listed as threatened, migratory, marine or cetacean under the EPBC Act. BIAs within the AMP include breeding, foraging and resting habitat for seabirds, resting and foraging habitat for migratory shorebirds, foraging, mating, nesting and internesting habitat for marine turtles, foraging habitat for dugong, and a migratory pathway for pygmy blue whales.
Cartier Island Marine Park	✓	-	-	Ia	Cartier Island Marine Park covers an area of 172 km <sup>2</sup> , located ~45 km south-east of Ashmore Reef Marine Park and 610 km north of Broome. It is also located in Australia's External Territory of Ashmore and Cartier Islands and within an area subject to an MoU between Indonesia and Australia, known as the MoU Box.	Cartier Island Marine Park is significant because it includes habitats, species and ecological communities associated with the Timor Province. It includes two key ecological features: Ashmore Reef and Cartier Island and surrounding Commonwealth waters and continental slope demersal fish communities. The AMP supports a range of species, including species listed as threatened, migratory, marine or cetacean under the EPBC Act. BIAs within the AMP include breeding and foraging habitat for seabirds, internesting, nesting and foraging habitat for marine turtles and foraging habitat for whale sharks. The AMP is also internationally significant for its abundance and diversity of sea snakes, some of which are listed species under the EPBC Act.
Joseph Bonaparte Gulf Marine Park	✓	-	-	VI	Joseph Bonaparte Gulf Marine Park covers an area of 8597 km <sup>2</sup> and is located ~15 km west of Wadeye, NT, and ~90 km north of Wyndham, WA, in the Joseph Bonaparte Gulf.	Joseph Bonaparte Gulf Marine Park is significant because it contains habitats, species and ecological communities associated with the Northwest Shelf Transition bioregion. It includes one KEF: Carbonate bank and terrace system of the Sahul Shelf. The AMP supports a range of species, including species listed as threatened, migratory, marine or cetacean under

Protected Area	Woodside Activity Area			IUCN Protected Area Category* or Relevant Park Zone	Description	Conservation Values
	Browse	NWS/S	NW Cape			
					It is adjacent to the WA North Kimberley Marine Park. The Joseph Bonaparte Gulf Marine Park is located within both the NWMR and NMR.	the EPBC Act. BIAs within the AMP include foraging habitat for marine turtles and the Australian snubfin dolphin.
Oceanic Shoals Marine Park	✓	-	-	II, IV, VI	Oceanic Shoals Marine Park covers an area of 71,743 km <sup>2</sup> and is located west of the Tiwi Islands, ~155 km north-west of Darwin, NT and 305 km north of Wyndham, WA. The Oceanic Shoals Marine Park is located within both the NWMR and NMR.	Oceanic Shoals Marine Park is significant because it contains habitats, species and ecological communities associated with the Northwest Shelf Transition bioregion. It contains four KEFs: Carbonate bank and terrace systems of the Van Diemen Rise; Carbonate bank and terrace systems of the Sahul Shelf; Pinnacles of the Bonaparte Basin; and Shelf break and slope of the Arafura Shelf. The AMP supports a range of species, including species listed as threatened, migratory, marine or cetacean under the EPBC Act. BIAs within the AMP include foraging and interesting habitat for marine turtles.
<b>State Marine Parks and Reserves</b>						
North Kimberley Marine Park	✓	-	-	Sanctuary, Special Purpose and General Use Zones	The North Kimberley Marine Park covers approx. 18,450 km <sup>2</sup> with its south-western boundary located ~270 km north-east of Derby.	The coral reefs of the north Kimberley have the greatest diversity in Western Australia and are some of the most pristine and remarkable reefs in the world. The park surrounds more than 1000 islands and is home to listed species such as dugongs, marine turtles, and sawfishes (DPAW, 2016a).
Lalang-garram / Horizontal Falls Marine Park and North Lalang-garram Marine Park (jointly managed)	✓	-	-	Sanctuary, Special Purpose and General Use Zones	The Lalang-garram / Horizontal Falls Marine Park covers ~3530 km <sup>2</sup> from Talbot Bay in the west and Glenelg River in the east. The North Lalang-garram Marine Park covers ~1100	The Lalang-garram / Horizontal Falls Marine Park's most celebrated attraction is created by massive tides of up to 10 m and narrow gaps in two parallel tongues of land meaning the tide falls faster than the water can escape, producing 'horizontal falls'. There are also islands with fringing coral reefs and mangrove-lined creeks and bays. The North Lalang-garram Marine Park has a number of islands fringed with coral reef and has been identified as an

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Protected Area	Woodside Activity Area			IUCN Protected Area Category* or Relevant Park Zone	Description	Conservation Values
	Browse	NWS/S	NW Cape			
					km <sup>2</sup> between Camden Sound and North Kimberley Marine Parks.	ecological hotspot and supports more than 1% of the world's population of brown boobies, with up to 2000 breeding pairs. About 500 pairs of crested terns also nest on the island (DPAW, 2016b).
Lalang-garram / Camden Sound Marine Park	✓	-	-	Sanctuary, Special Purpose and General Use Zones	Lalang-garram / Camden Sound Marine Park covers 7050 km <sup>2</sup> located about 150 km north of Derby.	The Lalang-garram / Camden Sound Marine Park is the most important humpback whale nursery in the Southern Hemisphere. It also features the spectacular coastal Montgomery Reef. The marine park is home to six species of threatened marine turtle. Australian snubfin and Indo-Pacific humpback dolphins, dugongs, saltwater crocodiles, and several species of sawfish (DPAW, 2013).
Rowley Shoals Marine Park	-	✓	-	Sanctuary, Recreation and General Use Zones	The Rowley Shoals comprise of three reef systems, Mermaid Reef, Clerke Reef and Imperieuse Reef, all 30-40 km apart. These reef systems are located ~300 km west north-west of Broome.	The three coral atolls of the Rowley Shoals Marine Park comprise of shallow lagoons inhabited by diverse corals and abundant marine life, each covering around 80 km <sup>2</sup> at the edge of Australia's continental shelf. Further offshore, the seafloor slopes away to the abyssal plain, some 6000 m below. Undersea canyons slice the slope; these features are commonly associated with diverse communities of deep-water corals and sponges and create localised upwellings that aggregate pelagic species like tunas and billfish (DEC, 2007a).
Yawuru Nagulagun / Roebuck Bay Marine Park	-	✓	-	Special Purpose Zone	Yawuru Nagulagun / Roebuck Bay Marine Park is a series of intertidal flats lying on the coast to the south-east of Broome.	Roebuck Bay is an internationally significant wetland and one of the most important feeding grounds for migratory shorebirds in Australia. Australian snubfin and Australian humpback dolphins frequent the waters and humpback whales pass through on their annual migration. Flatback turtles nest on the shores and are found in the bay's waters with other sea turtle species. Seagrass and macroalgae communities provide food for protected species such as the dugong and flatback turtle (DPAW, 2016c).
Eighty Mile Beach Marine Park	-	✓	-	Sanctuary, Recreation, Special	Eighty Mile Beach Marine Park covers ~2000 km <sup>2</sup> stretching across 220km of	Eighty Mile Beach Marine Park is one of the world's most important feeding grounds for small wading birds that migrate to the area each summer, travelling from countries

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	Browse	NWS/S	NW Cape			
				Purpose and General Use Zones	coastline between Port Hedland and Broome.	thousands of kilometres away. The marine park is a major nesting area for flatback turtles which are found only in northern Australia. Sawfishes, dugongs, dolphins and millions of invertebrates inhabit the sand and mud flats, seagrass meadows, coral reefs and mangroves (DPAW, 2014).
Montebello Islands Marine Park, Barrow Island Marine Park and Barrow Island Marine Management Area (jointly managed)	-	✓	-	Sanctuary, Recreation, General Use and Special Purpose Zones	The Montebello Islands Marine Park, Barrow Island Marine Park and Barrow Island Marine Management Area are located off the north-west coast of WA, ~1600 km north of Perth, and cover areas of ~583 km <sup>2</sup> , 42 km <sup>2</sup> and 1,147 km <sup>2</sup> , respectively.	The Montebello/Barrow islands marine conservation reserves have very complex seabed and island topography, resulting in a myriad of different habitats subtidal coral reefs, macroalgal and seagrass communities, subtidal soft-bottom communities, rocky shores and intertidal reef platforms, which support a rich diversity of invertebrates and finfish. The reserves are important breeding areas for several species of marine turtles and seabirds, which use the undisturbed sandy beaches for nesting. Humpback whales migrate through the reserves and dugongs occur in the shallow warm waters (DEC, 2007b).
Ningaloo Marine Park and Muiron Islands Marine Management Area (jointly managed)	-	-	✓	Sanctuary, Recreation, General Use and Special Purpose Zones	The Ningaloo Marine Park and Muiron Islands Marine Management Area are located off the North-west Cape of WA, ~1200 km north of Perth, and cover areas of ~2633 km <sup>2</sup> and 286 km <sup>2</sup> , respectively.	Ningaloo Reef is the largest fringing coral reef in Australia. Temperate and tropical currents converge in the Ningaloo region resulting in highly diverse marine life including spectacular coral reefs, abundant fishes and species with special conservation significance such as turtles, whale sharks, dugongs, whales and dolphins. The region has diverse marine communities including mangroves, algae and filter-feeding communities and has high water quality. These values contribute to the Ningaloo Marine Park being regarded as the State's premier marine conservation icon. The Muiron Islands Marine Management Area is also important, containing a very diverse marine environment, with coral reefs, filter-feeding communities and macroalgal beds. In addition, the Islands are important seabird and green turtle nesting areas. (CALM, 2005a).

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Protected Area	Woodside Activity Area			IUCN Protected Area Category* or Relevant Park Zone	Description	Conservation Values
	Browse	NWS/S	NW Cape			
Shark Bay Marine Park and Hamelin Pool Marine Nature Reserve (jointly managed)	-	-	✓	Sanctuary, Recreation, General Use and Special Purpose Zones	The Shark Bay Marine Park and Hamelin Pool Marine Nature Reserves are located 400 km north of Geraldton, covering areas of ~7487 km <sup>2</sup> and 1270 km <sup>2</sup> , respectively.	Seagrass covers over 4000 km <sup>2</sup> of the Shark Bay Marine Park, with 12 different species making it one of the most diverse seagrass assemblages in the world. Dugongs regularly use this habitat, with the bay containing one of the largest dugong populations in the world. Humpback whales also use the bay as a staging post in their migration along the coast. Green and loggerhead turtles occur in the bay with Dirk Hartog Island providing the most important nesting site for loggerheads in Western Australia. Hamelin Pool contains the most diverse and abundant examples of stromatolites found in the world. These are living representatives of stromatolites that existed some 3500 million years ago (CALM, 1996).

\*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

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 (DNP, 2018a)

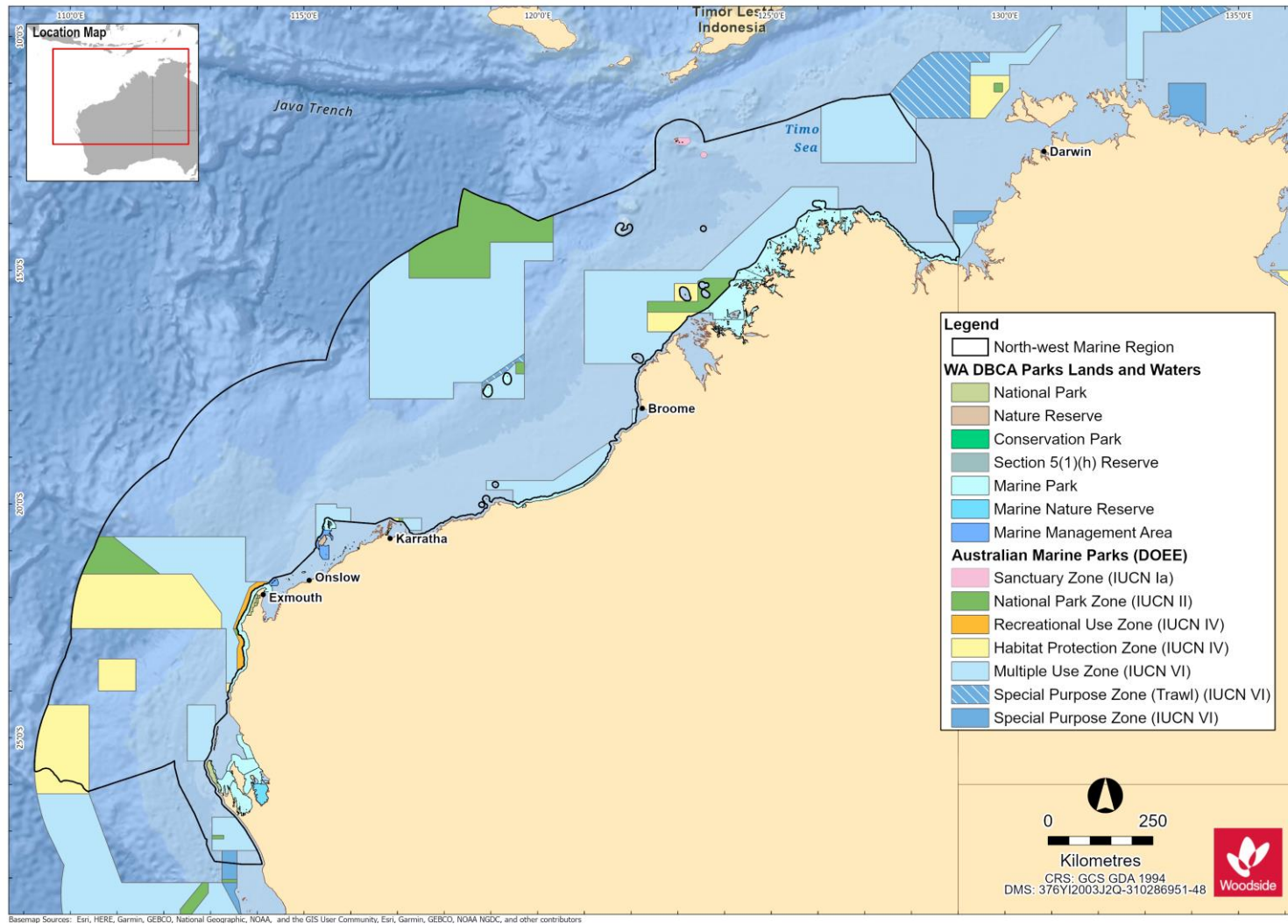


Figure 10-1 Commonwealth and State Marine Protected Areas for the NWMR

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## 10.10 Summary of Protected Areas within the SWMR

Table 10-2 Protected Areas within the SWMR

Protected Area	IUCN Protected Area Category* or Relevant Park Zone	Description	Conservation Values
<b>World Heritage Properties</b>			
N/A			
<b>National Heritage Places - Natural</b>			
N/A			
<b>Commonwealth Heritage Places - Natural</b>			
N/A			
<b>Wetlands of International Importance (Ramsar)</b>			
Beecher Point Wetlands	Ramsar	Beecher Point Wetlands is a system of about sixty small wetlands located near Rockingham in south-west WA, covering an area of around 7 km <sup>2</sup> . The site was listed under the Ramsar Convention in 2001.	The wetlands support sedgeland, herbland, grassland, open-shrubland and low open-forest. The sedgelands that occur within the linear wetland depressions of the Ramsar site are a nationally listed TEC. At least four species of amphibians and twenty-one (21) species of reptiles have been recorded on the site. The site also supports the southern brown bandicoot. The site meets criteria 1 and 2 of the Ramsar Convention.
Forrestdale and Thomsons Lakes	Ramsar	Forrestdale Lake is located in the City of Armadale and Thomsons Lake is located in the City of Cockburn both of which lie within the southern Perth metropolitan area, in Western Australia. The site was listed under the Ramsar Convention in 1990.	The lakes are surrounded by medium density urban development and some agricultural land. The sediments of Thomsons Lake are between 30,000 and 40,000 years old, which are the oldest lake sediments discovered in WA to date. These lakes are the best remaining examples of brackish, seasonal lakes with extensive fringing sedgeland, typical of the Swan Coastal Plain. The site meets criteria 1, 3, 5 and 6 of the Ramsar Convention.
Peel-Yalgorup System	Ramsar	Peel-Yalgorup System, located adjacent to the City of Mandurah in	Peel-Yalgorup System Ramsar site is the most important area for waterbirds in south-western Australia. It supports a large number of waterbirds, and a

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Protected Area	IUCN Protected Area Category* or Relevant Park Zone	Description	Conservation Values
		WA, is a large and diverse system of shallow estuaries, coastal saline lakes and freshwater marshes. The site was listed under the Ramsar Convention in 1990.	wide variety of waterbird species. It also supports a wide variety of invertebrates, and estuarine and marine fish. The site meets criteria 1, 3, 5 and 6 of the Ramsar Convention.
Vasse-wonnerup system	Ramsar	Vasse-Wonnerup System Ramsar wetland is situated in the Perth Basin, south-western WA. The site was listed under the Ramsar Convention in 1990.	Vasse-Wonnerup System is an extensive, shallow, nutrient-enriched wetland system of highly varied salinities. Large areas of the wetland dry out in late summer. Vasse-Wonnerup System supports tens of thousands of resident and migrant waterbirds of a wide variety of species. More than 80 species of waterbird have been recorded in the System such as red-necked avocets and black-winged stilts, wood sandpiper, sharp-tailed sandpiper, long-toed stint, curlew sandpiper and common greenshank. Thirteen waterbird species are also known to breed at the Ramsar site, including the largest regular breeding colony of black swans in south-western Australia. The site meets criteria 5 and 6 of the Ramsar Convention.
<b>Wetlands of National Importance (DAWE, 2019)</b>			
Rottneest Island Lakes		The Rottneest Island Lakes site is the cluster of 18 lakes and swamps on the north-east part of Rottneest Island.	An outstanding example of a series of lakes/swamps of varied depth and salinity located on an offshore island; the only island among 200 plus in WA exceeding 10 ha in area, that has a salt-lake complex; the only known example of seasonally meromictic lakes in Australia. The area meets criteria 1, 2, 3 and 6 for inclusion on the Directory of Important Wetlands in Australia.
<b>Australian Marine Parks (DNP, 2018b)</b>			
Abrolhos Marine Park	II, IV, VI	The Abrolhos Marine Park is located within both the NWMR and SWMR. Refer <b>Table 10-1</b> for description and conservation values.	
Bremer Marine Park	II, VI	Bremer Marine Park covers an area of 4472 km <sup>2</sup> and is located approximately half-way between Albany and Esperance, offshore from the Fitzgerald River National Park, extending from the WA State waters boundary.	Bremer Marine Park is significant because it contains habitats, species and ecological communities associated with two bioregions: <ul style="list-style-type: none"> <li>• Southern Province</li> <li>• South-west Shelf Province.</li> </ul> It includes two KEFs: Albany Canyon group and adjacent shelf break; and Ancient coastline at 90-120 m depth.

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Protected Area	IUCN Protected Area Category* or Relevant Park Zone	Description	Conservation Values
			The AMP supports a range of species including species listed as threatened, migratory, marine or cetacean under the EPBC Act. BIAs within the AMP include foraging habitat for seabirds, Australian sea lions, and white sharks, a migratory pathway for humpback whales, and a significant calving area for southern right whales. The AMP includes canyons—important aggregation areas for killer whales.
Eastern Recherche Marine Park	II, VI	Eastern Recherche Marine Park covers an area of 20,575 km <sup>2</sup> and is located ~135 km east of Esperance, adjacent to the Recherche Archipelago, close to the WA Cape Arid National Park.	Eastern Recherche Marine Park is significant because it contains habitats, species and ecological communities associated with three bioregions: <ul style="list-style-type: none"> <li>• South-west Shelf Province</li> <li>• Southern Province</li> <li>• Great Australian Bight Shelf Transition.</li> </ul> It includes three KEFs: Mesoscale eddies; Ancient coastline at 90-120 m depth; and Commonwealth marine environment surrounding the Recherche Archipelago. <p>The AMP supports a range of species including species listed as threatened, migratory, marine or cetacean under the EPBC Act. BIAs within the AMP include foraging habitat for seabirds, Australian sea lions and white sharks, and a calving buffer area for southern right whales.</p>
Geographe Marine Park	II, IV, VI	Geographe Marine Park covers an area of 977 km <sup>2</sup> and is located in Geographe Bay, ~8 km west of Bunbury and 8 km north of Busselton, adjacent to the WA Ngari Capes Marine Park.	Geographe Marine Park is significant because it contains habitats, species and ecological communities associated with the South-west Shelf Province bioregion. <p>It includes two KEFs: Commonwealth marine environment within and adjacent to Geographe Bay; and Western rock lobster.</p> <p>The AMP supports a range of species including species listed as threatened, migratory, marine or cetacean under the EPBC Act. BIAs within the AMP include foraging habitat for seabirds, a migratory pathway for humpback and pygmy blue whales, and a calving buffer area for southern right whales.</p>
Great Australian Bight Marine Park	II, VI	Great Australian Bight Marine Park covers an area of 45,822 km <sup>2</sup> and is located ~12 km south-east of Eucla and 174 km west of Ceduna, adjacent to the SA Far West Coast and Nuyts Archipelago Marine Parks.	Great Australian Bight Marine Park is significant because it contains habitats, species and ecological communities associated with two bioregions: <ul style="list-style-type: none"> <li>• Great Australian Bight Shelf Transition</li> <li>• Southern Province.</li> </ul> <p>It includes three KEFs: Ancient coastline at 90-120 m depth; Benthic invertebrate communities of the eastern Great Australian Bight; and Small pelagic fish of the South-west Marine Region.</p> <p>The AMP supports a range of species including species listed as threatened, migratory, marine or cetacean under the EPBC Act. BIAs within the AMP include foraging habitat for seabirds, Australian sea lions, white sharks and</p>

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Protected Area	IUCN Protected Area Category* or Relevant Park Zone	Description	Conservation Values
			pygmy blue and sperm whales, and a calving area, migratory pathway and large aggregation area for southern right whales.
Jurien Marine Park	II, VI	Jurien Marine Park covers an area of 1851 km <sup>2</sup> and is located ~148 km north of Perth and 155 km south of Geraldton, adjacent to the WA Jurien Bay Marine Park.	<p>Jurien Marine Park is significant because it includes habitats, species and ecological communities associated with two bioregions:</p> <ul style="list-style-type: none"> <li>• South-west Shelf Transition</li> <li>• Central Western Province.</li> </ul> <p>It includes three KEFs: Ancient coastline at 90-120 m depth; Demersal slope and associated fish communities of the Central Western Province; and Western rock lobster</p> <p>The AMP supports a range of species including species listed as threatened, migratory, marine or cetacean under the EPBC Act. BIAs within the AMP include foraging habitat for seabirds, Australian sea lions and white sharks, and a migratory pathway for humpback and pygmy blue whales.</p>
Perth Canyon Marine Park	II, IV, VI	Perth Canyon Marine Park covers an area of 7409 km <sup>2</sup> and is located ~52 km west of Perth and ~19 km west of Rottnest Island.	<p>Perth Canyon Marine Park is significant because it includes habitats, species and ecological communities associated with four bioregions:</p> <ul style="list-style-type: none"> <li>• Central Western Province</li> <li>• South-west Shelf Province</li> <li>• Southwest Transition</li> <li>• South-west Shelf Transition.</li> </ul> <p>It includes four KEFs: Perth Canyon and adjacent shelf break, and other west-coast canyons; Demersal slope and associated fish communities of the Central Western Province; Western rock lobster; and Mesoscale eddies.</p> <p>The AMP supports a range of species including species listed as threatened, migratory, marine or cetacean under the EPBC Act. BIAs within the AMP include foraging habitat for seabirds, Antarctic blue, pygmy blue and sperm whales, a migratory pathway for humpback, Antarctic blue and pygmy blue whales, and a calving buffer area for southern right whales.</p>
South-west Corner Marine Park	II, IV, VI	South-west Corner Marine Park covers an area of 271,833 km <sup>2</sup> and is located adjacent to the WA Ngari Capes Marine Park. It covers an extensive offshore area that is closest to WA State waters ~48 km west of Esperance, 73 km west of Albany and 68 km west of Bunbury.	<p>South-west Corner Marine Park is significant because it contains habitats, species and ecological communities associated with three bioregions:</p> <ul style="list-style-type: none"> <li>• Southern Province</li> <li>• South-west Transition</li> <li>• South-west Shelf Province.</li> </ul> <p>It includes six KEFs: Albany Canyon group and adjacent shelf break; Cape Mentelle upwelling; Diamantina Fracture Zone; Naturaliste Plateau; Western rock lobster; and Ancient coastline at 90 m-120 m depth.</p>

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Protected Area	IUCN Protected Area Category* or Relevant Park Zone	Description	Conservation Values
			The AMP supports a range of species including species listed as threatened, migratory, marine or cetacean under the EPBC Act. BIAs within the AMP include foraging habitat for seabirds, Australian sea lions, white sharks and sperm whales, a migratory pathway for Antarctic blue, pygmy blue and humpback whales, and a calving buffer area for southern right whales.
Twilight Marine Park	II, VI	Twilight Marine Park covers an area of 4641 km <sup>2</sup> and is located ~245 km south-west of Eucla and 373 km north-east of Esperance, adjacent to the WA State waters boundary.	Twilight Marine Park is significant because it contains habitats, species and ecological communities associated with the Great Australian Bight Shelf Transition bioregion. The AMP supports a range of species including species listed as threatened, migratory, marine or cetacean under the EPBC Act. BIAs within the AMP include foraging habitat for seabirds, Australian sea lions and white sharks, and a calving buffer area for southern right whales.
Two Rocks Marine Park	II, VI	Two Rocks Marine Park covers an area of 882 km <sup>2</sup> and is located ~25 km north-west of Perth, to the north-west of the WA Marmion Marine Park.	Two Rocks Marine Park is significant because it includes habitats, species and ecological communities associated with the South-west Shelf Transition bioregion. It includes three KEFs: Commonwealth marine environment within and adjacent to the west-coast inshore lagoons; Western rock lobster; and Ancient coastline at 90-120 m depth. The AMP supports a range of species including species listed as threatened, migratory, marine or cetacean under the EPBC Act. BIAs within the AMP include foraging habitat for seabirds and Australian sea lions, a migratory pathway for humpback and pygmy blue whales, and a calving buffer area for southern right whales.
<b>State Marine Parks and Reserves</b>			
Jurien Bay Marine Park	Sanctuary, Special Purpose and General Use Zones.	The Jurien Bay Marine Park is located on the central west coast of WA ~200 km north of Perth and covers an area of 824 km <sup>2</sup> .	An extensive limestone reef system parallel to the shore has created a huge shallow lagoon that provides perfect habitat for Australian sea lions, dolphins and a myriad of juvenile fish. Extensive seagrass meadows inside the reef shelter many marine animals such as western rock lobsters, octopus and cuttlefish that make up the diet of young sea lions. The marine park also surrounds dozens of ecologically important islands that contain rare and endangered animals found nowhere else in the world (CALM, 2005b).
Marmion Marine Park	Sanctuary, Recreation and Special Use Zones.	The Marmion Marine Park lies within State waters between Trigg Island and Burns Beach and encompasses a coastal area of ~95 km <sup>2</sup> . Marmion	The marine park has a number of sanctuary zones including Little Island, The Lumps and the Boyinaboat Reef protecting a variety of habitats from limestone reefs, seagrass beds and clear shallow lagoons that support a diversity of marine life. In addition, to a general use zone and the Waterman Recreation Area. The marine park contains important habitat for the endemic Australian

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Protected Area	IUCN Protected Area Category* or Relevant Park Zone	Description	Conservation Values
		Marine Park was the State's first marine park, declared in 1987.	sea lion, an array of seabird species migratory whales are regular visitors (CALM, 1992; DPAW, 2016d).
Swan Estuary Marine Park	Special Purpose and Nature Reserve Zones.	Three biologically important areas of Perth's Swan River make up the Swan Estuary Marine Park, including Alfred Cove, Pelican Point and Crawley. These three sites cover a total area of 3.4 km <sup>2</sup> .	The sand flats, mud flats and beaches at the three locations of the Swan Estuary Marine Park provide the only remaining significant feeding and resting areas in the Swan Estuary, for trans-equatorial migratory wading and waterbirds. The Park and adjacent reserves also provide habitat for a diverse assemblage of aquatic and terrestrial flora and fauna (CALM, 1999).
Shoalwater Islands Marine Park	Sanctuary, Special Purpose and General Use Zones.	The Shoalwater Islands Marine Park is located adjacent to Rockingham on the south-west coast of WA, ~50 km south of Perth and covers an area of ~66 km <sup>2</sup> .	The Shoalwater Islands Marine Park consists of a complex seabed and coastal topography consisting of islands, limestone ridges and reef platforms, protected inshore areas and deeper basins, sandbars and beaches, and is home to five species of cetacean and 14 species of sea and shore bird. The waters of the marine park are also used to access feeding grounds for the little penguin ( <i>Eudyptula minor</i> ) colony on Penguin Island, which is close to the northernmost limit of the species' range and is the largest known breeding colony in Western Australia (DEC, 2007c).
Ngari Capes Marine Park	Sanctuary, Special Purpose and Recreation Zones.	The Ngari Capes Marine Park is located off the south-west coast of WA, ~250 km south of Perth, covering ~1238 km <sup>2</sup> .	The Ngari Capes Marine Park consists of a complex arrangement of sandy bays, high energy limestone and granite reefs bordered by headlands and cliffs and two weathered capes. Coral communities consist of both tropical and temperate species. Cetaceans and pinnipeds are resident in and/or transient through the marine park as well as a diverse range of seabirds and shorebirds (DEC, 2013).
Walpole and Nornalup Inlets Marine Park	Recreation Zone.	The Walpole and Nornalup Inlets Marine Park is located adjacent to the towns of Walpole and Nornalup on the south coast of WA, ~120 km west of Albany, and covers ~14 km <sup>2</sup> .	The Walpole and Nornalup Inlets Marine Park consists of a geologically complex lagoonal estuarine system comprising three significant rivers and two connected inlets that are permanently open to the ocean. Approximately 40 marine and estuarine finfish species commonly inhabit the inlet system, as well as a variety of shark and ray species and numerous seabirds and shorebirds. The sandy beaches and shoreline vegetation of the inlet system are of high ecological and social importance to the marine park (DEC, 2009).

\*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

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*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 South-west Marine Parks Network Management Plan 2018 (DNP, 2018b)

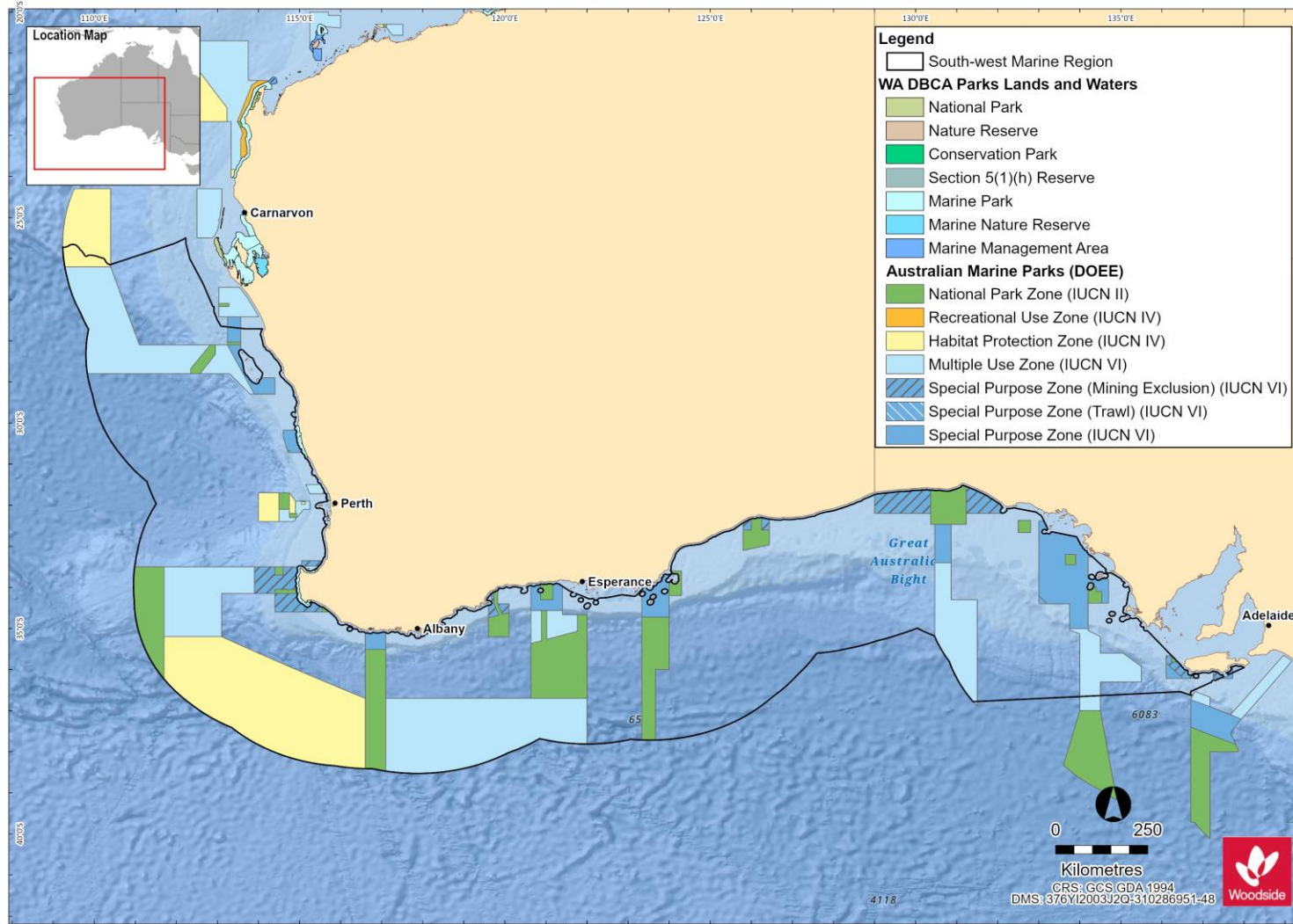


Figure 10-2. Commonwealth and State Marine Protected Areas for the SWMR

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## 10.11 Summary of Protected Areas within the NMR

Table 10-3 Protected Areas within the NMR

Protected Area	IUCN Protected Area Category* or Relevant Park Zone	Description	Conservation Values
<b>World Heritage Properties</b>			
Kakadu National Park		Kakadu National Park is a living landscape with exceptional natural and cultural values. It is the largest National Park in Australia and preserves the greatest variety of ecosystems on the Australian continent including extensive areas of floodplains, mangroves, tidal mudflats, coastal areas and monsoon forests. The park was inscribed the World Heritage list in three stages over 11 years. It is located in tropical north Australia covering a total area of 19,804 square kilometres.	The conservation values reflect the WHA Criterion: (i), (vi), (vii) and (ix): Natural features relate to Criterion (vii) – the remarkable contrast between the internationally recognised Ramsar-listed wetlands and the spectacular rocky escarpment and its outliers and Criterion (ix) – four major river systems of tropical Australia and floodplains that are dynamic environments, shaped by changing sea levels and big floods every wet season. These floodplains illustrate the ecological and geomorphological effects that have accompanied Holocene climate change and sea level rise. Kakadu National Park contains important and significant habitats supporting a diverse range of flora and fauna.
<b>National Heritage Places - Natural</b>			
Kakadu National Park		Refer to World Heritage property description above.	Refer to World Heritage property conservation values above
<b>Commonwealth Heritage Places - Natural</b>			
N/A			
<b>Wetlands of International Importance (Ramsar)</b>			
Kakadu National Park		Australian Ramsar site number 2. The stage 1 and 2 Ramsar sites, established in 1980, 1985 and 1989, respectfully were combined into a single Ramsar site in 2010.	The Kakadu National Park Ramsar site straddles the western edge of the Arnhem Land Plateau encompassing a range of landforms and extensive floodplains. It is a mosaic of contiguous wetlands comprising the catchments of two large river systems, the East and South Alligator rivers and encompasses extensive tidal mudflat areas. It is an internationally important site for migratory shorebirds as part of the EAAF.
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Protected Area	IUCN Protected Area Category* or Relevant Park Zone	Description	Conservation Values
Cobourg Peninsula		Australian Ramsar site number 1 established in 1974. This Ramsar site includes freshwater and extensive intertidal areas but excludes subtidal areas. It is in a remote location and there has been minimal human impact on the site.	The wetlands encompassed in the Ramsar site are some of the better protected and near-natural wetlands in the bioregion and there is a diverse array of wetland in a confined area. The site supports important turtle nesting habitat and habitat for coastal dolphin species and is an internationally significant migratory shorebird habitat as part of the EAAF and an important location for seabird breeding colonies.
<b>Wetlands of National Importance (DAWE, 2019)</b>			
Southern Gulf Aggregation		The site is a complex continuous wetland aggregation in the Gulf of Carpentaria, covering an area of ~5460 km <sup>2</sup> located 58 km east of Burketown, Queensland.	The Southern Gulf Aggregation is the largest continuous estuarine wetland aggregation of its type in northern Australia. It is one of the three most important areas for shorebirds in Australia. The area meets criteria 1, 2, 3, 4, 5 and 6 for inclusion on the Directory of Important Wetlands in Australia.
<b>Australian Marine Parks (DNP, 2018c)</b>			
Arafura Marine Park	VI	Arafura Marine Park covers an area of 22,924 km <sup>2</sup> is located ~256 km north-east of Darwin and 8 km offshore of Croker Island, NT. It extends from NT waters to the limit of Australia's EEZ.	The AMP is significant because it contains habitats, species and ecological communities associated with two bioregions: <ul style="list-style-type: none"> <li>•Northern Shelf Province</li> <li>•Timor Transition.</li> </ul> It includes one KEF: Tributary canyons of the Arafura Depression. The AMP supports a range of species, including species listed as threatened, migratory, marine or cetacean under the EPBC Act. BIAs within the AMP include interesting habitat for marine turtles and important foraging and breeding habitat for seabirds.
Arnhem Marine Park	VI	Arnhem Marine Park covers an area of 7125 km <sup>2</sup> and is located ~100 km south-east of Croker Island and 60 km south-east of the Arafura Marine Park. It extends from NT waters surrounding the Goulburn Islands, to the waters north of Maningrida.	Arnhem Marine Park is significant because it contains habitats, species and ecological communities associated with the Northern Shelf Province bioregion. The AMP supports a range of species, including species listed as threatened, migratory, marine or cetacean under the EPBC Act. BIAs within the AMP include foraging habitat and a migratory pathway for marine turtles and seabirds.
Gulf of Carpentaria Marine Park	II, VI	Gulf of Carpentaria Marine Park covers an area of 23,771 km <sup>2</sup> and is located ~90 km north-west of Karumba, Queensland and is adjacent to the Wellesley Islands in	Gulf of Carpentaria Marine Park is significant because it contains habitats, species and ecological communities associated with the Northern Shelf Province bioregion.

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Protected Area	IUCN Protected Area Category* or Relevant Park Zone	Description	Conservation Values
		the south of the Gulf of Carpentaria basin.	It includes four KEFs: Gulf of Carpentaria basin; Gulf of Carpentaria coastal zone; Plateaux and saddle north-west of the Wellesley Islands; and Submerged coral reefs of the Gulf of Carpentaria. The AMP supports a range of species, including species listed as threatened, migratory, marine or cetacean under the EPBC Act. BIAs within the AMP include breeding and foraging areas for seabirds and interesting and foraging areas for turtles.
Joseph Bonaparte Gulf Marine Park	VI	The Joseph Bonaparte Gulf Marine Park is located within both the NWMR and NMR. Refer <b>Table 10-1</b> for description and conservation values.	
Limmen Marine Park	IV	Limmen Marine Park covers an area of 1399 km <sup>2</sup> and is located ~315 km south-west of Nhulunbuy, NT, in the south-west of the Gulf of Carpentaria. It extends from NT waters, between the Sir Edward Pellew Group of Islands and Maria Island in the Limmen Bight, adjacent to the NT Limmen Bight Marine Park.	Limmen Marine Park is significant because it contains habitats, species and ecological communities associated with the Northern Shelf bioregion. It includes one KEF: Gulf of Carpentaria coastal zone. The AMP supports a range of species, including species listed as threatened, migratory, marine or cetacean under the EPBC Act. BIAs within the AMP include interesting and foraging habitat for marine turtles.
Oceanic Shoals Marine Park	II, IV, VI	The Oceanic Shoals Marine Park is located within both the NWMR and NMR. Refer <b>Table 10-1</b> for description and conservation values.	
Wessel Marine Park	IV, VI	Wessel Marine Park covers an area of 5908 km <sup>2</sup> and is located ~22 km east of Nhulunbuy, NT. It extends from NT waters adjacent to the tip of the Wessel Islands to NT waters adjacent to Cape Arnhem.	Wessel Marine Park is significant because it contains habitats, species and ecological communities associated with the Northern Shelf bioregion. It includes one KEF: Gulf of Carpentaria basin. The AMP supports a range of species, including species listed as threatened, migratory, marine or cetacean under the EPBC Act. BIAs within the AMP include breeding habitat for seabirds and interesting and foraging habitat for marine turtles.
West Cape York Marine Park	II, IV, VI	West Cape York Marine Park covers an area of 16,012 km <sup>2</sup> and is located adjacent to the northern end	West Cape York Marine Park is significant because it contains species and ecological communities associated with two bioregions: • Northeast Shelf Transition

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Protected Area	IUCN Protected Area Category* or Relevant Park Zone	Description	Conservation Values
		of Cape York Peninsula ~25 km south-west of Thursday Island and 40 km north-west of Weipa, Queensland.	<ul style="list-style-type: none"> <li>Northern Shelf Province.</li> </ul> It includes two KEFs: Gulf of Carpentaria basin; and Gulf of Carpentaria coastal zone. The AMP supports a range of species, including species listed as threatened, migratory, marine or cetacean under the EPBC Act. BIAs within the AMP include breeding and foraging habitat for seabirds, internesting and foraging habitat for marine turtles and dugong, and foraging, breeding and calving habitat for dolphins.
<b>Territory Marine Parks and Reserves</b>			
Cobourg Marine Park	II, IV, VI	Cobourg Marine Park covers an area of 2,290 km <sup>2</sup> and is located in the waters surrounding the Cobourg Peninsula ~220 km north-east of Darwin. The Marine Park is part of the larger Garig Gunak Barlu National Park. Garig Gunak Barlu National Park includes both the Marine Park and the Cobourg Sanctuary.	Cobourg Marine Park is located in the Cobourg and Van Diemen Gulf marine bioregions with the northern portion of the Park covered by the Cobourg marine bioregion and the southern portion covered by the Van Diemen Gulf marine bioregion. The Marine Park is characterised by a number of deeply incised bays and estuaries on its northern shores. These bays are ancient river valleys that were drowned during periods of sea level rise and provide a varied environment and habitat that is quite distinct from the open water areas of the Park. The areas of the Park that have been studied and where extensive collections have been made indicates that the Park supports rich and diverse marine life including live coral reefs, seagrass, diverse reef and pelagic fish populations, marine turtles and dugong.

\*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

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 Marine Parks Network Management Plan 2018 (DNP, 2018c)



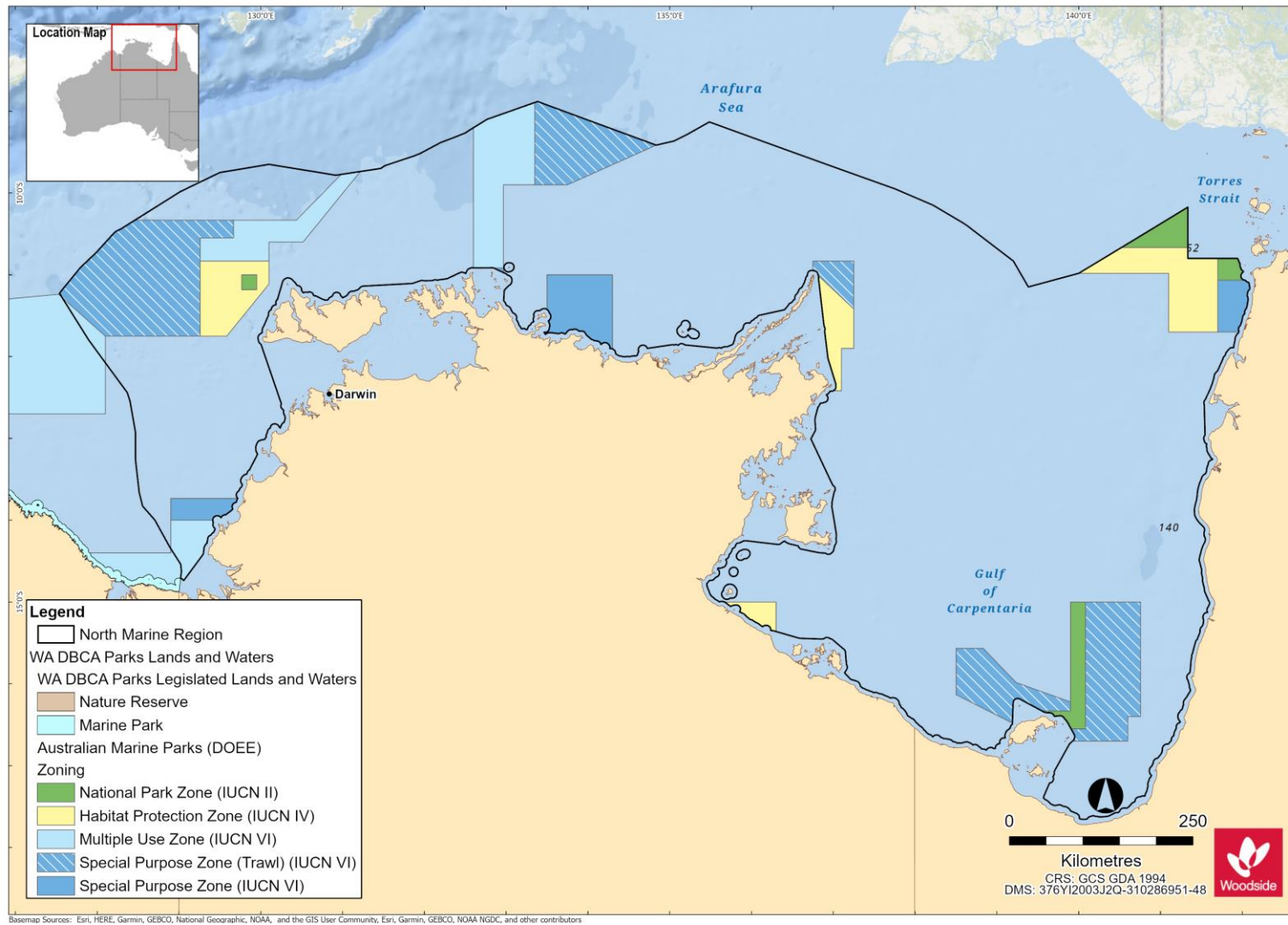


Figure 10-3. Commonwealth and State Marine Protected Areas within the NMR

## 11. SOCIO-ECONOMIC AND CULTURAL ENVIRONMENT

This section summarises the information relating to the socio-economic and cultural environment of the regions offshore Western Australia, with a focus on the NWMR and to a lesser extent the SWMR and NWR.

The cultural environment includes Indigenous and European heritage values, including underwater values such as historic shipwrecks. Socio-economic values include commercial and traditional fishing, tourism and recreation, shipping, oil and gas activities and defence activities.

### 11.1 Cultural Heritage

#### 11.1.1 Indigenous Sites of Significance

Murujuga (the Burrup Peninsula) has a very high density of significant Indigenous heritage sites and places with tangible and intangible heritage values. The area has one of the largest, densest, and most diverse collections of rock art in the world. It is estimated that the peninsula and surrounding islands contain over a million petroglyphs (rock engravings) covering a broad range of styles and subjects. The landscape also contains quarries, middens, fish traps, rock shelters, ceremonial sites, artefact scatters, grinding patches and stone arrangements that evidence tens of thousands of years of human occupation. These places are linked to Aboriginal cosmology, Dreaming stories and songs through the stories, knowledge and customs that are still held by traditional custodians.

In 2007 the Dampier Archipelago (including the Burrup Peninsula) was included on the National Heritage List due to outstanding heritage values relating to Australia's cultural history contained in the large number, density, diversity, distribution and fine execution of rock art. Within the National Heritage Place, the Murujuga National Park covers 4913 ha and is co-managed by the Murujuga Aboriginal Corporation and the Department of Biodiversity, Conservation and Attractions. The Murujuga Cultural Landscape was also added to Australia's Tentative World Heritage List in 2020, with full World Heritage Listing anticipated in 2024.

Woodside also recognises the potential for heritage to survive in submerged landscapes. Sea-level rises since the last ice age mean that areas now under the sea were once exposed, that many of today's islands would have been connected to the mainland, and that Aboriginal people are highly likely to have inhabited these places. Woodside works with traditional custodians, academics and heritage professionals to identify tangible and intangible heritage values in the submerged landscape to avoid disturbing heritage where possible and to minimise impacts where heritage cannot be avoided.

It is an offence to excavate, destroy, damage, conceal or alter Indigenous heritage onshore or in state waters under section 17 of the *Aboriginal Heritage Act 1972 (WA) (AHA)* without ministerial authorisation. Where there is a risk of injury or desecration to a significant Aboriginal area, even where permitted under the AHA, any Aboriginal person may apply to the federal Environment Minister for a declaration under sections 9 or 10 of the *Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Cth)* for the protection and preservation of that area.

The Department of Planning, Lands and Heritage maintains a register of registered sites and heritage places including middens, burial, ceremonial [sites], artefacts, rock shelters, mythological [sites] and engraving sites. There are over 1600 registered sites on Murujuga and the Dampier Archipelago with around 1100 other heritage places. This register is not comprehensive and will be complemented by heritage surveys where necessary. Protection of National and World Heritage values is also legislated through various provisions of the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)*. Murujuga National Park is managed under the *Conservation and Land Management Act 1984 (WA)*.

### 11.1.2 European Sites of Significance

European sites of significance and heritage value are found along adjacent foreshores of the SWMR, NWMR and NWR. Heritage values are protected in Western Australia under the *Heritage Act 2018*.

### 11.1.3 Underwater Cultural Heritage

Places of historic cultural significance are protected under Commonwealth, State and local regimes. Places inscribed on the National or World Heritage list are protected through various provisions of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth). Historic places may also be protected under the *Heritage Act 2018* (WA); under section 129 the prohibited alteration, demolition, damage, despoilment or removal of objects from a registered place may result in a fine of A\$1 million. Protection of heritage by local government typically emanates from local planning schemes produced under Part 5 of the *Planning and Development Act 2005* (WA).

The remains of vessels and aircraft in Commonwealth waters, along with any associated article, are automatically protected under the *Underwater Cultural Heritage Act 2018* (Cth) after 75 years. Remains and relics of any ship lost, wrecked or abandoned in Western Australian waters before 1900 are protected by the *Maritime Archaeology Act 1973* (WA).

The Australian National Shipwreck Database and the WA Maritime Museum Shipwreck Database list these protected wrecks.

### 11.1.4 National and Commonwealth Listed Heritage Places

Australia's National Heritage Sites are those of outstanding natural, historic and/or Indigenous significance to Australia. National Heritage places classed as natural are discussed in **Section 10.3**. Historic and/or Indigenous National Heritage Listed Places of the NWMR include:

- Dampier Archipelago (including Burrup Peninsula)
- Dirk Hartog Landing Site/Cape Inscription
- HMAS Sydney II and the HSK Kormoran Shipwreck Sites
- Batavia Shipwreck Site and Survivor Camps Area 1629 – Houtman Abrolhos

Commonwealth Heritage Places are a collection of sites recognised for their Indigenous, historical and/or natural values, which are owned or controlled by the Australian Government. A number of these sites are owned or controlled by the Department of Defence, as well as Government agencies relating to maritime safety, customs and communication. Commonwealth Heritage places classed as natural are discussed in **Section 10.3**. Listed Heritage Places in the NWMR include:

- Mermaid Reef – Rowley Shoals (refer **Section 10.3**)
- Ashmore Reef National Nature Reserve (refer **Section 10.3**)
- Scott Reef and Surrounds – Commonwealth Area (refer **Section 10.3**)
- Ningaloo Marine Area (refer **Section 10.3**)

World Heritage Properties are those sites that hold universal value which transcends any value they may be held by any one nation. These sites and their qualities are detailed in the Convention concerning the Protection of the World Cultural and Natural Heritage (the World Heritage Convention), to which Australia is a founding member. The Protected Matters Search Report (**Appendix A**) lists two natural World Heritage Properties in the NWMR (refer **Section 10.2**). There are no cultural heritage listings located within the NWMR.

Summary tables of heritage places for NWMR, SWMR and NMR are presented in **Table 11-1, Table 11-2** and **Table 11-3**.

## 11.2 Summary of Heritage Places within the NWMR

Table 11-1 Heritage Places (Indigenous and Historic) within the NWMR

Heritage Places	Woodside Activity Area			Class	Description	Conservation Values
	Browse	NWS/S	NW Cape			
<b>National Heritage Properties</b>						
Dampier Archipelago (including Burrup Peninsula)	-	✓	-	Indigenous	The Dampier Archipelago (including the Burrup Peninsula) contains one of the densest concentrations of rock engravings in Australia with some sites containing thousands or tens of thousands of images.	The rock engravings comprise images of avian, marine and terrestrial fauna, schematised human figures, figures with mixed human and animal characteristics and geometric designs. At a national level it has an exceptionally diverse and dynamic range of schematised human figures some of which are arranged in complex scenes. The fine execution and dynamic nature of the engravings, particularly some of the composite panels, exhibit a degree of creativity that is unusual in Australian rock engravings.
Dirk Hartog Landing Site 1616 – Cape Inscription Area	-	-	✓	Historic	Cape Inscription is the site of the oldest known landings of Europeans on the WA coastline.	The Cape Inscription area displays uncommon aspects of Australia's cultural history because of the cumulative effect its association with these explorers and surveyors had on growing knowledge of the great southern continent in Europe. The association of the site with these early navigators stimulated the development of the European view of the great southern continent at a time when they began to look at the world with a modern scientific outlook.
<b>Commonwealth Heritage Properties</b>						
N/A						

### 11.3 Summary of Heritage Places within the NMR

Table 11-2 Heritage Places (Indigenous and Historic) within the NMR

Heritage Places	Class	Description	Conservation Values
<b>National Heritage Properties</b>			
None			
<b>Commonwealth Heritage Properties</b>			
None			

### 11.4 Summary of Heritage Places within the SWMR

Table 11-3 Heritage Places (Indigenous and Historic) within the SWMR

Heritage Places	Class	Description	Conservation Values
<b>National Heritage Properties</b>			
Cheetup Rock Shelter	Indigenous	Cheetup meaning “place of the birds” is the name of a spacious rock shelter located in Cape Le Grand National Park, about 55 km east of Esperance in WA. Aboriginal people associated with the place identify themselves as Nyungar/Noongar, Ngadju (shortened from Ngadjunmaia) or Mirning.	Cheetup rock shelter provides outstanding evidence for the antiquity of processing and use of cycad seeds by Aboriginal people. The seeds of the cycad are extremely toxic and can cause speedy death if eaten fresh without proper preparation to remove the toxins. The presence of <i>Macrozamia riedlei</i> seeds in a pit lined with Xanthorrhoea (grass tree) leaf bases indicates that the Aboriginal people in the Esperance region had the knowledge to remove the toxins of this important source of carbohydrate and protein at least 13,200 years ago.

Heritage Places	Class	Description	Conservation Values
Batavia Shipwreck Site and Survivor Camps Area 1629 – Houtman Abrolhos	Historic	The Batavia and its associated sites hold an important place in the discovery and delineation of the WA coastline. The wreck of the Batavia, and other Dutch ships like her, convinced the VOC (Dutch East India Company) of the necessity of more accurate charts of the coastline and resulted in the commissioning of Vlamingh's 1696 voyage.	Because of its relatively undisturbed nature the archaeological investigation of the wreck itself has revealed a range of objects of considerable value as well as to artefact specialists and historians.
HMAS Sydney II and HSK Kormoran Shipwreck Sites	Historic	The naval battle fought between the Australian warship HMAS Sydney II and the German commerce raider HSK Kormoran off the WA coast during World War II was a defining event in Australia's cultural history. HMAS Sydney II was Australia's most famous warship of the time and this battle has forever linked the stories of these warships to each other. The loss of HMAS Sydney II along with its entire crew of 645 following the battle with HSK Kormoran, remains as Australia's worst naval disaster.	The shipwreck sites of HMAS Sydney II and HSK Kormoran have outstanding heritage value to the nation because of their importance in a defining event in Australia's cultural history and for their part in development of the process of the defence of Australia.
<b>Commonwealth Heritage Properties</b>			
Cliff Point Historic Sites	Historic	Cliff Head is a limestone bluff on the east coast of Garden Island. Evidence of occupation has been reported from the beach just north of the head, the immediate hinterland, the ridge above and on the south face of the ridge.	The Cliff Point Historic Site, individually significant within the area of Garden Island is important as the first site inhabited by Governor Stirling's party in 1829 when founding the colony of WA, and as WA's first official non-convict settlement. The site was occupied in the first instance by Captain Charles Fremantle before the arrival of Captain Stirling. The party occupied the site for two months before a move was made to the Swan River settlement on the mainland.
HMAS Sydney II and HSK Kormoran Shipwreck Sites	Historic	As above	As above
J Gun Battery	Historic	J Battery comprised two 155 mm long range guns, the other similar battery being at Cape Peron on the mainland at the entrance to Cockburn Sound. Located in the dune systems at the north western	J Gun Battery (1942) is individually significant within the area of Garden Island (Register No. 019544) and is historically important as the first gun battery constructed on Garden Island and as one of two long range gun batteries which played a

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Heritage Places	Class	Description	Conservation Values
		corner of Garden Island elements of the J Battery complex are now covered in part by sand.	strategic role in the coastal defences of Cockburn Sound and Fremantle following the entry of Japan into the Second World War (1939-45).

## 11.5 Fisheries - Commercial

### 11.5.1 Commonwealth and State Fisheries

The diverse range of habitats and species offshore WA has allowed for various fisheries to develop and operate throughout the region.

The Australian Fisheries Management Authority (AFMA) manages fisheries on behalf of the Commonwealth Government and is bound by objectives under the Commonwealth *Fisheries Management Act 1991*.

WA State commercial fisheries are managed by the WA Department of Primary Industries and Regional Development (WA DPIRD) under the WA *Fish Resources Management Act 1994* (FRMA), Fisheries Resources Management Regulations 1995, relevant gazetted notices and licence conditions, and applicable Fishery Management Plans.

Commonwealth and State managed fisheries that operate within the NWMR and in areas beyond this region are summarised in the **Table 11-4**.



Table 11-4 Commonwealth and State managed fisheries

Fishery	Woodside Activity Area			Description		
	Browse	NWS/S	NW Cape			
<b>Commonwealth Managed Fisheries</b>						
<b>Southern Bluefin Tuna Fishery</b>	✓	✓	✓	<b>Management area</b>	The Southern Bluefin Tuna Fishery (SBTF) covers the entire EEZ around Australia, out to 200 nm from the coast. They do not fish in the Woodside activity area.	
				<b>Species targeted</b>	<b>Fishing methods</b>	<b>Fishing depth</b>
				Southern bluefin tuna ( <i>Thunnus maccoyii</i> )	Longline and purse seine fishing.	Southern bluefin tuna is a pelagic species which can be found to depths of 500 m (AFMA, 2021a)
				<b>Fishing effort</b>	Most of the Australian fishing effort is by purse-seine vessels in the Great Australian Bight and waters off South Australia during summer months, and by longline off the New South Wales coastline during winter months (Patterson <i>et al.</i> , 2020). SBTF is a fishery that is shared amongst many countries. Australia currently has a 35% share of the total global allowable catch, and while wild capture fishing in Australia to sell directly to market can occur anywhere throughout the SBTF's range, currently the vast majority of that quota is value-added through ranching (on-growing the wild captured fish for extra 5-6 months). Ranching requires significant infrastructure, a resident labour force, plus proximity to a fishery able to supply a large quantity of natural feed/sardines (40,000+ tonnes) (for example as available in Port Lincoln). North-west WA is critically important regardless of how the quota is fished because of the proximity to the single spawning ground of this global roaming species. The stock remains classified as overfished.	
<b>Active licences/vessels</b>	Seven purse seine vessels, 20 longline vessels (Patterson <i>et al.</i> , 2020).					
<b>Western Skipjack Tuna Fishery</b>	✓	✓	✓	<b>Management area</b>	The combined western and eastern skipjack tuna ( <i>Katsuwonus pelamis</i> ) fisheries (STF) encompass the entire Australian EEZ. The Western Skipjack Tuna Fishery (WSTF) extends westward from the SA/Victorian border across the Great Australian Bight and around the west coast of WA to the Cape York Peninsula.	

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Fishery	Woodside Activity Area			Description														
	Browse	NWS/S	NW Cape															
				<table border="1"> <thead> <tr> <th>Species targeted</th> <th>Fishing methods</th> <th>Fishing depth</th> </tr> </thead> <tbody> <tr> <td>Western skipjack tuna (<i>Katsuwonus pelamis</i>)</td> <td>Fishers use purse seine gear (about 98% of catch) and sometimes pole and line when fishing for skipjack tuna.</td> <td>Western skipjack tuna is a pelagic species that can be found to depths of 260 m (AFMA, 2021b).</td> </tr> <tr> <td><b>Fishing effort:</b></td> <td colspan="2">The Skipjack Tuna Fishery (STF) has not been actively fished since the 2008-2009 fishing season (Patterson <i>et al.</i>, 2020). The management arrangements for this fishery will be reviewed if active boats re-enter the fishery.</td> </tr> <tr> <td><b>Active licences/vessels:</b></td> <td colspan="2">No active vessels operating since 2009.</td> </tr> </tbody> </table>	Species targeted	Fishing methods	Fishing depth	Western skipjack tuna ( <i>Katsuwonus pelamis</i> )	Fishers use purse seine gear (about 98% of catch) and sometimes pole and line when fishing for skipjack tuna.	Western skipjack tuna is a pelagic species that can be found to depths of 260 m (AFMA, 2021b).	<b>Fishing effort:</b>	The Skipjack Tuna Fishery (STF) has not been actively fished since the 2008-2009 fishing season (Patterson <i>et al.</i> , 2020). The management arrangements for this fishery will be reviewed if active boats re-enter the fishery.		<b>Active licences/vessels:</b>	No active vessels operating since 2009.			
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<b>Active licences/vessels:</b>	No active vessels operating since 2009.																	
Western Tuna and Billfish Fishery	✓	✓	✓	<table border="1"> <thead> <tr> <th>Management area</th> <td>The Western Tuna and Billfish Fishery (WTBF) extends to the Australian EEZ boundary in the Indian Ocean.</td> </tr> </thead> <tbody> <tr> <th>Species targeted</th> <th>Fishing methods</th> <th>Fishing depth</th> </tr> <tr> <td>Bigeye tuna (<i>Thunnus obesus</i>) Yellowfin tuna (<i>Thunnus albacares</i>) Swordfish (<i>Xiphias gladius</i>) Albacore (<i>Thunnus alalunga</i>) Striped marlin (<i>Kajikia audax</i>)</td> <td>Fishers mainly use pelagic longline fishing gear to catch the targeted species. Minor line (including handline, troll, rod and reel) can also be used.</td> <td>Species have a broad depth distribution, with tuna occurring at 150 – 300 m, striped marlin at 150 m and swordfish at up to 600 m (BRS, 2007).</td> </tr> <tr> <td><b>Fishing effort:</b></td> <td colspan="2">The WTBF operates in Australia’s EEZ and high seas of the Indian Ocean. Fishing effort in recent years has been concentrated off south-west WA, with occasional activity off SA.</td> </tr> <tr> <td><b>Active licences/vessels:</b></td> <td colspan="2">Two pelagic longline vessels and two minor longline vessels (Patterson <i>et al.</i>, 2020).</td> </tr> </tbody> </table>	Management area	The Western Tuna and Billfish Fishery (WTBF) extends to the Australian EEZ boundary in the Indian Ocean.	Species targeted	Fishing methods	Fishing depth	Bigeye tuna ( <i>Thunnus obesus</i> ) Yellowfin tuna ( <i>Thunnus albacares</i> ) Swordfish ( <i>Xiphias gladius</i> ) Albacore ( <i>Thunnus alalunga</i> ) Striped marlin ( <i>Kajikia audax</i> )	Fishers mainly use pelagic longline fishing gear to catch the targeted species. Minor line (including handline, troll, rod and reel) can also be used.	Species have a broad depth distribution, with tuna occurring at 150 – 300 m, striped marlin at 150 m and swordfish at up to 600 m (BRS, 2007).	<b>Fishing effort:</b>	The WTBF operates in Australia’s EEZ and high seas of the Indian Ocean. Fishing effort in recent years has been concentrated off south-west WA, with occasional activity off SA.		<b>Active licences/vessels:</b>	Two pelagic longline vessels and two minor longline vessels (Patterson <i>et al.</i> , 2020).	
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		✓	<table border="1"> <thead> <tr> <th>Management area</th> <td>The Western Deepwater Trawl Fishery (WDTF) is located in deep water off WA, from the line approximating the 200 m isobath to the edge of the Australian Fishing Zone (AFZ).</td> </tr> </thead> </table>	Management area	The Western Deepwater Trawl Fishery (WDTF) is located in deep water off WA, from the line approximating the 200 m isobath to the edge of the Australian Fishing Zone (AFZ).													
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Fishery	Woodside Activity Area			Description		
	Browse	NWS/S	NW Cape			
				<p><b>Species targeted</b></p> <p>More than 50 species, historically dominated by six commercial finfish species or species groups:                      Orange roughy (<i>Hoplostethus atlanticus</i>)                      Oreos (Oreosomatidae)                      Boarfish (Pentacerotidae)                      Eteline snapper (Lutjanidae: Etelinae)                      Apsiline snapper (Lutjanidae: Apsilinae)                      Sea bream (Lethrinidae)</p>	<p><b>Fishing methods</b></p> <p>Demersal trawl.</p>	<p><b>Fishing depth</b></p> <p>Water deeper than 200 m, stakeholder consultation has indicated that this may be to depths of 800 m.</p>
				<p><b>Fishing effort:</b></p> <p>The number of vessels active in the fishery and total hours trawled have fluctuated from year to year. Notably, total hours trawled were relatively high for a brief period during the early 2000s when fishers targeted ruby snapper and deepwater bugs (Patterson <i>et al.</i>, 2020). Total fishing effort has been variable but relatively low since then. Effort in 2018-2019 (492 trawl hours) was less than half that of 2017-2018 (1108 trawl hours) (Patterson <i>et al.</i>, 2020).</p>		
				<p><b>Active licences/vessels:</b></p> <p>One active vessel in 2018-2019 (Patterson <i>et al.</i>, 2020).</p>		
North-west Slope Trawl Fishery	✓	✓		<p><b>Management area</b></p> <p>The North-west Slope Trawl Fishery (NWSTF) extends, from 114 °E to 125 °E, from the 200 m isobath to the outer limit of the AFZ (200 nm from the coastline, which is the boundary of the Australian EEZ).</p>		
				<p><b>Species targeted</b></p> <p>Australian scampi (<i>Metanephrops australiensis</i>) and smaller quantities of velvet and Boschma's scampi (<i>M. velutinus</i> and <i>M. boschmai</i>)                      Mixed snappers have historically been an important component of the catch.</p>	<p><b>Fishing methods</b></p> <p>Demersal trawl.</p>	<p><b>Fishing depth</b></p> <p>Typically at depths of 350 to 600 m (Patterson <i>et al.</i>, 2017), however stakeholder consultation has indicated that this may be to depths of 800 m.</p>

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Fishery	Woodside Activity Area			Description		
	Browse	NWS/S	NW Cape			
				<p><b>Fishing effort:</b> The NWSTF commenced in 1985 and the number of active vessels peaked at 21 in the 1986-1987 season and declined through the 1990s before increasing to 10 vessels in 2000-2001 and 2002-2002 seasons. Four vessels operated in the 2017-2018 and 2018-2019 seasons (Patterson <i>et al.</i> 2020). Fishing for scampi occurs over soft, muddy sediments or sandy habitats, using demersal trawl gear on the continental slope (Patterson <i>et al.</i>, 2017).</p> <p><b>Active licences/vessels:</b> Four vessels (Patterson <i>et al.</i>, 2020).</p>		
<b>State Managed Fisheries</b>						
<b>Pilbara Fish Trawl (Interim) Managed Fishery</b>		✓		<p><b>Management area</b> The Pilbara Trawl (Interim) Managed Fishery is of high intensity and is divided into two zones and an area governed by Schedule 5 (prohibited to trawling). In addition to the Prohibited Trawl Fishing area, no fish trawl units are allocated for use in Zone 1 or Areas 3 and 6 of Zone 2 (which comprises six management areas) (Newman <i>et al.</i>, 2020a). No fish trawl units have been allocated for use in Area 6 of Zone 2 since the management plan commenced operation in 1998.</p>		
				<p><b>Species targeted</b></p> <p>The Pilbara Fish Trawl (Interim) Managed Fishery (PFTIMF) targets more than 50 scalefish species. The five main demersal scalefish species landed by the fisheries in the Pilbara region are blue-spotted emperor, crimson snapper, rosy threadfin bream, red emperor and goldband snapper in 2018 (Newman <i>et al.</i>, 2020a).</p>	<p><b>Fishing methods</b></p> <p>Demersal trawl.</p>	<p><b>Fishing depth</b></p> <p>The Pilbara Fish Trawl Fishery lands the largest component of the catch and operates in waters between 50 and 200 m water depth (Allen <i>et al.</i>, 2014, Newman <i>et al.</i> 2015). Stakeholders have advised that trawling can occur in depths of up to approximately 800 m.</p>
				<p><b>Fishing effort:</b></p> <p>Based on State of the Fisheries annual reports provided by DPIRD, catch trends are seen to be increasing over the past reporting years:</p>		

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Fishery	Woodside Activity Area			Description		
	Browse	NWS/S	NW Cape			
				<p>Pilbara Trawl (Interim) Managed Fishery caught 1996 t in 2018-19, 1780 t in 2017-18, 1529 t in 2016-17, 1172 t in 2015-16, 1105 t in 2014-15.</p> <p><b>Active licences/vessels:</b> Two Pilbara Trawl (Interim) Managed Fishery vessels in 2017 (Newman <i>et al.</i>, 2020a). Active vessels data are confidential as there were fewer than three vessels in the Pilbara Fish Trawl Interim Managed Fishery (Newman <i>et al.</i>, 2020a).</p>		
Pilbara Trap Managed Fishery		✓	✓	<p><b>Management area</b> The Pilbara Trap Fishery covers the area from Exmouth northwards and eastwards to the 120° line of longitude, and offshore as far as the 200 m isobath. Like the trawl fishery, the trap fishery is also managed using input controls in the form of individual transferable effort allocations monitored with a satellite-based vessel management system. The fishery includes six licences allocated to three vessels, operating principally from Onslow.</p>		
				<p><b>Species targeted</b></p> <p>Pilbara Trap Managed Fishery catch is made up of around 45-50 different fish species. The four main species landed by the fisheries in the Pilbara region are blue-spotted emperor, red emperor, goldband snapper and Rankin cod.</p>	<p><b>Fishing methods</b></p> <p>Demersal fish traps.</p>	<p><b>Fishing depths</b></p> <p>Greatest effort in waters less than 50 m depth targeting high value species such as red emperor and goldband snapper.</p>
				<p><b>Fishing effort</b></p> <p>Based on State of the Fisheries annual reports provided by DPIRD, catch trends are seen to be increasing over the past reporting years: Pilbara Trap Managed Fishery caught 563 t in 2018-19, 573 t in 2017-18, 495 t in 2016-17, 510 t in 2015-16, 268 t in 2014-15. In 2018, the total catch for the Pilbara Trap Managed Fishery was 563 t, making up 21% of the total catch by the Pilbara Demersal Scale Fishery (Newman <i>et al.</i>, 2019).</p>		

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Fishery	Woodside Activity Area			Description		
	Browse	NWS/S	NW Cape			
				<p><b>Active licences/vessels</b></p> <p>In the 2019 season, there were six licences in the Pilbara Trap Managed Fishery, (Newman <i>et al.</i>, 2020a). Active vessels data are confidential as there were fewer than three vessels in the Pilbara Trap Managed Fishery (Newman <i>et al.</i>, 2019).</p>		
Pilbara Line Managed Fishery		✓	✓	<p><b>Management area</b></p> <p>The Pilbara Line Managed Fishery boat licences are permitted to operate anywhere within "Pilbara waters", bounded by a line commencing at the intersection of 21°56'S latitude and the high water mark on the western side of the North-west Cape on the mainland of WA; west along the parallel to the intersection of 21°56'S latitude and the boundary of the AFZ and north to longitude 120°E.</p>		
				<p><b>Species targeted</b></p> <p>The Pilbara Line Managed Fishery catch is made up around 45-50 different fish species.</p> <p>The Pilbara Line Managed Fishery targets similar demersal species to the Pilbara Trap and Trawl fisheries, as well as some deeper offshore species such as ruby snapper and eightbar grouper</p> <p>The Pilbara Line Managed Fishery operates on an exemption basis that enables licence holders to fish for any nominated five-month block during the year.</p>	<p><b>Fishing method</b></p> <p>Demersal long line.</p>	<p><b>Fishing depths</b></p> <p>Pilbara Line Fishing Depth: Operates up to a depth of 600 m.</p>
				<p><b>Fishing effort</b></p> <p>Based on State of the Fisheries annual reports provided by DPIRD, catch trends are seen to be increasing over the past reporting years:</p> <p>Pilbara Line Managed Fishery caught 93 t in 2018-19, 143 t in 2017-18, 126 t in 2016-17, 97 t in 2015-16, 40 t in 2014-15.</p> <p>The total catch in 2018 for the Pilbara Line Managed Fishery was 93 t, making up 3% of the total catch by the Pilbara Demersal Scalefish Fishery (Newman <i>et al.</i>, 2019).</p>		

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Fishery	Woodside Activity Area			Description		
	Browse	NWS/S	NW Cape			
				<b>Active licences/vessels</b> In the 2018 season there are nine individual licences in the Pilbara Line Fishery, held by seven operators. Active vessels data is confidential as there were fewer than three vessels in the Pilbara Line Fishery (Newman <i>et al.</i> , 2018).		
Mackerel Managed Fishery	✓	✓	✓	<b>Management area</b> The commercial fishery extends from Geraldton to the Northern Territory border. There are three managed fishing areas: Kimberley (Area 1), Pilbara (Area 2), and Gascoyne and West Coast (Area 3).		
				<b>Species targeted</b> Spanish mackerel ( <i>Scomberomorus commerson</i> ) Grey mackerel ( <i>S. semifasciatus</i> ) Other species from the genus <i>Scomberomorus</i>	<b>Fishing methods</b> Near-surface trawling gear. Jig fishing.	<b>Fishing depth</b> Previous engagement with WAFIC suggests that the depth of fisheries may extend to 70 m.
				<b>Fishing effort:</b> Most of the catch is taken from waters off the Kimberley coasts (Lewis and Brand-Gardner, 2018), reflecting the tropical distribution of mackerel species (Molony <i>et al.</i> , 2015). Most fishing activity occurs around the coastal reefs of the Dampier Archipelago and Port Hedland area, with the seasonal appearance of mackerel in shallower coastal waters most likely associated with feeding and gonad development before spawning (Mackie <i>et al.</i> , 2003). Based on State of the Fisheries annual reports provided by DPIRD, catch trends are as follows: 213 t in 2018-19 (the lowest on record (Lewis <i>et al.</i> , 2020), 283 t in 2017-18, 276 t in 2016-17, 302 t in 2015-16, 322 t in 2014-15.		
				<b>Active licences/vessels:</b> Fifteen boats fished in 2018, with approximately 35-40 people directly employed in the Mackerel Managed Fishery, primarily from May-November (Lewis <i>et al.</i> , 2020).		
Marine Aquarium Managed Fishery	✓	✓	✓	<b>Management area</b> The Marine Aquarium Managed Fishery is able to operate in all State waters. The fishery is typically more active in waters south of Broome and higher levels of effort around the Capes region, Perth, Geraldton, Exmouth, Dampier and Broome (Newman <i>et al.</i> , 2020b).		
				<b>Species targeted</b>	<b>Fishing methods</b>	<b>Fishing depth</b>

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Fishery	Woodside Activity Area			Description		
	Browse	NWS/S	NW Cape			
				Finfish, hard coral, soft coral, tridacnid clams, syngnathids (seahorses and pipefish), other invertebrates (including molluscs, crustaceans, echinoderms etc.), algae, seagrasses and 'live rock'.	The fishery is diver-based, which typically restricts effort to safe diving depths (less than 30 m).	Less than 30 m, as advised by WAFIC.
				<b>Fishing effort:</b>	Total catch for the Marine Aquarium Managed Fishery in 2018 was 156,188 fishes, 32.025 t of coral, live rock and living sand and 176.02 L of marine plants and live feed.	
				<b>Active licences/vessels:</b>	Eleven licences were active in 2019 (Newman <i>et al.</i> , 2020b).	
Beche-de-mer Fishery	✓	✓	✓	<b>Management area</b>	Fishing occurs in the northern half of WA from Exmouth Gulf to the NT border and is managed under Ministerial Exemptions.	
				<b>Species targeted</b>	<b>Fishing methods</b>	<b>Fishing depth</b>
				The sea cucumber fishery targets two main species: sandfish ( <i>Holothuria scabra</i> ) and redfish ( <i>Actinopyga echinites</i> ).	Diving	The targeted species typically inhabit nearshore in shallow depths.
				<b>Fishing effort</b>	Based on State of the Fisheries annual reports provided by DPRID, catch trends are as follows: 62t in 2018 (Gaughan and Santoro, 2020), 135t in 2017, 93t in 2016, 38t in 2015	
				<b>Active licences/vessels</b>	Six active licences in 2019 (Hart <i>et al.</i> , 2019). Active vessels data is confidential as there were fewer than three vessels.	
Onslow Prawn Managed Fishery		✓		<b>Management area</b>	The Onslow Prawn Managed Fishery encompasses a portion of the continental shelf off the Pilbara.	
				<b>Species targeted</b>	<b>Fishing methods</b>	<b>Fishing depth</b>

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Fishery	Woodside Activity Area			Description						
	Browse	NWS/S	NW Cape							
				<p>The fishery targets: Western king prawns (<i>Penaeus esculentus</i>) Brown tiger prawns (<i>Penaeus esculentus</i>) Blue endeavour prawns (<i>Metapenaeus endeavouri</i>)</p> <p>Low opening, otter prawn trawl systems.</p> <p>Prawn trawling takes place in water depths of approximately 30 metres and less (licence holder feedback). Fishery and or fishing activity overlaps the Beadon Creek dredging scope (Sporer <i>et al.</i>, 2015).</p>						
				<p><b>Fishing effort:</b> The total landings for the Onslow Prawn Managed Fishery in 2018 were less than 60 t below the target catch range (Kangas <i>et al.</i>, 2020a).</p> <p><b>Active licences/vessels:</b> One vessel (Kangas <i>et al.</i>, 2020a).</p>						
<b>Pearl Oyster Managed Fishery</b>	✓	✓	✓	<p><b>Management area</b> Located in shallow coastal waters with the pearl oyster managed fishery designated by four zones extending from Exmouth to Kununurra and the seaward boundary demarcated by the 200 nm EEZ.</p>						
				<table border="1"> <thead> <tr> <th>Species targeted</th> <th>Fishing methods</th> <th>Fishing depth</th> </tr> </thead> <tbody> <tr> <td>Pearl oysters (<i>Pinctada maxima</i>).</td> <td>Drift diving.</td> <td>Fishing effort is mostly focussed in shallow coastal waters (10-15 m depth), with a maximum depth of 35 m (Lulofs <i>et al.</i> 2002).</td> </tr> </tbody> </table>	Species targeted	Fishing methods	Fishing depth	Pearl oysters ( <i>Pinctada maxima</i> ).	Drift diving.	Fishing effort is mostly focussed in shallow coastal waters (10-15 m depth), with a maximum depth of 35 m (Lulofs <i>et al.</i> 2002).
Species targeted	Fishing methods	Fishing depth								
Pearl oysters ( <i>Pinctada maxima</i> ).	Drift diving.	Fishing effort is mostly focussed in shallow coastal waters (10-15 m depth), with a maximum depth of 35 m (Lulofs <i>et al.</i> 2002).								
				<p><b>Fishing effort:</b> In 2018, catch was taken from Zones 2 and 3 with no fishing in Zone 1. The number of pearl oysters caught for 2018-19 was 614,002. Total effort was 15,637 dive hours, this was an increase from 2017 effort of 12,845 hours. No fishing occurred in Zone 1 in 2017 and 2018 (Gaughan and Santoro, 2020).</p> <p><b>Active licences/vessels:</b> 15,637 diver hours (Hart <i>et al.</i>, 2020a).</p>						
		✓	✓	<p><b>Management area</b> The Pilbara Crab Managed Fishery comprises WA waters off the north-western coast of WA north of 23° 34' south latitude and west of 120° 00' east longitude. Areas of the fishery north and east of Exmouth and</p>						

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Fishery	Woodside Activity Area			Description			
	Browse	NWS/S	NW Cape				
Pilbara Crab Managed Fishery				nearshore are currently closed as per Schedule 2 of the Draft Management Plan for the Pilbara Crab Managed Fishery.			
				<b>Species targeted</b>	<b>Fishing methods</b>	<b>Fishing depth</b>	
				Crabs of the Family Portunidae, excluding crabs of the genus <i>Scylla</i> .	Traps.	Up to 50 m deep.	
				<b>Fishing effort:</b>	The capacity of the fishery is 600 traps.		
				<b>Active licences/vessels:</b>	No information available at this time.		
South-west Coast Salmon Managed Fishery	✓	✓	✓	<b>Management area</b>			
				<b>Species targeted</b>	<b>Fishing methods</b>	<b>Fishing depth</b>	
				Western Australian salmon ( <i>Arripis truttaceus</i> )	Beach seine nets.	Information not available however, species generally found in shallow waters (up to 30 m).	
				<b>Fishing effort:</b>	No fishing occurs north of the Perth metropolitan area, despite the managed fishery boundary extending to Cape Beaufort (WA/Northern Territory border), as advised by WAFIC. The 2018 commercial catch was 191 t, with 72% taken by the South West Coast Salmon Managed Fishery, 25% by the South Coast Salmon Managed Fishery and 3% by other fisheries (Duffy and Blay, 2020a).		
				<b>Active licences/vessels:</b>	Six licences.		
	✓	✓	✓	<b>Management area</b>			
				The Specimen Shell Managed Fishery (SSMF) encompasses the entire WA coastline, but effort is concentrated in areas adjacent to the population centres such as Broome, Exmouth, Shark Bay,			

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Fishery	Woodside Activity Area			Description			
	Browse	NWS/S	NW Cape				
<b>Specimen Shell Managed Fishery</b>				Geraldton, Perth, Mandurah, the Capes area and Albany (Hart <i>et al.</i> , 2020b). There are a number of closed areas where the SSMF is not permitted to operate. These include various marine parks and aquatic reserves, such as Ningaloo Marine Park.			
				<b>Species targeted</b>	<b>Fishing methods</b>	<b>Fishing depth</b>	
				The Specimen Shell Managed Fishery targets the collection of specimen shells for display, collection, cataloguing and sale.	Collection is predominantly by hand when diving to wading in shallow, coastal waters, though in deeper water collection may be conducted by remotely operated vehicles (limited to one per licence).	For collection by hand, (diver-based) this typically restricts effort to safe diving depths (less than 30 m). ROV collection could enable depths up to 300 m (Hart <i>et al.</i> , 2017). In the past there has been one licence holder in the Specimen Shell Managed Fishery who has trialled ROV means of shell collection, WAFIC have provided advice that this fishery is no longer active.	
				<b>Fishing effort:</b>	Information not available.		
				<b>Active licences/vessels:</b>	In 2018 there were 31 licences with only two divers allowed in the water per licences at one time (Hart <i>et al.</i> , 2018). The number of people employed regularly in the fishery is likely to be about 21 (Hart <i>et al.</i> , 2018).		
<b>West Australian Abalone Fishery</b>	✓	✓	✓	<b>Management area</b>			
				The Western Australian Abalone Fishery includes all coastal waters from the WA and SA border to the WA and NT border. The fishery is concentrated on the south coast and the west coast.			
				<b>Species targeted</b>	<b>Fishing methods</b>	<b>Fishing depth</b>	
Greenlip abalone ( <i>Haliotis laevis</i> ) Brownlip abalone ( <i>Haliotis conicopora</i> ) Roe's abalone ( <i>Haliotis roei</i> )	Divers.	Distribution to 5 m depth for Roe's abalone and 40 m depth for greenlip / brownlip abalone (DOF, 2011).					

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Fishery	Woodside Activity Area			Description		
	Browse	NWS/S	NW Cape			
				<p><b>Fishing effort:</b> In 2018, the total commercial catch was 48 t, 1 t less than the catch in each of the last two seasons. No commercial fishing for abalone north of Moore River (Zone 8 of the managed fishery) has occurred since 2011–2012 (Strain <i>et al.</i>, 2018).</p> <p><b>Active licences/vessels:</b> 26 vessels active in Roe's abalone fishery (WAFIC<sup>5</sup>).</p>		
<b>West Coast Deep Sea Crustacean Managed Fishery</b>	✓	✓	✓	<p><b>Management area</b> The West Coast Deep Sea Crustacean Managed Fishery extends north from Cape Leeuwin to the WA/NT border in water depths greater than 150 m within the AFZ.</p>		
				<p><b>Species targeted</b></p>	<p><b>Fishing methods</b></p>	<p><b>Fishing depth</b></p>
				<p>The fishery targets deepwater crustaceans. Catches were dominated by crystal crabs of which 99% of their Total Allowable Catch (TAC) was landed (How and Orme, 2020a). Crystal (snow) crab (<i>Chaceon albus</i>) Giant (king) crab (<i>Pseudocarcinus gigas</i>) Champagne (spiny) crabs (<i>Hypothalassia acerba</i>)</p>	<p>Baited pots, or traps, are operated in long-lines which have between 80 and 180 pots attached to a main line marked by a float at each end.</p>	<p>Deeper than 150 m (and mostly at depths of between 500 m – 800 m). Most of the commercial Crystal crab catch is taken in depths of 500 m – 800 m (WAFIC<sup>6</sup>).</p>
				<p><b>Fishing effort:</b> The total landings in 2018 was 168. t. Two vessels operated in the fishery in 2017, using baited pots operated in a longline formation in the shelf edge waters, mostly in depths between 500 and 800 m (How and Orme, 2020a). Fishing effort was concentrated between Fremantle and Carnarvon.</p>		
				<p><b>Active licences/vessels:</b> There were four active vessels in 2018 (How and Orme, 2020a).</p>		

<sup>5</sup> <https://www.wafic.org.au/fishery/roes-abalone-fishery/>

<sup>6</sup> <https://www.wafic.org.au/fishery/west-coast-deep-sea-crustacean-fishery/>

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Fishery	Woodside Activity Area			Description		
	Browse	NWS/S	NW Cape			
Abrolhos Islands and Mid-West Trawl Fishery			✓	<b>Management area</b>	The Abrolhos Islands and Mid-West Trawl Fishery (AIMWTMF) operates around the Abrolhos Islands within the SWMR.	
				<b>Species targeted</b>	<b>Fishing methods</b>	<b>Fishing depth</b>
				Saucer scallops ( <i>Ylistrum balloti</i> , formerly <i>Amusium balloti</i> )	Trawl.	Information not available, however, the species occurs at depth of around 30-60 m and therefore fishing effort would likely be at these depths (Himmelman <i>et al.</i> , 2009).
				<b>Fishing effort:</b>	The scallop landings in the AIMWTMF were 31.0 t meat weight (154.8 t whole weight). Between 2011 and 2015, the annual pre-season surveys showed very low recruitment (1-year old), as a result of the 2011 extreme marine heatwave and subsequent poor spawning stock (Kangas <i>et al.</i> , 2020b). The fishery was closed between 2011 and 2016.	
				<b>Active licences/vessels:</b>	Information about licences or vessels is not available but the Department of Primary Industry and Regional Development reported 774 t of catch from this fishery in the 2019 annual report (DPIRD, 2019).	
Broome Prawn Managed Fishery	✓			<b>Management area</b>	The Broome Prawn Managed Fishery (BPMF) operates off Broome and forms part of the North Coast Prawn Fishery.	
				<b>Species targeted</b>	<b>Fishing methods</b>	<b>Fishing depth</b>
				Western king prawn ( <i>Penaeus latisulcatus</i> ) Coral prawn	Trawl.	Trawling is generally in waters between 30 and 60 m deep, however can occur down to 100 m (DOEH, 2004).
				<b>Fishing effort:</b>	BPMF recorded extremely low fishing effort in 2018. Only two vessels undertook trial fishing to investigate whether the catch rates were sufficient for commercial fishing. This resulted in negligible landings of Western king prawn (Kangas <i>et al.</i> , 2020a).	

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Fishery	Woodside Activity Area			Description			
	Browse	NWS/S	NW Cape				
				<b>Active licences/vessels:</b> Two vessels conducting fishing trial operated in 2018 (Kangas <i>et al.</i> , 2020a).			
Exmouth Gulf Prawn Managed Fishery			✓	<b>Management area</b> The estimated employment in the fishery in 2017 was 18 people including skippers and other crew (Kangas <i>et al.</i> , 2018). The fishery occupies a total area of 4000 km <sup>2</sup> , with only half of this area being trawled (Fletcher and Santoro, 2015).			
				<b>Species targeted</b>	<b>Fishing methods</b>	<b>Fishing depth</b>	
				Western king prawn ( <i>Penaeus latisulcatus</i> ) Brown tiger prawn ( <i>Penaeus esculentus</i> ) Blue endeavour prawn ( <i>Metapenaeus endeavouri</i> ) Banana prawn ( <i>Penaeus merguinensis</i> )	Trawl.	Information not available.	
				<b>Fishing effort:</b>	The total landings of prawns in 2018 were 880 t (Kangas <i>et al.</i> , 2020a). In the 2016 season, a fishing effort of about 23,000 hours resulted in a catch of 822 t.		
				<b>Active licences/vessels:</b>	The precise number of vessels is unreported. Eighteen people were said to be employed in this fishery in 2018 (Kangas <i>et al.</i> , 2019); however, in 2013 it was reported that 18 skippers as well as other crew and support staff were employed (WAFIC <sup>7</sup> ).		
Gascoyne Demersal Scalefish Managed Fishery			✓	<b>Management area</b> The Gascoyne Demersal Scalefish Fishery (GDSF) is located between the southern Ningaloo Coast to south of Shark Bay (23°07.30'S to 26°.30'S) with a closure area at Point Maud to Tantabiddi (21°56.30'S) (WAFIC <sup>8</sup> ).			
				<b>Species targeted</b>	<b>Fishing methods</b>	<b>Fishing depth</b>	

<sup>7</sup> <https://www.wafic.org.au/fishery/exmouth-gulf-prawn-fishery/>

<sup>8</sup> <https://www.wafic.org.au/fishery/gascoyne-demersal-scalefish-fishery/>

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Fishery	Woodside Activity Area			Description		
	Browse	NWS/S	NW Cape			
				Pink snapper ( <i>Chrysophrys auratus</i> ) Goldband snapper ( <i>Pristipomoides multidentis</i> ) Red emperor ( <i>Lutjanus sebae</i> ) Cods ( <i>Gadus morhua</i> ) Emperors ( <i>Lethrinus miniatus</i> )	Mechanised handlines.	Information not available.
				<b>Fishing effort:</b>	The GDSF reported a total commercial catch of 210 t in 2017-18.	
				<b>Active licences/vessels:</b>	In 2018, 13 vessels fished during the season, in the 2017 season there were 16 vessels (Gaughan and Santoro, 2018).	
Kimberley Developing Mud Crab Fishery	✓			<b>Management area</b>	The Kimberley Developing Mud Crab Fishery is one of two small trap-based crab fisheries that exist in the North Coast Bioregion between Cambridge Gulf and Broome (Gaughan and Santoro, 2018).	
				<b>Species targeted</b>	<b>Fishing methods</b>	<b>Fishing depth</b>
				Brown mud crab ( <i>Scylla olivacea</i> ) Green mud crab ( <i>Scylla serrata</i> )	Trap.	Information not available.
				<b>Fishing effort:</b>	The catch landed represents all commercially caught mud crabs landed in WA for 2018. A nominal catch rate of 0.66 kg/traplift was recorded for 2018, which is a 28% decrease from 2017 but remains above the harvest strategy threshold (Johnston <i>et al.</i> , 2020).	
				<b>Active licences/vessels:</b>	There are currently three licences issued to commercial operators (600 trap limit), and three exemptions issued to Indigenous groups (total of 210 traps currently allocated of a maximum 600 traps) (Johnston <i>et al.</i> , 2020).	
Nickol Bay Prawn Managed Fishery		✓		<b>Management area</b>	The Nickol Bay Prawn Managed Fishery operates in nearshore and offshore waters of the Pilbara region along the NWS.	
				<b>Species targeted</b>	<b>Fishing methods</b>	<b>Fishing depth</b>

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Fishery	Woodside Activity Area			Description		
	Browse	NWS/S	NW Cape			
				Banana prawn ( <i>Penaeus merguianus</i> ) Western king prawn ( <i>Penaeus latisulcatus</i> ) Brown tiger prawn ( <i>Penaeus esculentus</i> ) Blue endeavour prawn ( <i>Metapenaeus endeavouri</i> )	Trawl.	Information not available.
				<b>Fishing effort:</b>	Trawling has been reported to occur at several locations along the Pilbara coast to the east of the Burrup Peninsula, including within the waters of Nickol Bay (Fletcher and Santoro, 2015). The total landings for the 2018 season were 81 t. Fishing effort was less than half at 138 days, compared to 281 boat days in 2017 (Kangas <i>et al.</i> , 2020a).	
				<b>Active licences/vessels:</b>	The precise number of vessels is unreported, though low effort produced a catch of 17 t in 2016 (Kangas <i>et al.</i> , 2018).	
<b>Northern Demersal Scalefish Managed Fishery</b>	✓			<b>Management area</b>	The fishery is divided into two fishing areas: an inshore sector (Area 1) and an offshore sector (Area 2) (Newman <i>et al.</i> , 2018). Area 1 permits line fishing only, between the high water mark and the 30 m isobath. Area 2 permits handline, dropline and fish trap fishing methods and is further divided into zones. Zone A is an inshore area, Zone B comprises the area with most historical fishing activity, and Zone C is an offshore deep slope area representing waters deeper than 200 m (Fletcher <i>et al.</i> , 2017).	
				<b>Species targeted</b>	<b>Fishing methods</b>	<b>Fishing depth</b>
				Goldband snapper ( <i>Pristipomoides multidentis</i> ) Blue-spotted emperor ( <i>Lethrinus punctulatus</i> ) Red emperor ( <i>Lutjanus sebae</i> ) Rankin cod ( <i>Epinephelus multinotatus</i> )	Line fishing, handline, dropline and fish trap fishing.	Information not available.

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Fishery	Woodside Activity Area			Description			
	Browse	NWS/S	NW Cape				
				<p><b>Fishing effort:</b> In 2018, the fishery reported a total catch of 1297 t. Most of the catch is landed from Zone B, with a catch of 1106 t in 2018. The level of catch in Zone B is the highest reported since zoning was implemented in 2006 (Newman <i>et al.</i>, 2019).</p> <p><b>Active licences/vessels:</b> Six vessels fished in the 2018 season and at least 20 people were directly employed (Gaughan and Santoro, 2018).</p>			
Octopus Interim Management Fishery				<p><b>Management area</b> The developing Octopus Fishery operates from Kalbarri Cliffs in the north to Esperance in the south.</p>			
				<p><b>Species targeted</b></p>	<p><b>Fishing methods</b></p>	<p><b>Fishing depth</b></p>	
				<p><i>Octopus sp. cf. tetricus</i></p>	<p>Passive shelter pots and active traps.</p>	<p>In inshore waters to a depth of 70 m (DPIRD, 2018).</p>	
				<p><b>Fishing effort:</b></p>	<p>In 2019, the total commercial octopus catch was 314 t, which was 22% higher than the 2017 catch of 257 t. In 2016, about 200 vessels reported a total catch of 252 t (Hart <i>et al.</i>, 2020c).</p>		
				<p><b>Active licences/vessels:</b></p>	<p>About 21 vessels fish within the octopus specific fisheries, and about 200 vessels from the West Coast Rock Lobster Fishery catch octopus as bycatch (Gaughan and Santoro, 2018).</p>		
Shark Bay Beach Seine and Mesh Net Managed Fishery				<p><b>Management area</b> The Shark Bay Beach Seine and Mesh Net Managed Fishery operates from Denham.</p>			
				<p><b>Species targeted</b></p>	<p><b>Fishing methods</b></p>	<p><b>Fishing depth</b></p>	
				<p>Whiting (yellowfin <i>Sillago schomburgkii</i> and goldenline <i>S. analis</i>) Sea mullet (<i>Mugil cephalus</i>) Tailor (<i>Pomatomus saltatrix</i>) Western yellowfin bream (<i>Acanthopagrus australis</i>)</p>	<p>Beach seine and mesh net.</p>	<p>Information not available.</p>	

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Fishery	Woodside Activity Area			Description		
	Browse	NWS/S	NW Cape			
				<p><b>Fishing effort:</b> In 2018, the total catch was 176 t (Gaughan and Santoro, 2020). The fishery currently employs about 14 fishers based on the seven fishery licences in operation (WAFIC<sup>9</sup>).</p> <p><b>Active licences/vessels:</b> Six vessels operated employing around 12 fishers (Gaughan and Santoro, 2018).</p>		
Shark Bay Crab Managed Fishery				<p><b>Management area</b> The Shark Bay Crab Managed Fishery operates within the NWMR.</p>		
				<p><b>Species targeted</b></p>	<p><b>Fishing methods</b></p>	<p><b>Fishing depth</b></p>
				Blue swimmer crab ( <i>Portunus armatus</i> )	Trap and trawl.	Information not available.
				<p><b>Fishing effort:</b> Commercial fishing for blue swimmer crabs in Shark Bay was voluntarily halted by industry in 2012 to facilitate stock rebuilding. The stock is still in a recovery phase; however, the fishery has resumed and reported a total commercial catch of 518 t in the 2017/18 season. The average commercial trap catch rate was 1.5 kg/traplift during 2017/18 (Chandrapavan <i>et al.</i>, 2017).</p>	<p><b>Active licences/vessels:</b> The precise number of vessels in the Shark Bay Blue Swimmer Crab Fishery is unreported. There are five crab trap permits. These permits are consolidated onto three active vessels (WAFIC<sup>10</sup>).</p>	
				<p><b>Management area</b> The Shark Bay Prawn Managed Fishery is the highest producing WA fishery for prawns.</p>		
Shark Bay Prawn and Scallop Managed Fishery				<p><b>Species targeted</b></p>	<p><b>Fishing methods</b></p>	<p><b>Fishing depth</b></p>
				Western king prawn ( <i>Penaeus latisulcatus</i> ) Brown tiger prawn ( <i>Penaeus esculentus</i> )	Low-opening otter trawls.	Information not available.
				<p><b>Management area</b> The Shark Bay Prawn Managed Fishery is the highest producing WA fishery for prawns.</p>		

<sup>9</sup> <https://www.wafic.org.au/fishery/inner-shark-bay-scalefish-fishery/>

<sup>10</sup> <https://www.wafic.org.au/fishery/shark-bay-prawn-and-scallop-managed-fisheries/>

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Fishery	Woodside Activity Area			Description		
	Browse	NWS/S	NW Cape			
				<p>Endeavour prawns (<i>Metapenaeus endeavouri</i>)                      Coral prawns (<i>Metapenaeopsis sp.</i>)                      Saucer scallop (<i>Amusium balloti</i>)</p> <p><b>Fishing effort:</b> The Shark Bay Scallop Managed Fishery is currently in a recovery phase due to the results from the pre-season survey of stock abundance (Fletcher and Santoro, 2015; Kangas <i>et al.</i>, 2018).</p> <p><b>Active licences/vessels:</b> The precise number of vessels in the Shark Bay Prawn Managed Fishery is unreported; however, about 100 people are employed in this fishery (Gaughan and Santoro, 2018). About 20 skippers and crew are employed in scallop fishing in the Shark Bay and South Coast fisheries across 18 vessels in 2015 (Sporer <i>et al.</i>, 2015).</p>		
South Coast Crustacean Managed Fishery	-	-	-	<p><b>Management area</b> The South Coast Crustacean Managed Fishery comprises four fisheries: the Windy Harbour/Augusta Rock Lobster Managed Fishery, the Esperance Rock Lobster Managed Fishery, the Southern Rock Lobster Pot Regulation Fishery and the South Coast Deep-Sea Crab Fishery.</p>		
				<p><b>Species targeted</b></p>	<p><b>Fishing methods</b></p>	<p><b>Fishing depth</b></p>
				<p>Southern rock lobster (<i>Jasus edwardsii</i>)                      Western rock lobster (<i>Panulirus cygnus</i>)                      Giant crab (<i>Pseudocarcinus gigas</i>)                      Crystal crab (<i>Chaceon albus</i>)                      Champagne crab (<i>Hypothalassia acerba</i>)</p>	<p>Pots.</p>	<p>Information not available.</p>
				<p><b>Fishing effort:</b> The South Coast Crustacean Managed Fishery reported a total catch of 101.2 t in 2018 season and the value of the fishery for 2017/2018 was about \$5.9 million (Howe and Orme, 2020b).</p>	<p><b>Active licences/vessels:</b> The number of vessels is unknown; however, a total of 1977 pots are licensed to be used.</p>	
				<p><b>Management area</b> The fishery is active in coastal waters between Cape Leeuwin and the South Australia border. Landings are primarily at Albany, Bremer Bay and Esperance (Norriss and Blazeski, 2020).</p>		

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Fishery	Woodside Activity Area			Description												
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Fishery	Woodside Activity Area			Description		
	Browse	NWS/S	NW Cape			
The South Coast Salmon Managed Fishery	-	-	-	<b>Management area</b>	The South Coast Salmon Managed Fishery is one of two fisheries operating in the South Coast Bioregion that target nearshore and estuarine finfish.	
				<b>Species targeted</b>	<b>Fishing methods</b>	<b>Fishing depth</b>
				Western Australian salmon ( <i>Arripis truttaceus</i> ) Southern school whiting ( <i>Sillago bassensis</i> ) Australian herring ( <i>Arripis georgianus</i> ) King George whiting ( <i>Sillaginodes punctatus</i> ) Sea mullet ( <i>Mugil cephalus</i> ) Estuary cobbler ( <i>Cnidoglanis macrocephalus</i> ) Black bream ( <i>Acanthopagrus butcheri</i> )	Beach seines, haul nets and gill nets.	Information not available.
				<b>Fishing effort:</b>	The total catch for 2018 was 243 t (Duffy and Blay, 2020b).	
				<b>Active licences/vessels:</b>	Number of vessels is unknown; however, 12 commercial fishers were employed in 2018 (Duffy and Blay, 2020b).	
West Coast Beach Bait Managed Fishery	-	-	-	<b>Management area</b>	Primarily active in the Bunbury areas in the SWMR.	
				<b>Species targeted</b>	<b>Fishing methods</b>	<b>Fishing depth</b>
				Whitebait	Beach-based haul nets.	Information not available.
				<b>Fishing effort:</b>	In recent years the fishery is primarily active in the Bunbury area. Total catch of whitebait in 2015 was 40.2 t (Duffy and Blay, 2020c).	

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Fishery	Woodside Activity Area			Description																				
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Fishery	Woodside Activity Area			Description		
	Browse	NWS/S	NW Cape			
				<p>Offshore species – more than 250 m water depth.</p> <p><b>Fishing effort:</b> In 2016, the West Coast Demersal Scalefish (interim) Managed Fishery reported a total catch of 256 t.</p> <p><b>Active licences/vessels:</b> The precise number of vessels in the West Coast Demersal Scalefish Fisheries is unreported; however, it is restricted to 60 interim managed fishery permit holders.</p>		
West Coast Purse Seine Managed Fishery	-	-	-	<p><b>Management area</b> Located in waters from Cape Bouvard extending to Lancelin.</p>		
				<p><b>Species targeted</b></p>	<p><b>Fishing methods</b></p>	<p><b>Fishing depth</b></p>
				<p>Small pelagic finfish such as:            Scaly mackerel (<i>Sardinella lemuru</i>)            Pilchards (<i>Sardinops sagax</i>)            Australian anchovy (<i>Engraulis australis</i>)            Yellowtail scad (<i>Trachurus novaezelandiae</i>)            Maray (<i>Etrumeus teres</i>)</p>	<p>Purse seine.</p>	<p>Information not available.</p>
				<p><b>Fishing effort:</b> Information not available</p> <p><b>Active licences/vessels:</b> Seven vessels in 2017 (Gaughan and Santoro, 2018).</p>		
West Coast Rock Lobster Managed Fishery			✓	<p><b>Management area</b> The West Coast Rock Lobster Fishery operates from Shark Bay south to Cape Leeuwin. The fishery is managed using zones, seasons and total allowable catch. The recreational fishery targets the western rock lobsters using baited pots and by diving between North-west Cape and Augusta.</p>		

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Fishery	Woodside Activity Area			Description		
	Browse	NWS/S	NW Cape			
				<b>Species targeted</b>	<b>Fishing methods</b>	<b>Fishing depth</b>
				Western rock lobster ( <i>Panulirus cygnus</i> )	Baited pots.	Less than 20 m.
				<b>Fishing effort:</b>	In 2018, 234 vessels reported a total catch of 6400 t in 2017 (de Lestang <i>et al.</i> , 2018). In 2016, 226 vessels reported a total catch of 6,086 t (Gaughan and Santoro, 2018).	
				<b>Active licences/vessels:</b>	234 vessels operated in 2017 and 233 vessels operated in 2018 (Gaughan and Santoro, 2018).	

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## 11.5.2 Aquaculture

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

### West Coast Bioregion

Aquaculture activities in the West Coast bioregion, defined by the Department of Primary Industries and Regional Development (DPIRD) (as the government body responsible management of primary industries in WA) are focused on blue mussels and edible oysters (mainly in Cockburn Sound) and marine algae for production of beta-carotene, used as a food additive and as a nutritional supplement. Offshore marine finfish production is also being developed, initially focusing on yellowtail kingfish.

There is also an emerging black pearl industry (from the *Pinctada margaritifera* oyster) in the Abrolhos Islands. As well as expansion in the production of Akoya pearls (small white pearls from *Pinctada fucata martensi*), *Pinctada albina* (small, yellow pearls) and *Pteria penguin*, which are often used to produce half (mabe) pearls in pink and bluish shades.

Aquaculture licences for producing coral and live rock (pieces of old coral reefs colonised by marine life, such as beneficial bacteria, for aquariums) at the Abrolhos Islands have also been issued and other applications are being assessed.

### Gascoyne Coast Bioregion

In the Gascoyne Coast bioregion, aquaculture activities are focused on the blacklip oyster (*Pinctada margaritifera*) and Akoya pearl oyster (*Pinctada imbricata*) (Gaughan and Santoro, 2020). Several hatcheries supply *P. margaritifera* juveniles to the region's developing black pearl farms.

Other aquaculture developments in the Gascoyne Coast bioregion include emerging producers of coral and live rock species for aquariums.

### North Coast Bioregion

Aquaculture activities in the North Coast bioregion is dominated by the production of pearls. A large number of pearl oysters for seeding are obtained from wild stocks and supplemented by hatchery produced oysters, with major hatcheries operating at Broome and around the Dampier Peninsula (Gaughan and Santoro, 2018). Primary spawning of the pearl oyster occurs from mid-October to December. A smaller secondary spawning occurs in February and March (Gaughan and Santoro, 2020).

Other aquaculture developments in the North Coast include emerging producers of coral and live rock species for aquariums as well as barramundi (*Lates calcarifer*) farms and microalgae culturing for Omega-3, biofuels and protein biomass (Gaughan and Santoro, 2020).

## 11.6 Fisheries – Traditional

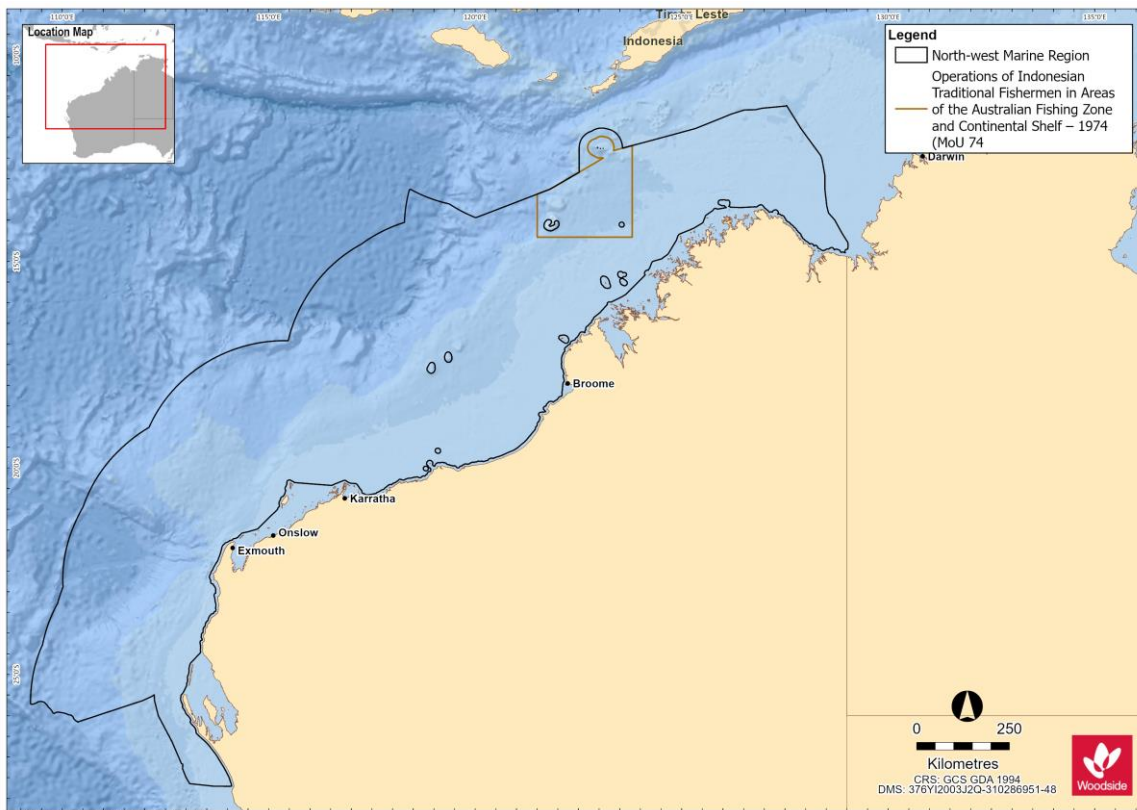
Traditional or customary fisheries are typically restricted to shallow coastal waters and/or areas with structures such as reef.

Dugong, fish and marine turtles that move between coastal and Commonwealth waters are important components of the Aboriginal people's culture and diet. Aboriginal people continue to actively manage their sea country in coastal waters of WA in order to protect and manage the marine environment, its resources and cultural values.

Indonesian fishers can fish within designated areas under the Australia-Indonesia Memorandum of Understanding regarding the Operations of Indonesian Traditional Fishermen in Areas of the Australian Fishing Zone and Continental Shelf – 1974 (MoU 74). Traditional fishing is allowed within the MoU Box (**Figure 11-1**), which encompasses: Ashmore Reef (Pulau Pasir), Cartier Island (Pulau Baru), Seringapatam Reef (Afringan), Scott Reef (Pulau Dato) and Browse Island (Berselan). Restrictions have since been introduced around Ashmore Reef and Cartier Island following their

designation as Nature Reserves under the Commonwealth's *National Parks and Wildlife Conservation Act 1975* in 1983 and 2000, respectively.

The MoU allows Indonesian fishers to fish in designated areas using traditional methods only. These methods include reef gleaning, free-diving, hand lining and other non-mechanised methods. Scott Reef is currently the principal reef in the MoU 74 Box and is utilised seasonally by Indonesian fishers to harvest trepang, trochus shells and other reef species. The peak season is July to October due to more favourable wind conditions, and to allow fishers to sun dry their catch on their boat decks (ERM, 2009). Browse Island is also frequently visited by shark fishers who mostly fish along the eastern margin of the MoU 74 Box.



**Figure 11-1 MOU 74 Box. Operations of Indonesian Traditional Fishermen in Areas of the Australian Fishing Zone and Continental Shelf – 1974**

## 11.7 Tourism and Recreation

There are growing tourism and recreational sectors in WA. The Kimberley, Pilbara and Gascoyne regions are popular visitor destinations for Australian and international tourists. Tourism is concentrated in the vicinity of population centres including Broome, Dampier, Exmouth, Coral Bay and Shark Bay.

Recreational and tourism activities include: charter fishing, other recreational fishing, diving, snorkelling, marine fauna watching, and yachting.

### 11.7.1 Gascoyne Region

Outside the petroleum industry, tourism is the largest revenue earner of all the major industries of the Gascoyne region. It contributes significantly to the local economy in terms of both income and

employment. In 2018 there was an average of 337,400 visitors with a visitor spend of \$359 million (Gascoyne Development Commission<sup>11</sup>).

In 2018-19, the Ningaloo region (Ningaloo Reef and the surrounding coastal region Exmouth Gulf, communities of Exmouth and Coral Bay, and adjacent proposed southern coastal reserves and pastoral leases) contributed an estimated \$110 million in value added to the WA economy (DCBA, 2020). Ningaloo's economic contribution to WA is attributed to four key types of economic activity, tourism expenditure by international, interstate and WA visitors to the Ningaloo region, commercial fishing in the Exmouth Gulf, recreation activity involving the Reef by residents of the Ningaloo region and management and research relating to the Reef (DCBA, 2020). More than 90% of this value added is attributed to the domestic and international tourists who visit Ningaloo each year (DCBA, 2020). The main marine nature-based tourist activities are concentrated around and within the Ningaloo WHA.

### 11.7.2 Pilbara region

Recreation and tourism activities within the Pilbara are of high social value. Tourism is a key economic driver for the Pilbara with more than 1 million visitors to the region every year, generating \$413 million in gross revenue annually (Pilbara Development Commission<sup>12</sup>).

Recreational fishing within the Pilbara region tends to be concentrated in State waters adjacent to population centres. Recreational fishing is known to occur around the Dampier Archipelago with boats launched from boat ramps around Dampier and Karratha (Williamson *et al.*, 2006). Once at sea, charter vessels may also frequent the waters surrounding the Montebello Islands.

### 11.7.3 Kimberley Region

Recreation and tourism activities in the Kimberley region occur predominantly in WA State waters (extending offshore 3 nm from the mainland), adjacent to coastal population centres (e.g. Broome), with a peak in activity during the winter months (dry season). These activities include recreational fishing, diving, snorkelling, wildlife watching and boating.

Primary dive locations in the Kimberley region include the Rowley Shoals, including Mermaid Reef AMP, Scott Reef, Seringapatam Reef, Ashmore Reef AMP and Cartier Island.

## 11.8 Shipping

Commercial shipping traffic is high within the NWMR with vessel activities including commercial fisheries, tourism such as cruises, international shipping and oil and gas operations. There are 12 ports adjacent to the NWMR, including the major ports of Dampier, Port Hedland and Broome, which are operated by their respective port authorities. These ports handle large tonnages of iron ore and petroleum exports in addition to salt, manganese, feldspar chromite and copper (DEWHA, 2008).

Heavy vessel traffic exists within the Pilbara Port Authority management area which recorded 10,064 vessel movements in Port of Dampier 2019/20 annual reporting period (PPA, 2020). Twenty-six designated anchorages for bulk carriers, petroleum and gas tankers, drilling rigs, offshore platforms, and pipelay vessels are located offshore of Rosemary Island.

In 2012, AMSA established a network of shipping fairways off the northwest coast of Australia. The shipping fairways, while not mandatory, aim to reduce the risk of collision between transiting vessels and offshore infrastructure. The fairways are intended to direct large vessels such as bulk carriers and LNG ships trading to the major ports into pre-defined routes to keep them clear of existing and planned offshore infrastructure (AMSA, 2013).

<sup>11</sup> <https://www.gdc.wa.gov.au/industry-profiles/tourism/>

<sup>12</sup> <https://www.pdc.wa.gov.au/our-focus/strategicinitiatives/tourism>

## 11.9 Oil and Gas Infrastructure

The NWMR supports a number of industries including petroleum exploration and production.

Within the NWMR there are seven sedimentary petroleum basins: Northern and Southern Carnarvon basins, Perth, Browse, Roebuck, Offshore Canning and Bonaparte basins. Of these, the Northern Carnarvon, Browse and Bonaparte basins hold large quantities of gas and comprise most of Australia's reserves of natural gas (DEWHA, 2008), which is reflected by the level of development in the area. In addition to existing facilities, there are proposed developments in the region. This includes proposals to develop gas and condensate from a number of fields within the NWMR.

In addition to the oil and gas industry, other land-based industries depend upon the marine environment in the nearshore area. These include ports, salt mines such as Karratha and Onslow, LNG onshore processing facilities such as Burrup Hub, Thevenard Island, Barrow Island, Varanus Island, and small-scale desalination plants at Barrow Island, Burrup, Cape Preston, and Onslow.

### 11.10 Defence

Key Australian Department of Defence (DoD) operational areas and facilities areas of the NWMR for training and operational activities, include:

- An operating logistics base has been established in Dampier to support vessels patrolling the waters around offshore oil and gas facilities. A dedicated navy administrative support facility is also being constructed at the nearby township of Karratha.
- The Royal Australian Air Force currently maintains two 'bare bases' in remote areas of WA that are used for military exercises. One of these is the Royal Australian Air Force Base in Learmonth. The Royal Australian Air Force maintains the Commonwealth Heritage listed Learmonth Air Weapons Range Facility, which is located between Ningaloo Station and the Cape Range National Park. The air training area associated with the Learmonth base extends over the offshore region.
- The Royal Australian Air Force Base Curtin is located on the north coast of WA, south-east of Derby and 170 km east of Broome. It provides support for land, air and sea operations aimed to support Australia's northern approaches.
- The Naval Communications Station Harold E. Holt is located ~6 km north of Exmouth. The main role of the station is to communicate at very low frequencies (19.8 kHz) with Australian and United States submarines and ships in the eastern Indian Ocean and the western Pacific Ocean.

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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: 16-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](#).

<a href="#">World Heritage Properties:</a>	None
<a href="#">National Heritage Places:</a>	None
<a href="#">Wetlands of International Importance (Ramsar)</a>	None
<a href="#">Great Barrier Reef Marine Park:</a>	None
<a href="#">Commonwealth Marine Area:</a>	1
<a href="#">Listed Threatened Ecological Communities:</a>	None
<a href="#">Listed Threatened Species:</a>	25
<a href="#">Listed Migratory Species:</a>	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.

<a href="#">Commonwealth Lands:</a>	None
<a href="#">Commonwealth Heritage Places:</a>	None
<a href="#">Listed Marine Species:</a>	64
<a href="#">Whales and Other Cetaceans:</a>	27
<a href="#">Critical Habitats:</a>	None
<a href="#">Commonwealth Reserves Terrestrial:</a>	None
<a href="#">Australian Marine Parks:</a>	None
<a href="#">Habitat Critical to the Survival of Marine Turtles:</a>	3

## Extra Information

This part of the report provides information that may also be relevant to the area you have

<a href="#">State and Territory Reserves:</a>	None
<a href="#">Regional Forest Agreements:</a>	None
<a href="#">Nationally Important Wetlands:</a>	None
<a href="#">EPBC Act Referrals:</a>	13
<a href="#">Key Ecological Features (Marine):</a>	3
<a href="#">Biologically Important Areas:</a>	8
<a href="#">Bioregional Assessments:</a>	None
<a href="#">Geological and Bioregional Assessments:</a>	None

# Details

## Matters of National Environmental Significance

### Commonwealth Marine Area

[\[ Resource Information \]](#)

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

### Feature Name

EEZ and Territorial Sea

### Listed Threatened Species

[\[ Resource Information \]](#)

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

### Scientific Name

### Threatened Category

### Presence Text

#### BIRD

#### [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

Breeding known 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
<a href="#">Thunnus maccoyii</a> Southern Bluefin Tuna [69402]	Conservation Dependent	Species or species habitat likely to occur within area
<b>MAMMAL</b>		
<a href="#">Balaenoptera borealis</a> Sei Whale [34]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Balaenoptera musculus</a> Blue Whale [36]	Endangered	Species or species habitat likely to occur within area
<a href="#">Balaenoptera physalus</a> Fin Whale [37]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Eubalaena australis</a> Southern Right Whale [40]	Endangered	Species or species habitat may occur within area
<b>REPTILE</b>		
<a href="#">Aipysurus apraefrontalis</a> Short-nosed Seasnake [1115]	Critically Endangered	Species or species habitat likely to occur within area
<a href="#">Aipysurus foliosquama</a> Leaf-scaled Seasnake [1118]	Critically Endangered	Species or species habitat known to occur within area
<a href="#">Caretta caretta</a> Loggerhead Turtle [1763]	Endangered	Species or species habitat known to occur within area
<a href="#">Chelonia mydas</a> Green Turtle [1765]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Dermochelys coriacea</a> Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat likely to occur within area
<a href="#">Eretmochelys imbricata</a> Hawksbill Turtle [1766]	Vulnerable	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
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[Natator depressus](#)

Flatback Turtle [59257]

Vulnerable

Congregation or aggregation 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 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

[Sphyrna lewini](#)

Scalloped Hammerhead [85267]

Conservation Dependent

Species or species habitat known to occur within area

**Listed Migratory Species**

[\[ Resource Information \]](#)

Scientific Name

Threatened Category

Presence Text

**Migratory Marine Birds**

[Anous stolidus](#)

Common Noddy [825]

Species or species habitat may occur within area

[Calonectris leucomelas](#)

Streaked Shearwater [1077]

Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
<a href="#">Fregata ariel</a> Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat likely to occur within area
<a href="#">Macronectes giganteus</a> Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
<a href="#">Phaethon lepturus</a> White-tailed Tropicbird [1014]		Species or species habitat may occur within area
<a href="#">Thalassarche carteri</a> Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat may occur within area
<b>Migratory Marine Species</b>		
<a href="#">Anoxypristis cuspidata</a> Narrow Sawfish, Knifetooth Sawfish [68448]		Species or species habitat likely to occur within area
<a href="#">Balaenoptera borealis</a> Sei Whale [34]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Balaenoptera edeni</a> Bryde's Whale [35]		Species or species habitat likely to occur within area
<a href="#">Balaenoptera musculus</a> Blue Whale [36]	Endangered	Species or species habitat likely to occur within area
<a href="#">Balaenoptera physalus</a> Fin Whale [37]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Carcharhinus longimanus</a> Oceanic Whitetip Shark [84108]		Species or species habitat likely to occur within area
<a href="#">Carcharodon carcharias</a> White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
<a href="#">Caretta caretta</a> Loggerhead Turtle [1763]	Endangered	Species or species habitat known to occur within area
<a href="#">Chelonia mydas</a> Green Turtle [1765]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Dermochelys coriacea</a> Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat likely to occur within area
<a href="#">Dugong dugon</a> Dugong [28]		Species or species habitat likely to occur within area
<a href="#">Eretmochelys imbricata</a> Hawksbill Turtle [1766]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Eubalaena australis as Balaena glacialis australis</a> Southern Right Whale [40]	Endangered	Species or species habitat may occur within area
<a href="#">Isurus oxyrinchus</a> Shortfin Mako, Mako Shark [79073]		Species or species habitat likely to occur within area
<a href="#">Isurus paucus</a> Longfin Mako [82947]		Species or species habitat likely to occur within area
<a href="#">Megaptera novaeangliae</a> Humpback Whale [38]		Breeding known to occur within area
<a href="#">Mobula alfredi as Manta alfredi</a> Reef Manta Ray, Coastal Manta Ray [90033]		Species or species habitat known to occur within area
<a href="#">Mobula birostris as Manta birostris</a> Giant Manta Ray [90034]		Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
<a href="#">Natator depressus</a> Flatback Turtle [59257]	Vulnerable	Congregation or aggregation known to occur within area
<a href="#">Orcaella heinsohni</a> Australian Snubfin Dolphin [81322]		Species or species habitat may occur within area
<a href="#">Orcinus orca</a> Killer Whale, Orca [46]		Species or species habitat may occur within area
<a href="#">Physeter macrocephalus</a> Sperm Whale [59]		Species or species habitat may occur within area
<a href="#">Pristis clavata</a> Dwarf Sawfish, Queensland Sawfish [68447]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Pristis pristis</a> Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Pristis zijsron</a> Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Rhincodon typus</a> Whale Shark [66680]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
<a href="#">Sousa sahalensis as Sousa chinensis</a> Australian Humpback Dolphin [87942]		Species or species habitat may occur within area
<a href="#">Tursiops aduncus (Arafura/Timor Sea populations)</a> Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]		Species or species habitat known to occur within area
<b>Migratory Wetlands Species</b>		
<a href="#">Actitis hypoleucos</a> Common Sandpiper [59309]		Species or species habitat may occur within area



Scientific Name	Threatened Category	Presence Text
<a href="#">Calidris acuminata</a> Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
<a href="#">Calidris canutus</a> Red Knot, Knot [855]	Endangered	Species or species habitat may occur within area
<a href="#">Calidris ferruginea</a> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Calidris melanotos</a> Pectoral Sandpiper [858]		Species or species habitat may occur within area
<a href="#">Numenius madagascariensis</a> Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area

## Other Matters Protected by the EPBC Act

Listed Marine Species		[ <a href="#">Resource Information</a> ]
Scientific Name	Threatened Category	Presence Text
Bird		
<a href="#">Actitis hypoleucos</a> Common Sandpiper [59309]		Species or species habitat may occur within area
<a href="#">Anous stolidus</a> Common Noddy [825]		Species or species habitat may occur within area
<a href="#">Calidris acuminata</a> Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
<a href="#">Calidris canutus</a> Red Knot, Knot [855]	Endangered	Species or species habitat may occur within area overfly marine area

Scientific Name	Threatened Category	Presence Text
<a href="#">Calidris ferruginea</a> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area overfly marine area
<a href="#">Calidris melanotos</a> Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area
<a href="#">Calonectris leucomelas</a> Streaked Shearwater [1077]		Species or species habitat likely to occur within area
<a href="#">Fregata ariel</a> Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat likely to occur within area
<a href="#">Macronectes giganteus</a> Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
<a href="#">Numenius madagascariensis</a> Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Phaethon lepturus</a> White-tailed Tropicbird [1014]		Species or species habitat may occur within area
<a href="#">Thalassarche carteri</a> Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat may occur within area
<a href="#">Thalasseus bengalensis as Sterna bengalensis</a> Lesser Crested Tern [66546]		Breeding known to occur within area
<b>Fish</b>		
<a href="#">Acentronura larsonae</a> Helen's Pygmy Pipehorse [66186]		Species or species habitat may occur within area
<a href="#">Bulbonaricus brauni</a> Braun's Pughead Pipefish, Pug-headed Pipefish [66189]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
<a href="#">Campichthys tricarinatus</a> Three-keel Pipefish [66192]		Species or species habitat may occur within area
<a href="#">Choeroichthys brachysoma</a> Pacific Short-bodied Pipefish, Short-bodied Pipefish [66194]		Species or species habitat may occur within area
<a href="#">Choeroichthys latispinosus</a> Muiron Island Pipefish [66196]		Species or species habitat may occur within area
<a href="#">Choeroichthys suillus</a> Pig-snouted Pipefish [66198]		Species or species habitat may occur within area
<a href="#">Doryrhamphus dactyliophorus</a> Banded Pipefish, Ringed Pipefish [66210]		Species or species habitat may occur within area
<a href="#">Doryrhamphus janssi</a> Cleaner Pipefish, Janss' Pipefish [66212]		Species or species habitat may occur within area
<a href="#">Doryrhamphus multiannulatus</a> Many-banded Pipefish [66717]		Species or species habitat may occur within area
<a href="#">Doryrhamphus negrosensis</a> Flagtail Pipefish, Masthead Island Pipefish [66213]		Species or species habitat may occur within area
<a href="#">Festucalex scalaris</a> Ladder Pipefish [66216]		Species or species habitat may occur within area
<a href="#">Filicampus tigris</a> Tiger Pipefish [66217]		Species or species habitat may occur within area
<a href="#">Halicampus brocki</a> Brock's Pipefish [66219]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
<a href="#">Halicampus grayi</a> Mud Pipefish, Gray's Pipefish [66221]		Species or species habitat may occur within area
<a href="#">Halicampus nitidus</a> Glittering Pipefish [66224]		Species or species habitat may occur within area
<a href="#">Halicampus spirostris</a> Spiny-snout Pipefish [66225]		Species or species habitat may occur within area
<a href="#">Haliichthys taeniophorus</a> Ribbioned Pipehorse, Ribbioned Seadragon [66226]		Species or species habitat may occur within area
<a href="#">Hippichthys penicillus</a> Beady Pipefish, Steep-nosed Pipefish [66231]		Species or species habitat may occur within area
<a href="#">Hippocampus angustus</a> Western Spiny Seahorse, Narrow-bellied Seahorse [66234]		Species or species habitat may occur within area
<a href="#">Hippocampus histrix</a> Spiny Seahorse, Thorny Seahorse [66236]		Species or species habitat may occur within area
<a href="#">Hippocampus kuda</a> Spotted Seahorse, Yellow Seahorse [66237]		Species or species habitat may occur within area
<a href="#">Hippocampus planifrons</a> Flat-face Seahorse [66238]		Species or species habitat may occur within area
<a href="#">Hippocampus trimaculatus</a> Three-spot Seahorse, Low-crowned Seahorse, Flat-faced Seahorse [66720]		Species or species habitat may occur within area
<a href="#">Micrognathus micronotopterus</a> Tidepool Pipefish [66255]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
<a href="#">Phoxocampus belcheri</a> Black Rock Pipefish [66719]		Species or species habitat may occur within area
<a href="#">Solegnathus hardwickii</a> Pallid Pipehorse, Hardwick's Pipehorse [66272]		Species or species habitat may occur within area
<a href="#">Solegnathus lettiensis</a> Gunther's Pipehorse, Indonesian Pipefish [66273]		Species or species habitat may occur within area
<a href="#">Solenostomus cyanopterus</a> Robust Ghostpipefish, Blue-finned Ghost Pipefish, [66183]		Species or species habitat may occur within area
<a href="#">Syngnathoides biaculeatus</a> Double-end Pipehorse, Double-ended Pipehorse, Alligator Pipefish [66279]		Species or species habitat may occur within area
<a href="#">Trachyrhamphus bicoarctatus</a> Bentstick Pipefish, Bend Stick Pipefish, Short-tailed Pipefish [66280]		Species or species habitat may occur within area
<a href="#">Trachyrhamphus longirostris</a> Straightstick Pipefish, Long-nosed Pipefish, Straight Stick Pipefish [66281]		Species or species habitat may occur within area
<b>Mammal</b>		
<a href="#">Dugong dugon</a> Dugong [28]		Species or species habitat likely to occur within area
<b>Reptile</b>		
<a href="#">Acalyptophis peronii</a> Horned Seasnake [1114]		Species or species habitat may occur within area
<a href="#">Aipysurus apraefrontalis</a> Short-nosed Seasnake [1115]	Critically Endangered	Species or species habitat likely to occur within area
<a href="#">Aipysurus duboisii</a> Dubois' Seasnake [1116]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
<a href="#">Aipysurus eydouxii</a> Spine-tailed Seasnake [1117]		Species or species habitat may occur within area
<a href="#">Aipysurus foliosquama</a> Leaf-scaled Seasnake [1118]	Critically Endangered	Species or species habitat known to occur within area
<a href="#">Aipysurus laevis</a> Olive Seasnake [1120]		Species or species habitat may occur within area
<a href="#">Astrotia stokesii</a> Stokes' Seasnake [1122]		Species or species habitat may occur within area
<a href="#">Caretta caretta</a> Loggerhead Turtle [1763]	Endangered	Species or species habitat known to occur within area
<a href="#">Chelonia mydas</a> Green Turtle [1765]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Chitulia ornata as Hydrophis ornatus</a> Spotted Seasnake, Ornate Reef Seasnake [87377]		Species or species habitat may occur within area
<a href="#">Dermochelys coriacea</a> Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat likely to occur within area
<a href="#">Disteira kingii</a> Spectacled Seasnake [1123]		Species or species habitat may occur within area
<a href="#">Disteira major</a> Olive-headed Seasnake [1124]		Species or species habitat may occur within area
<a href="#">Emydocephalus annulatus</a> Turtle-headed Seasnake [1125]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
<a href="#">Ephalophis greyi</a> North-western Mangrove Seasnake [1127]		Species or species habitat may occur within area
<a href="#">Eretmochelys imbricata</a> Hawksbill Turtle [1766]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Hydrophis elegans</a> Elegant Seasnake [1104]		Species or species habitat may occur within area
<a href="#">Natator depressus</a> Flatback Turtle [59257]	Vulnerable	Congregation or aggregation known to occur within area
<a href="#">Pelamis platurus</a> Yellow-bellied Seasnake [1091]		Species or species habitat may occur within area

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

Current Scientific Name	Status	Type of Presence
Mammal		
<a href="#">Balaenoptera acutorostrata</a> Minke Whale [33]		Species or species habitat may occur within area
<a href="#">Balaenoptera borealis</a> Sei Whale [34]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Balaenoptera edeni</a> Bryde's Whale [35]		Species or species habitat likely to occur within area
<a href="#">Balaenoptera musculus</a> Blue Whale [36]	Endangered	Species or species habitat likely to occur within area
<a href="#">Balaenoptera physalus</a> Fin Whale [37]	Vulnerable	Species or species habitat likely to occur within area

Current Scientific Name	Status	Type of Presence
<a href="#">Delphinus delphis</a> Common Dolphin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area
<a href="#">Eubalaena australis</a> Southern Right Whale [40]	Endangered	Species or species habitat may occur within area
<a href="#">Feresa attenuata</a> Pygmy Killer Whale [61]		Species or species habitat may occur within area
<a href="#">Globicephala macrorhynchus</a> Short-finned Pilot Whale [62]		Species or species habitat may occur within area
<a href="#">Grampus griseus</a> Risso's Dolphin, Grampus [64]		Species or species habitat may occur within area
<a href="#">Kogia breviceps</a> Pygmy Sperm Whale [57]		Species or species habitat may occur within area
<a href="#">Kogia sima as Kogia simus</a> Dwarf Sperm Whale [85043]		Species or species habitat may occur within area
<a href="#">Megaptera novaeangliae</a> Humpback Whale [38]		Breeding known to occur within area
<a href="#">Orcaella heinsohni as Orcaella brevirostris</a> Australian Snubfin Dolphin [81322]		Species or species habitat may occur within area
<a href="#">Orcinus orca</a> Killer Whale, Orca [46]		Species or species habitat may occur within area
<a href="#">Peponocephala electra</a> Melon-headed Whale [47]		Species or species habitat may occur within area



Current Scientific Name	Status	Type of Presence
<a href="#">Physeter macrocephalus</a> Sperm Whale [59]		Species or species habitat may occur within area
<a href="#">Pseudorca crassidens</a> False Killer Whale [48]		Species or species habitat likely to occur within area
<a href="#">Sousa sahalensis as Sousa chinensis</a> Australian Humpback Dolphin [87942]		Species or species habitat may occur within area
<a href="#">Stenella attenuata</a> Spotted Dolphin, Pantropical Spotted Dolphin [51]		Species or species habitat may occur within area
<a href="#">Stenella coeruleoalba</a> Striped Dolphin, Euphrosyne Dolphin [52]		Species or species habitat may occur within area
<a href="#">Stenella longirostris</a> Long-snouted Spinner Dolphin [29]		Species or species habitat may occur within area
<a href="#">Steno bredanensis</a> Rough-toothed Dolphin [30]		Species or species habitat may occur within area
<a href="#">Tursiops aduncus</a> Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		Species or species habitat likely to occur within area
<a href="#">Tursiops aduncus (Arafura/Timor Sea populations)</a> Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]		Species or species habitat known to occur within area
<a href="#">Tursiops truncatus s. str.</a> Bottlenose Dolphin [68417]		Species or species habitat may occur within area
<a href="#">Ziphius cavirostris</a> Cuvier's Beaked Whale, Goose-beaked Whale [56]		Species or species habitat may occur within area

## Habitat Critical to the Survival of Marine Turtles

Scientific Name	Behaviour	Presence
Aug - Sep		
<a href="#">Natator depressus</a> Flatback Turtle [59257]	Nesting	Known to occur
Dec - Jan		
<a href="#">Chelonia mydas</a> Green Turtle [1765]	Nesting	Known to occur
Nov - May		
<a href="#">Eretmochelys imbricata</a> Hawksbill Turtle [1766]	Nesting	Known to occur

## Extra Information

EPBC Act Referrals			[ <a href="#">Resource Information</a> ]
Title of referral	Reference	Referral Outcome	Assessment Status
Controlled action			
<a href="#">Construct and operate LNG &amp; domestic gas plant including onshore and offshore facilities - Wheatston</a>	2008/4469	Controlled Action	Post-Approval
Not controlled action			
<a href="#">HCA05X Macedon Experimental Survey</a>	2004/1926	Not Controlled Action	Completed
<a href="#">Infill Production Well (Griffin-9)</a>	2001/417	Not Controlled Action	Completed
<a href="#">Klammer 2D Seismic Survey</a>	2002/868	Not Controlled Action	Completed
<a href="#">Subsea Gas Pipeline From Stybarrow Field to Griffin Venture Gas Export Pipeline</a>	2005/2033	Not Controlled Action	Completed
<a href="#">Wanda Offshore Research Project, 80 km north-east of Exmouth, WA</a>	2018/8293	Not Controlled Action	Completed
Not controlled action (particular manner)			
<a href="#">'Kate' 3D marine seismic survey, exploration permits WA-320-P and WA-345-P, 60km</a>	2005/2037	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">2D and 3D seismic surveys</a>	2005/2151	Not Controlled Action (Particular	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
<b>Not controlled action (particular manner)</b>			
		Manner)	
<a href="#">Babylon 3D Marine Seismic Survey, Commonwealth Waters, nr Exmouth WA</a>	2013/7081	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Huzzas MC3D Marine Seismic Survey (HZ-13) Carnarvon Basin, offshore WA</a>	2013/7003	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Huzzas phase 2 marine seismic survey, Exmouth Plateau, Northern Carnarvon Basin, WA</a>	2013/7093	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Munmorah 2D seismic survey within permits WA-308/9-P</a>	2003/970	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Ocean Bottom Cable Seismic Survey</a>	2005/2017	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
<a href="#">Ancient coastline at 125 m depth contour</a>	North-west
<a href="#">Canyons linking the Cuvier Abyssal Plain and the Cape Range Peninsula</a>	North-west
<a href="#">Continental Slope Demersal Fish Communities</a>	North-west

## Biologically Important Areas

Scientific Name	Behaviour	Presence
<b>Marine Turtles</b>		
<a href="#">Eretmochelys imbricata</a>		
Hawksbill Turtle [1766]	Internesting buffer	Known to occur
<a href="#">Natator depressus</a>		
Flatback Turtle [59257]	Internesting buffer	Known to occur

## Seabirds

Scientific Name	Behaviour	Presence
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[Ardena pacifica](#)

Wedge-tailed Shearwater [84292]

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

## 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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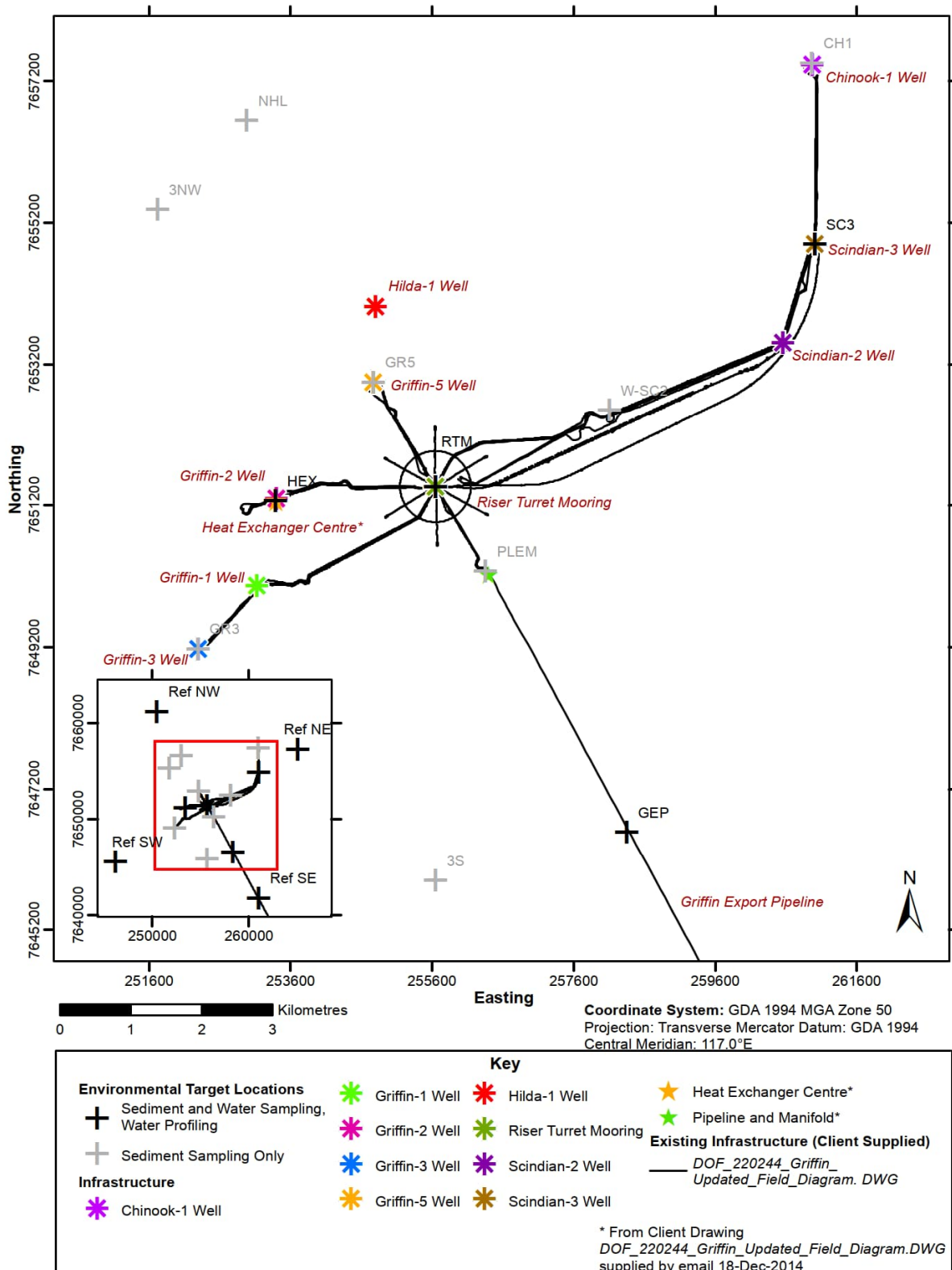
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## Appendix D Griffin Field Infrastructure Layout and Environmental Target Locations





## **Appendix E Program of Ongoing Engagement with Traditional Custodians**

## **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 will be developed in collaboration 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://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 and future 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.

#### **5. 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.

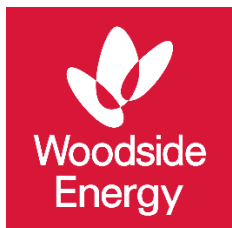
## 6. Current Status

Following distribution of this proposed Program, Woodside is now participating in a number of specific ongoing consultation activities with Traditional Custodian Relevant Persons. Specific ongoing activities are tabulated below:

Traditional Custodian Relevant Person	Ongoing Consultation Description	Forward Plan	Estimated Timeframes
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	BTAC proposed a Collaboration Agreement in May 2023, Woodside agreed in principle, and exchanged correspondence to understand details of the proposal. The Collaboration Agreement would enable support for BTAC to undertake an ethnographic assessment to articulate values, and ensure appropriate cost recovery.	Woodside and BTAC have executed a Costs Acceptance Letter. Woodside has developed a Collaboration Agreement which is currently under internal Woodside review. Once settled internally it will be put to BTAC for their consideration.	The draft Collaboration Agreement will be provided to BTAC for consideration in January 2024. Woodside will follow up on a monthly basis for at least six months with BTAC once they are in receipt of the draft proposed Collaboration Agreement from Woodside, or until the Agreement is in place.
Yamatji Marlpa Aboriginal Corporation (YMAC)	In June 2023, YMAC provided Woodside a proposed draft Framework Agreement, and a proposal to fund in-house expertise to support consultation and implement the Collaboration Framework. In July 2023, Woodside agreed in principle to the proposed Consultation Framework and the funding proposal and requested a meeting to work together on details. Woodside provided the Proposed Program of Ongoing Consultation to complement the proposed Consultation Framework.	Woodside will continue to communicate with YMAC, seeking to collaborate and reach agreement on the proposed Consultation Framework and funding agreement. At the point of EP submission, Woodside is seeking a meeting with YMAC at YMAC's earliest convenience.	Woodside will follow up with YMAC on a monthly basis for at least six months, seeking to progress the Consultation Framework and funding agreement.
Nganhurra Thanardi Garrbu Aboriginal Corporation (NTGAC)	In a meeting during August 2023, NTGAC proposed a Framework Agreement. This included terms for ongoing engagement such as frequency of consultation, participation, and content. NTGAC has also requested Woodside provide funding for an in-house environmental scientist to review material. Woodside agreed in principle to this approach, and has requested a first draft of the Framework Agreement for consideration. Woodside have agreed to pay for YMAC's in-house scientist to attend NTGAC meetings to advise NTGAC.	Woodside and NTGAC/YMAC have agreed in writing to develop a Framework Agreement. Woodside have been responding to queries from NTGAC who have passed information provided by Woodside onto their Environmental Scientist. Woodside are awaiting a proposed draft of a Framework Agreement and general report. YMAC's preference is to prepare the drafts, Woodside have offered to assist with drafting and remain ready to respond on receipt of documents.	Woodside will follow up with NTGAC on a monthly basis for at least six months, seeking to progress the Framework Agreement and general report.
Yinggarda Aboriginal Corporation (YAC)	In August 2023, YAC requested Woodside provide a draft Framework Agreement for their consideration. Woodside has provided a draft Framework Agreement to YAC for review.	Woodside's Proposal suggests meeting with YAC every 3 months to progress matters. The Proposal suggests committing to work continuing between meetings with each party nominating focal points. A Scope of Work and schedule of rates is included to re-imburse the cost of ongoing consultation. Woodside's Proposal includes timeframes for anticipated milestones and has suggested the Proposal be in place for an initial 2-year period. Woodside has provided the	Woodside will continue following up with YAC on a monthly basis for at least six months, seeking to progress the Framework Agreement.

		draft Framework Agreement to YAC; they have advised that they will seek direction from the YAC Board on the proposal.	
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## **Appendix F Consultation**



**Table 1 and 2, Appendix F – Griffin Field Decommissioning (End State) Environment Plan**

Date: February 2024

Revision: 3



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**Table 1: Consultation Report with Relevant Persons or Organisations**

Commonwealth and WA State Government Departments or Agencies – Marine
Australian Fisheries Management Authority (AFMA)
<p>Woodside has discharged its obligations for consultation under Regulation 25(1) and consultation with AFMA for the purpose of 25(1) is complete. Sufficient information and a reasonable period have been provided, as described in Section 6.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> <li>• Consultation Information Sheet was publicly available on the BHP website in February 2022, and the updated Consultation Information Sheet has been available on the Woodside website since February 2023.</li> <li>• Consultation information provided to AFMA on 1 February 2022 based on their function, interest and activities.</li> <li>• Woodside published advertisements in national, state, and relevant local newspapers including The Australian, The West Australian, North West Telegraph, Pilbara News, Midwest Times (15 February 2023) and the Geraldton Guardian (17 February 2023) advising of the proposed activities and requesting comments or feedback.</li> <li>• Woodside has addressed and responded to AFMA over a 24-month period.</li> </ul> <p>(Woodside consulted on Griffin decommissioning activities collectively. Some of the items raised during consultation may not be directly relevant to this EP, however these items have been presented here for completeness.)</p> <p><b>Summary of information provided and record of consultation:</b></p> <ul style="list-style-type: none"> <li>• On 1 February 2022, Woodside emailed AFMA and provided the Griffin Decommissioning Environment Plans Fact Sheet (Appendix F, reference 1.3).</li> <li>• On 4 February 2022, AFMA responded and provided the following advice: <ul style="list-style-type: none"> <li>○ Due to limited resources AFMA is unable to comment on individual proposals, however, it is important to continue consulting with all fishers who have entitlements to fish within the proposed area.</li> <li>○ AFMA advised fishers could be consulted through the relevant fishing industry associations or directly with fishers who hold entitlements in the area.</li> <li>○ AFMA acknowledged Woodside’s advice that it would be consulting the relevant industry associations and requested Woodside also consult with the Western Australia Fishing Industry Council (WAFIC) with regards to the North West Slope Trawl and Western Deepwater Trawl Fisheries, and the Australian Southern Bluefin Tuna Industry Association (ASBTIA) with regards to the Western Skipjack Tuna Fishery.</li> </ul> </li> <li>• On 3 March 2022, Woodside responded acknowledging advice provided to Commonwealth fishery licence holders.</li> <li>• On 19 July 2022, Woodside provided an update that the RTM was now proposed to be removed from the title area, with proposed activities to be undertaken via the Griffin Decommissioning and Field Management Environment Plan (Appendix F, reference 2.3).</li> <li>• On 20 July 2022, AFMA responded thanking Woodside for their update and, whilst there was no specific comment at this stage, stated that ongoing consultation was important.</li> <li>• On 5 September 2022, Woodside provided additional information relating to its proposed plans to leave <i>in situ</i> concrete gravity bases, piled foundations and anchors at or below the mudline under the proposed EP (Appendix F, reference 2.3.1).</li> <li>• On 16 February 2023, Woodside emailed AFMA advising of the proposed activity (Appendix F, reference 3.10) and provided a Consultation Information Sheet.</li> <li>• On 10 March 2023, Woodside sent a reminder email to AFMA advising of the proposed activity (Appendix F, reference 4.12) and provided a Consultation Information Sheet.</li> <li>• On 27 March 2023, AFMA responded advising that it has no specific comment on the proposal and that it is important to consult with all fishers who have entitlements to fish within the</li> </ul>

proposed area, which can be done through the relevant fishing industry associations or directly with fishers who hold those entitlements.

- AFMA also provided contact details for fishery associations, as well as for obtaining individual contact details for licence holders.

- On 2 April 2023, Woodside responded and thanked AFMA for its feedback and confirmed that it had provided information to relevant fishery licence holders as well as representative organisations on behalf of Commonwealth fishery licence holders who have entitlements to fish within the proposed area.

As stated, the summary above demonstrates that Woodside’s consultation with AFMA for the purpose of 25(1) is complete. However, as per Woodside’s ongoing commitment to consultation, engagement with AFMA continues as summarised below:

**Ongoing consultation:**

- On 22 May 2023, Woodside emailed AFMA requesting Commonwealth fishery licence holder contact details unrelated to this proposed activity.
- On 30 May 2023, AFMA responded to advise there will be a change in providing this information. In a further follow up email on the same day, AFMA advised there is a fee payable for this information and a need to sign a Deed of Confidentiality.
- On 17 July 2023, an agreement was reached with AFMA for Woodside to consult directly with Commonwealth fisheries as per contact details provided by AFMA under the new Deed of Confidentiality.

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<p>AFMA has requested Woodside consult with operators who have entitlements to fish within the proposed area and advised Woodside to consider advising WAFIC with regards to the North West Slope Trawl and Western Deepwater Trawl Fisheries, and ABSTIA with regards to Western Skipjack Tuna Fishery.</p>	<p>Woodside has addressed AFMA’s feedback, including providing information to relevant fishery licence holders as well as representative organisations on behalf of Commonwealth fishery licence holders who have entitlements to fish within the proposed area.</p> <p>Woodside has provided consultation information to AFMA, DAFF - Fisheries, CFA, ASBTIA, Tuna Australia, 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 <b>Section 10.4.4</b>).</p>	<p>Woodside has assessed the potential for interaction with Commonwealth and State managed commercial fisheries in <b>Section 5.6.2</b> of this EP.</p> <p>Woodside will notify relevant State and Commonwealth fisheries of infrastructure being left <i>in situ</i> (Pilbara Trawl Fishery, Pilbara Trap Fishery and Pilbara Line Fishery) as per <b>PS 1.3</b> of this EP.</p> <p>No additional measures or controls are required.</p>

**Australian Hydrographic Office (AHO)**

Woodside has discharged its obligations for consultation under Regulation 25(1) and consultation with the AHO for the purpose of 25(1) is complete. Sufficient information and a reasonable period have been provided, as described in Section 6.4 of the EP. Specifically:

- Consultation Information Sheet was publicly available on the BHP website in February 2022, and the updated Consultation Information Sheet has been available on the Woodside website since February 2023.
- Consultation information provided to AHO on 1 February 2022 based on their function, interest and activities.

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- Woodside published advertisements in a national, state, and relevant local newspapers including The Australian, The West Australian, North West Telegraph, Pilbara News, Midwest Times (15 February 2023) and the Geraldton Guardian (17 February 2023) advising of the proposed activities and requesting comments or feedback.
- Woodside has addressed and responded to AHO over a 24-month period.

(Woodside consulted on Griffin decommissioning activities collectively. Some of the items raised during consultation may not be directly relevant to this EP, however these items have been presented here for completeness.)

**Summary of information provided and record of consultation:**

- On 1 February 2022, Woodside emailed AHO and provided the Griffin Decommissioning Environment Plans Fact Sheet (Appendix F, reference 1.2).
- On 1 February 2022, AHO responded, acknowledging receipt of Woodside’s email. It advised:
  - The data supplied will now be registered, assessed, prioritised and validated in preparation for updating our Navigational Charting products. These adhere to International and Australian Charting Specifications and standards. These standards may result in some data generalisation or filtering due to the scale of existing charts, proximity to other features, and the level of risk a reported feature presents to mariners.
- On 19 July 2022, Woodside provided an update that the RTM was now proposed to be removed from the title area, with proposed activities to be undertaken via the Griffin Decommissioning and Field Management Environment Plan (Appendix F, reference 2.4).
- On 20 July 2022, AHO responded, acknowledging receipt of Woodside’s email. It advised:
  - The data supplied will now be registered, assessed, prioritised and validated in preparation for updating our Navigational Charting products. These adhere to International and Australian Charting Specifications and standards. These standards may result in some data generalisation or filtering due to the scale of existing charts, proximity to other features, and the level of risk a reported feature presents to mariners.
- On 5 September 2022, Woodside provided additional information relating to its proposed plans to leave *in situ* concrete gravity bases, piled foundations and anchors at or below the mudline under the proposed EP (Appendix F, reference 2.4.1).
- On 16 February 2023, Woodside emailed the AHO advising of the proposed activity (Appendix F, reference 3.6) and provided a Consultation Information Sheet.
- On 17 February 2023, the AHO responded and acknowledged receipt of Woodside’s consultation email.
- On 15 March 2023, Woodside sent a reminder email to AHO advising of the proposed activity (Appendix F, reference 4.19) and provided a Consultation Information Sheet
- On 15 March 2023, AHO responded to Woodside and acknowledged receipt of Woodside’s consultation email.

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>AHO acknowledged receipt of consultation emails.</p> <p>AHO advised the data would be assessed for updating of Navigational Charting products.</p> <p>Whilst feedback has been received, there were no objections or claims.</p>	<p>Woodside notes the AHO has acknowledged receipt of consultation emails.</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 <b>Section 10.4.4</b>).</p>	<p>Woodside will notify the AHO of infrastructure being left <i>in situ</i> to ensure the infrastructure will continue to be marked on navigation charts as per <b>PS 1.4</b> of this EP.</p> <p>No additional measures or controls are required.</p>
<p><b>Department of Climate Change, Energy, the Environment and Water (DCCEEW) / Department of Agriculture, Fisheries and Forestry (DAFF) – Fisheries (formerly DAWE)</b></p>		
<p>Woodside has discharged its obligations for consultation under Regulation 25(1) and consultation with the DCCEEW for the purpose of 25(1) is complete. Sufficient information and a reasonable period have been provided, as described in Section 6.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> <li>• Consultation Information Sheet was publicly available on the BHP website in February 2022, and the updated Consultation Information Sheet has been available on the Woodside website since February 2023.</li> <li>• Consultation information provided to DAWE on 31 January 2022 based on their function, interest and activities.</li> <li>• Woodside published advertisements in a national, state, and relevant local newspapers including The Australian, The West Australian, North West Telegraph, Pilbara News, Midwest Times (15 February 2023) and the Geraldton Guardian (17 February 2023) advising of the proposed activities and requesting comments or feedback.</li> <li>• Woodside has sent a follow up email seeking feedback on the proposed activities.</li> <li>• Woodside has provided DCCEEW / DAFF with the opportunity to provide feedback over a 24-month period.</li> </ul> <p>(Woodside consulted on Griffin decommissioning activities collectively. Some of the items raised during consultation may not be directly relevant to this EP, however these items have been presented here for completeness.)</p> <p><b>Summary of information provided and record of consultation:</b></p> <ul style="list-style-type: none"> <li>• On 31 January 2022, Woodside emailed DAWE and provided the Griffin Decommissioning Environment Plans Fact Sheet (Appendix F, reference 1.12).</li> <li>• On 19 July 2022, Woodside provided additional information relating to its proposed plans to leave <i>in situ</i> concrete gravity bases, piled foundations and anchors at or below the mudline under the proposed EP (Appendix F, reference 2.5).</li> <li>• On 5 September 2022, Woodside provided additional information relating to its proposed plans to leave in situ concrete gravity bases, piled foundations and anchors at or below the mudline under the proposed EP (Appendix F, reference 2.5.1).</li> <li>• On 16 February 2023, Woodside emailed DCCEEW / DAFF advising of the proposed activity (Appendix F, reference 3.12) and provided a Consultation Information Sheet.</li> <li>• On 10 March 2023, Woodside sent a reminder email to DCCEEW / DAFF advising of the proposed activity (Appendix F, reference 4.1) and provided a Consultation Information Sheet</li> </ul>		
<p><b>Summary of Feedback, Objection or Claim</b></p>	<p><b>Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response</b></p>	<p><b>Inclusion in Environment Plan</b></p>

<p>No feedback, objections or claims received despite follow up.</p>	<p>Woodside has provided consultation information to AFMA, DAFF - Fisheries, CFA, ASBTIA, Tuna Australia, 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 <b>Section 10.4.4</b>).</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 (<b>Section 5.4.4</b>).</p> <p>The Environment Plan demonstrates that there are no known underwater heritage sites or shipwrecks within the EMBA and identifies that there are no credible impacts to the values of any underwater heritage or shipwrecks as a result of planned activities (<b>Section 5.6.1.10</b>).</p> <p>Woodside will notify relevant State and Commonwealth fisheries of infrastructure being left <i>in situ</i> (Pilbara Trawl Fishery, Pilbara Trap Fishery and Pilbara Line Fishery) as per <b>PS 1.3</b> of this EP.</p> <p>No additional measures or controls are required.</p>
<p><b>Department of Defence (DoD)</b></p>		
<p>Woodside has discharged its obligations for consultation under Regulation 25(1) and consultation with DoD for the purpose of 25(1) is complete. Sufficient information and a reasonable period have been provided, as described in Section 6.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> <li>• Consultation Information Sheet was publicly available on the BHP website in February 2022, and the updated Consultation Information Sheet has been available on the Woodside website since February 2023.</li> <li>• Consultation information provided to DoD on 31 January 2022 based on their function, interest and activities.</li> <li>• Woodside published advertisements in a national, state, and relevant local newspapers including The Australian, The West Australian, North West Telegraph, Pilbara News, Midwest Times (15 February 2023) and the Geraldton Guardian (17 February 2023) advising of the proposed activities and requesting comments or feedback.</li> <li>• Woodside has addressed and responded to DoD over a 24-month period.</li> </ul> <p>(Woodside consulted on Griffin decommissioning activities collectively. Some of the items raised during consultation may not be directly relevant to this EP, however these items have been presented here for completeness.)</p> <p><b>Summary of information provided and record of consultation:</b></p>		

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<ul style="list-style-type: none"> <li>On 31 January 2022, Woodside emailed the DoD and provided the Griffin Decommissioning Environment Plans Fact Sheet (Appendix F, reference 1.13).</li> <li>On 19 July 2022, Woodside provided an update that the RTM was now proposed to be removed from the title area, with proposed activities to be undertaken via the Griffin Decommissioning and Field Management Environment Plan (Appendix F, reference 2.6).</li> <li>On 5 September 2022, Woodside provided additional information relating to its proposed plans to leave <i>in situ</i> concrete gravity bases, piled foundations and anchors at or below the mudline under the proposed EP (Appendix F, reference 2.6.1).</li> <li>On 16 February 2023, Woodside emailed DoD advising of the proposed activity (Appendix F, reference 3.7) and provided a Consultation Information Sheet.</li> <li>On 8 March 2023, Woodside emailed DoD following up on the proposed activity and provided a Defence map (Appendix F, reference 4.20).</li> </ul>		
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 <b>Section 10.4.4</b> ).	No additional measures or controls are required.
Department of Primary Industries and Regional Development (DPIRD)		
<p>Woodside has discharged its obligations for consultation under Regulation 25(1) and consultation with DPIRD for the purpose of 25(1) is complete. Sufficient information and a reasonable period have been provided, as described in Section 6.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> <li>Consultation Information Sheet was publicly available on the BHP website in October 2021, and the updated Consultation Information Sheet has been available on the Woodside website since February 2023.</li> <li>Consultation information provided to DPIRD on 29 October 2021 based on their function, interest and activities.</li> <li>Woodside published advertisements in a national, state, and relevant local newspapers including The Australian, The West Australian, North West Telegraph, Pilbara News, Midwest Times (15 February 2023) and the Geraldton Guardian (17 February 2023) advising of the proposed activities and requesting comments or feedback</li> <li>Woodside has sent a follow up email seeking feedback on the proposed activities.</li> <li>Woodside has provided DPIRD with the opportunity to provide feedback over a 28-month period.</li> </ul> <p>(Woodside consulted on Griffin decommissioning activities collectively. Some of the items raised during consultation may not be directly relevant to this EP, however these items have been presented here for completeness.)</p> <p><b>Summary of information provided and record of consultation:</b></p> <ul style="list-style-type: none"> <li>On 31 January 2022, Woodside emailed the DPIRD and provided the Griffin Decommissioning Environment Plans Fact Sheet (Appendix F, reference 1.14).</li> <li>On 19 July 2022, Woodside provided an update that the RTM was now proposed to be removed from the title area, with proposed activities to be undertaken via the Griffin Decommissioning and Field Management Environment Plan (Appendix F, reference 2.11).</li> <li>On 5 September 2022, Woodside provided additional information relating to its proposed plans to leave <i>in situ</i> concrete gravity bases, piled foundations and anchors at or below the mudline under the proposed EP (Appendix F, reference 2.11.1).</li> <li>On 16 February 2023, Woodside emailed DPIRD advising of the proposed activity (Appendix F, reference 3.11) and provided a Consultation Information Sheet.</li> </ul>		

<ul style="list-style-type: none"> <li>On 10 March 2023, Woodside sent a reminder email to DPIRD advising of the proposed activity (Appendix F, reference 4.13) and provided a Consultation Information Sheet.</li> </ul>		
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 after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see <b>Section 10.4.4</b>).</p>	<p>Woodside has assessed the potential for interaction with Commonwealth and State managed commercial fisheries in <b>Section 5.6.2</b> of this EP.</p> <p>Woodside will notify relevant State and Commonwealth fisheries of infrastructure being left <i>in situ</i> (Pilbara Trawl Fishery, Pilbara Trap Fishery and Pilbara Line Fishery) as per <b>PS 1.3</b> of this EP.</p> <p>No additional measures or controls are required.</p>
<p><b>Commonwealth and WA State Government Departments or Agencies – Environment</b></p>		
<p><b>Department of Climate Change, Energy, the Environment and Water Agriculture (DCCEEW) - Sea Dumping Branch (formerly DAWE – Sea Dumping Branch)</b></p>		
<p>Woodside has discharged its obligations for consultation under Regulation 25(1) and consultation with DCCEEW for the purpose of 25(1) is complete. Sufficient information and a reasonable period have been provided, as described in Section 6.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> <li>Consultation Information Sheet was publicly available on the BHP website in February 2022, and the updated Consultation Information Sheet has been available on the Woodside website since February 2023.</li> <li>Consultation information provided to DAWE on 30 November 2021 based on their function, interest and activities.</li> <li>Woodside published advertisements in a national, state, and relevant local newspapers including The Australian, The West Australian, North West Telegraph, Pilbara News, Midwest Times (15 February 2023) and the Geraldton Guardian (17 February 2023) advising of the proposed activities and requesting comments or feedback</li> <li>Woodside has sent a follow up email seeking feedback on the proposed activities.</li> <li>Woodside has provided DCCEEW / DAFF with the opportunity to provide feedback over a 26-month period.</li> </ul> <p>Woodside consulted on Griffin decommissioning activities collectively. Some of the items raised during consultation may not be directly relevant to this EP, however these items have been presented here for completeness.</p> <p><b>Summary of information provided and record of consultation:</b></p> <ul style="list-style-type: none"> <li>On 30 November 2021, Woodside met with DAWE – Sea Dumping Branch and provided general overview of Griffin field and decommissioning plans. Woodside sought to understand Sea Dumping permit requirements and upcoming draft guidance issuance and consultation. Woodside also requested Sea Dumping application process and timings.</li> <li>On 23 May 2022, Woodside attended an industry briefing hosted by DAWE. A further follow up discussion with DAWE occurred after the event where it was confirmed that it only required further information about the RTM toppling case which is unrelated to this proposed activity.</li> </ul>		

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 <b>Section 10.4.4</b> ).	Woodside will continue to engage with DCCEE – Sea Dumping Branch regarding the application of the <i>Environment Protection (Sea Dumping) Act 1981</i> and to comply with requirements under the Act as per <b>PS 1.1</b> of this EP.  No additional measures or controls are required.
<b>Department of Biodiversity, Conservation and Attractions (DBCA)</b>		
<p>Woodside has discharged its obligations for consultation under Regulation 25(1) and consultation with DBCA for the purpose of 25(1) is complete. Sufficient information and a reasonable period have been provided, as described in Section 6.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> <li>• Consultation Information Sheet was publicly available on the BHP website in February 2022, and the updated Consultation Information Sheet has been available on the Woodside website since February 2023.</li> <li>• Consultation information provided to DBCA on 31 January 2022 based on their function, interest and activities.</li> <li>• Woodside published advertisements in a national, state, and relevant local newspapers including The Australian, The West Australian, North West Telegraph, Pilbara News, Midwest Times (15 February 2023) and the Geraldton Guardian (17 February 2023) advising of the proposed activities and requesting comments or feedback.</li> <li>• Woodside has addressed and responded to DBCA over a 24-month period.</li> </ul> <p>(Woodside consulted on Griffin decommissioning activities collectively. Some of the items raised during consultation may not be directly relevant to this EP, however these items have been presented here for completeness.)</p> <p><b>Summary of information provided and record of consultation:</b></p> <ul style="list-style-type: none"> <li>• On 31 January 2022, Woodside emailed DBCA and provided the Griffin Decommissioning Environment Plans Fact Sheet (Appendix F, reference 1.5).</li> <li>• On 14 February 2022, Woodside sent a reminder email with an invitation to provide feedback (Appendix F, reference 1.5.1).</li> <li>• On 15 February 2022, DBCA responded and advised it had no comments on proposed activities in relation to its responsibilities under the <i>Conservation and Land Management Act 1984</i> and <i>Biodiversity Conservation Act 2016</i>.</li> <li>• On 19 July 2022, Woodside provided an update that the RTM was now proposed to be removed from the title area, with proposed activities to be undertaken via the Griffin Decommissioning and Field Management Environment Plan (Appendix F, reference 2.9).</li> <li>• On 5 September 2022, Woodside provided additional information relating to its proposed plans to leave <i>in situ</i> concrete gravity bases, piled foundations and anchors at or below the mudline under the proposed EP (Appendix F, reference 2.9.1)</li> <li>• On 16 February 2023, Woodside emailed DBCA advising of the proposed activity (Appendix F, reference 3.14) and provided a Consultation Information Sheet.</li> <li>• On 10 March 2023, Woodside emailed DBCA advising of the proposed activity (Appendix F, reference 4.15) and provided a Consultation Information Sheet.</li> </ul>		

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- On 16 March 2023, DBCA responded, noting if had provided feedback previously on proposed activities. DBCA had several comments specific to the activities proposed in the information sheet:
  - There appear to be inconsistencies between the location of the recovery area in State waters and the proposed mitigation measure to “maintain a 12 km buffer from turtle nesting beaches”. Serrurier Island and Bessieres islands, which have records of nesting turtles, occur less than 12 km from the proposed recovery area. To mitigate this risk to threatened fauna, DBCA recommends limiting activities in proximity to turtle nesting beaches to times outside of turtle nesting and hatchling season.
  - DBCA also requests that all tow routes proposed avoid Conservation and Land Management (CALM) Act waters (i.e. Murion Islands Marine Management Area) where possible to minimise the risk of impacts on the ecological and social values within this area.
  - Should Woodside have any additional information in relation to its monitoring or oil spill response preparedness for these decommissioning activities for DBCA’s information, this would be welcome.
  - Woodside should be aware that any activities requiring access to reserves managed by DBCA under the CALM Act or requiring the taking / disturbance of threatened fauna listed under the BC Act in State waters may require additional approvals under this legislation, and early consultation with DBCA is recommended.
- On 1 June 2023, Woodside responded to DBCA advising:
  - Infrastructure including the Griffin RTM and Stybarrow DTM is planned to be recovered on title at the Griffin and Stybarrow fields respectively.
  - Noted DBCA’s feedback on undertaking activities in proximity to ecologically sensitive receptors including marine parks and other reserves managed by DBCA under the CALM Act.
  - Advised in accordance with Regulations 20(3) and 21(3) of the Environment Regulations 2023 of the Offshore Petroleum and Greenhouse Gas Storage (OPGGS) Act, Woodside’s EPs describe the existing environment that may be affected by the activity during planned and unplanned activities. When describing the existing environment Woodside includes details of the particular values and sensitivities of the environment within and in proximity to operational areas and the EMBA for impact assessment and risk evaluation.
  - Noted the EMBA for the proposed EP do not overlap the Bessieres Island Nature Reserve or Serrurier Island Nature Reserve.

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 advised that it had previously provided feedback on proposed activities and noted inconsistencies of location of recovery area and proposed mitigation measures. It recommends limiting activities in proximity to turtle nesting beaches to outside hatchling season and requests all tow routes avoid CALM Act waters.</p> <p>Whilst feedback has been received, there were no objections or claims.</p>	<p>Woodside has addressed DBCA’s feedback, including:</p> <ul style="list-style-type: none"> <li>• Advised in accordance with Regulations 20(3) and 21(3) of the Environment Regulations 2023 of the OPGGS Act, Woodside’s EPs describe the existing environment that may be affected by the activity during planned and unplanned activities. When describing the existing environment Woodside includes details of the particular values and sensitivities of the environment within and in proximity to operational areas and the EMBA for impact assessment and risk evaluation.</li> <li>• Noted the EMBA for the proposed EP do not overlap the Bessieres Island Nature Reserve or Serrurier Island Nature Reserve.</li> </ul> <p>Woodside notes there are no vessel activities for the proposed EP.</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</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 (<b>Section 5.4.4</b>).</p> <p>Woodside considers the measures and controls in the EP are appropriate.</p> <p>No additional measures or controls are required.</p>

	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 <b>Section 10.4.4</b> ).	
<b>Commonwealth and State Government Departments or Agencies – Industry</b>		
<b>Department of Industry, Science and Resources (DISR) (formerly DISER)</b>		
<p>Woodside has discharged its obligations for consultation under Regulation 25(1) and consultation with DISR for the purpose of 25(1) is complete. Sufficient information and a reasonable period have been provided, as described in Section 6.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> <li>• Consultation Information Sheet was publicly available on the BHP website in February 2022, and the updated Consultation Information Sheet has been available on the Woodside website since February 2023.</li> <li>• Woodside published advertisements in national, state, and relevant local newspapers including The Australian, The West Australian, North West Telegraph, Pilbara News, Midwest Times (15 February 2023) and the Geraldton Guardian (17 February 2023) advising of the proposed activities and requesting comments or feedback.</li> <li>• Consultation information provided to DISR on 31 January 2022 based on their function, interest and activities.</li> <li>• Woodside has sent a follow up email seeking feedback on the proposed activities.</li> <li>• Woodside has provided DISR with the opportunity to provide feedback over a 24-month period.</li> </ul> <p>Woodside consulted on Griffin decommissioning activities collectively. Some of the items raised during consultation may not be directly relevant to this EP, however these items have been presented here for completeness.</p> <p><b>Summary of information provided and record of consultation:</b></p> <ul style="list-style-type: none"> <li>• On 31 January 2022, Woodside emailed DISR and provided the Griffin Decommissioning Environment Plans Fact Sheet (Appendix F, reference 1.15).</li> <li>• On 19 July 2022, Woodside emailed DISR with further information on the updated activities (Appendix F, reference 2.7)</li> <li>• On 5 September 2022, Woodside provided additional information relating to its proposed plans to leave <i>in situ</i> concrete gravity bases, piled foundations and anchors at or below the mudline under the proposed EP (Appendix F, reference 2.7.1).</li> <li>• On 16 February 2023, Woodside emailed DISR advising of the proposed activity (Appendix F, reference 3.1) and provided a Consultation Information Sheet.</li> <li>• On 10 March 2023, Woodside sent a reminder email to DISR advising of the proposed activity (Appendix F, reference 4.6) and provided a Consultation Information Sheet.</li> <li>• On 4 May 2023, Woodside had a meeting with DISR to provide an update on the status of the Nganhurra RTM (as at end April) and to provide a decommissioning overview of upcoming Woodside activities, including the activities proposed under this EP. No feedback was received from DISR.</li> </ul>		
<b>Summary of Feedback, Objection or Claim</b>	<b>Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response</b>	<b>Inclusion in Environment Plan</b>
<p>Woodside had a meeting with DISR which included an overview of proposed activities for decommissioning the Griffin Field, including the activities proposed under this EP.</p> <p>No feedback, objections or claims received despite follow up.</p>	<p>Woodside notes that no feedback was provided from DISR with respect to the proposed activities.</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 <b>Section 10.4.4</b>).</p>	<p>No additional measures or controls are required.</p>

**Department of Energy Mines, Industry Regulation and Safety (DEMIRS) (formerly DMIRS)**

Woodside has discharged its obligations for consultation under Regulation 25(1) and consultation with DMIRS for the purpose of 25(1) is complete. Sufficient information and a reasonable period have been provided, as described in Section 6.4 of the EP. Specifically:

- Consultation Information Sheet was publicly available on the BHP website in February 2022, and the updated Consultation Information Sheet has been available on the Woodside website since February 2023.
- Consultation information provided to DMIRS on 31 January 2022 based on their function, interest and activities.
- Woodside published advertisements in a national, state, and relevant local newspapers including The Australian, The West Australian, North West Telegraph, Pilbara News, Midwest Times (15 February 2023) and the Geraldton Guardian (17 February 2023) advising of the proposed activities and requesting comments or feedback.
- Woodside has addressed and responded to DMIRS over a 24-month period.

Woodside consulted on Griffin decommissioning activities collectively. Some of the items raised during consultation may not be directly relevant to this EP, however these items have been presented here for completeness.

**Summary of information provided and record of consultation:**

- On 31 January 2022, Woodside emailed DMIRS and provided the Griffin Decommissioning Environment Plans Fact Sheet (Appendix F, reference 1.6).
- On 23 February 2022, DMIRS responded advising it would assess the notification and would respond within a target assessment timeframe of 30 calendar days.
- On 28 February 2022, DMIRS responded with the following response:
  - DMIRS acknowledged that the proposed activity will be assessed under the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 and regulated by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).
  - DMIRS had reviewed the consultation information and did not require further information at this stage
  - DMIRS requested pre-start and cessation of activity notifications
  - DMIRS requested that Woodside ensure the EP include:
    - Information about the reporting of environmental incidents that could potentially impact on any land or water in State jurisdiction.
    - DMIRS contact details for any required notifications or reports.
  - Proposed petroleum activities in State lands and waters will be assessed by DMIRS following submission of an associated Environment Plan.
- On 3 March 2022, Woodside responded thanking DMIRS for its feedback and noted its acknowledgement that proposed activities to be managed under this EP are to be assessed by NOPSEMA. Woodside also noted:
  - DMIRS' advice that it does not require any additional information at this time and confirm that:
  - Woodside will provide pre-start and cessation of activity notifications
  - Woodside will include information in the EP about the reporting of environmental incidents that could potentially impact on any land or water in State jurisdiction, including requested contact details for DMIRS
- On 19 July 2022, Woodside emailed DMIRS with further information on the updated activities (Appendix F, reference 2.10)
- On 1 August 2022, DMIRS responded advising it would assess the notification and would respond within a target assessment timeframe of 30 calendar days.
- On 5 September 2022, Woodside provided additional information relating to its proposed plans to leave *in situ* concrete gravity bases, piled foundations and anchors at or below the mudline under the proposed EP (Appendix F, reference 2.10.1).



<ul style="list-style-type: none"> <li>On 16 February 2023, Woodside emailed DMIRS advising of the proposed activity (Appendix F, reference 3.1) and provided a Consultation Information Sheet.</li> <li>On 10 March 2023, Woodside sent a reminder email to DMIRS advising of the proposed activity (Appendix F, reference 4.6) and provided Consultation Information a Consultation Information Sheet.</li> </ul>		
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>DMIRS responded and requested:</p> <ul style="list-style-type: none"> <li>pre-start and cessation of activity notifications.</li> <li>Woodside ensure the EP include: <ul style="list-style-type: none"> <li>Information about the reporting of environmental incidents that could potentially impact on any land or water in State jurisdiction.</li> <li>DMIRS contact details for any required notifications or reports.</li> <li>Proposed petroleum activities in State lands and waters will be assessed by DMIRS following submission of an associated Environment Plan.</li> </ul> </li> </ul>	<p>Woodside has addressed DMIRS's feedback including confirming that it will provide notifications to DMIRS prior to the commencement and at the end of the activity for relevant activities. As infrastructure is proposed to be left <i>in situ</i> for this EP and there is no activity, this does not apply to this EP.</p> <p>Woodside noted that feedback on State waters EPs is outside the scope of this EP.</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 <b>Section 10.4.4</b>).</p>	<p>Woodside considers the measures and controls in the EP are appropriate.</p>
<p><b>State Commercial fisheries and representative bodies</b></p>		
<p><b>Pilbara Trawl Fishery</b></p>		
<p>Woodside has discharged its obligations for consultation under Regulation 25(1) and consultation with Pilbara Trawl Fishery for the purpose of 25(1) is complete. Sufficient information and a reasonable period have been provided, as described in Section 6.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> <li>Consultation Information Sheet was publicly available on the BHP website in February 2022, and the updated Consultation Information Sheet has been available on the Woodside website since February 2023.</li> <li>Woodside published advertisements in a national, state, and relevant local newspapers including The Australian, The West Australian, North West Telegraph, Pilbara News, Midwest Times (15 February 2023) and the Geraldton Guardian (17 February 2023) advising of the proposed activities and requesting comments or feedback.</li> <li>Consultation information provided to Pilbara Trawl Fishery on 14 February 2022 based on their function, interest and activities.</li> <li>Woodside has sent a follow up email seeking feedback on the proposed activities.</li> <li>Woodside has provided Pilbara Trawl Fishery with the opportunity to provide feedback over a 24-month period.</li> </ul> <p>Woodside consulted on Griffin decommissioning activities collectively. Some of the items raised during consultation may not be directly relevant to this EP, however these items have been presented here for completeness.</p> <p><b>Summary of information provided and record of consultation:</b></p>		

<ul style="list-style-type: none"> <li>On 14 February 2022, Woodside sent a reminder letter/ email and the Griffin Decommissioning Environment Plans Fact Sheet with an invitation to provide feedback (Appendix F, reference 1.28).</li> <li>On 17 February 2023, Woodside sent a letter to Pilbara Trawl Fishery advising of the proposed activity (Appendix F, reference 3.23) and provided a website link to Consultation Information.</li> <li>On 9 March 2023, Woodside sent a reminder letter to Pilbara Trawl Fishery advising of the proposed activity (Appendix F, reference 4.21) and provided a website link to Consultation Information.</li> </ul>		
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 <b>Section 10.4.4</b>).</p>	<p>Woodside has assessed the potential for interaction with Commonwealth and State managed commercial fisheries in <b>Section 5.6.2</b> of this EP.</p> <p>Woodside will notify relevant State and Commonwealth fisheries of infrastructure being left <i>in situ</i> (Pilbara Trawl Fishery, Pilbara Trap Fishery and Pilbara Line Fishery) as per <b>PS 1.3</b> of this EP.</p> <p>No additional measures or controls are required.</p>
<p><b>Pilbara Trap Fishery</b></p>		
<p>Woodside has discharged its obligations for consultation under Regulation 25(1) and consultation with Pilbara Trap Fishery for the purpose of 25(1) is complete. Sufficient information and a reasonable period have been provided, as described in Section 6.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> <li>Consultation Information Sheet was publicly available on the BHP website in February 2022, and the updated Consultation Information Sheet has been available on the Woodside website since February 2023.</li> <li>Woodside published advertisements in a national, state, and relevant local newspapers including The Australian, The West Australian, North West Telegraph, Pilbara News, Midwest Times (15 February 2023) and the Geraldton Guardian (17 February 2023) advising of the proposed activities and requesting comments or feedback.</li> <li>Consultation information provided to Pilbara Trap Fishery on 14 February 2022 based on their function, interest and activities.</li> <li>Woodside has sent a follow up email seeking feedback on the proposed activities.</li> <li>Woodside has provided Pilbara Trap Fishery with the opportunity to provide feedback over a 24-month period.</li> </ul> <p>Woodside consulted on Griffin decommissioning activities collectively. Some of the items raised during consultation may not be directly relevant to this EP, however these items have been presented here for completeness.</p> <p><b>Summary of information provided and record of consultation:</b></p>		

<ul style="list-style-type: none"> <li>On 14 February 2022, Woodside sent a reminder letter/ email and the Griffin Decommissioning Environment Plans Fact Sheet with an invitation to provide feedback (Appendix F, reference 1.28).</li> <li>On 17 February 2023, Woodside sent a letter to Pilbara Trap Fishery advising of the proposed activity (Appendix F, reference 3.23) and provided a website link to Consultation Information.</li> <li>On 10 March 2023, Woodside sent a reminder letter to Pilbara Trap Fishery advising of the proposed activity (Appendix F, reference 4.21) and provided a website link to Consultation Information.</li> </ul>		
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 <b>Section 10.4.4</b>).</p>	<p>Woodside has assessed the potential for interaction with Commonwealth and State managed commercial fisheries in <b>Section 5.6.2</b> of this EP.</p> <p>Woodside will notify relevant State and Commonwealth fisheries of infrastructure being left <i>in situ</i> (Pilbara Trawl Fishery, Pilbara Trap Fishery and Pilbara Line Fishery) as per <b>PS 1.3</b> of this EP.</p> <p>No additional measures or controls are required.</p>
<p><b>Pilbara Line Fishery</b></p>		
<p>Woodside has discharged its obligations for consultation under Regulation 25(1) and consultation with Pilbara Line Fishery for the purpose of 25(1) is complete. Sufficient information and a reasonable period have been provided, as described in Section 6.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> <li>Consultation Information Sheet was publicly available on the BHP website in February 2022, and the updated Consultation Information Sheet has been available on the Woodside website since February 2023.</li> <li>Woodside published advertisements in a national, state, and relevant local newspapers including The Australian, The West Australian, North West Telegraph, Pilbara News, Midwest Times (15 February 2023) and the Geraldton Guardian (17 February 2023) advising of the proposed activities and requesting comments or feedback.</li> <li>Consultation information provided to Pilbara Line Fishery on 14 February 2022 based on their function, interest and activities.</li> <li>Woodside has sent a follow up email seeking feedback on the proposed activities.</li> <li>Woodside has provided Pilbara Line Fishery with the opportunity to provide feedback over a 24-month period.</li> </ul> <p>Woodside consulted on Griffin decommissioning activities collectively. Some of the items raised during consultation may not be directly relevant to this EP, however these items have been presented here for completeness.</p> <p><b>Summary of information provided and record of consultation:</b></p> <ul style="list-style-type: none"> <li>On 14 February 2022, Woodside sent a reminder letter/ email and the Griffin Decommissioning Environment Plans Fact Sheet with an invitation to provide feedback (Appendix F, reference 1.28).</li> </ul>		

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<ul style="list-style-type: none"> <li>On 17 February 2023, Woodside sent a letter to Pilbara Line Fishery advising of the proposed activity (Appendix F, reference 3.23) and provided a website link to Consultation Information.</li> <li>On 9 March 2023, Woodside sent a reminder letter to Pilbara Line Fishery advising of the proposed activity (Appendix F, reference 4.21) and provided a website link to Consultation Information.</li> </ul>		
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 <b>Section 10.4.4</b>).</p>	<p>Woodside has assessed the potential for interaction with Commonwealth and State managed commercial fisheries in <b>Section 5.6.2</b> of this EP.</p> <p>Woodside will notify relevant State and Commonwealth fisheries of infrastructure being left <i>in situ</i> (Pilbara Trawl Fishery, Pilbara Trap Fishery and Pilbara Line Fishery) as per <b>PS 1.3</b> of this EP.</p> <p>No additional measures or controls are required.</p>
<p><b>Western Australian Fishing Industry Council (Exmouth)</b></p>		
<p>Woodside has discharged its obligations for consultation under Regulation 25(1) and consultation with WAFIC for the purpose of 25(1) is complete. Sufficient information and a reasonable period have been provided, as described in Section 6.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> <li>Consultation Information Sheet was publicly available on the BHP website in February 2022, and the updated Consultation Information Sheet has been available on the Woodside website since February 2023.</li> <li>Consultation information provided to WAFIC on 31 January 2022 based on their function, interest and activities.</li> <li>Woodside published advertisements in a national, state, and relevant local newspapers including The Australian, The West Australian, North West Telegraph, Pilbara News, Midwest Times (15 February 2023) and the Geraldton Guardian (17 February 2023) advising of the proposed activities and requesting comments or feedback.</li> <li>Woodside has addressed and responded to WAFIC over a 24-month period.</li> </ul> <p>(Woodside consulted on Griffin decommissioning activities collectively. Some of the items raised during consultation may not be directly relevant to this EP, however these items have been presented here for completeness.)</p> <p><b>Summary of information provided and record of consultation:</b></p> <ul style="list-style-type: none"> <li>On 31 January 2022, Woodside emailed WAFIC and provided the Griffin Decommissioning Environment Plans Fact Sheet (Appendix F, reference 1.9).</li> <li>On 10 February 2022, WAFIC responded and requested the following information:             <ul style="list-style-type: none"> <li>Images of the proposed infrastructure that is expected to remain <i>in situ</i></li> <li>The estimated final footprint, including what navigational safety are expected following decommissioning activities.</li> </ul> </li> </ul>		

○ Confirmation if any plastic type material is proposed to be left *in situ*

- On 16 February 2022, Woodside by way of a phone call and an email with a presentation covering the proposed decommissioning activities and requested a meeting.
- On 3 March 2022, WAFIC responded requesting an assessment of fisheries interaction for proposed activities.
- On 4 March 2022, Woodside responded providing an assessment of the likelihood of fisher interaction (Commonwealth and State-managed fisheries) in the Operational Area and the Environment that May be Affected (EMBA) for Griffin decommissioning activities.
- On 18 March 2022, WAFIC responded requesting final footprint areas for equipment above the seabed and provided information on the fisheries assessment for future consideration.
- On 28 March 2022, Woodside responded providing the requested footprint areas.
- On 19 July 2022, Woodside provided further updates to the activity (Appendix F, reference 2.17)
- On 5 September 2022, Woodside provided additional information relating to its proposed plans to leave *in situ* concrete gravity bases, piled foundations and anchors at or below the mudline under the proposed EP (Appendix F, reference 2.17.1).
- On 10 August 2022, Woodside advised WAFIC that Mackerel (Area 2) licence holders were also consulted at the same time as licence holders. Woodside inadvertently left them off the list provided in correspondence to WAFIC on 19 July 2022.
- On 11 August 2023, WAFIC responded asking for a full assessment of the RTM *in situ* before towing an object to a new area.
- On 11 August 2022, WAFIC responded to Woodside noting the biosecurity outlined only accounts for the vessel used in recovery. WAFIC request that Woodside also include a full assessment of the RTM *in situ* to understand the species present before towing an object to a new area, which may or may not naturally occur in that area. WAFIC noted that is not only a biosecurity risk it may also change the distribution of endemic species.
- On 15 August 2022, Woodside responded to WAFIC acknowledging the feedback on potential risks to the marine environment from the temporary relocation of sections of the RTM to the sheltered location for retrieval. Woodside confirmed that an assessment has been undertaken as part of Environment Plan (EP) preparation and will be included in **Section 8.4** of the published EP. Woodside noted its assessment was built on Woodside's extensive studies of the marine environment at the Griffin Field, including at the RTM location.
- On 29 August 2022, WAFIC emailed to thank Woodside for the information received about Mackerel licence holders. WAFIC confirmed its original comments on the decommissioning of the Griffin Field remain the position of WAFIC.
- On 25 October 2022, WAFIC emailed again to ask if previous comments provided (via BHP) would be included as part of further submissions of this EP.
- On 28 October 2022, Woodside confirmed receipt of WAFIC's response noting the comments previously provided remain current.
- On 16 February 2023, Woodside emailed WAFIC advising of the proposed activity (Appendix F, reference 3.5) and provided a Consultation Information Sheet.
- On 10 March 2023, Woodside sent a reminder email to WAFIC advising of the proposed activity (Appendix F, reference 4.9) and provided a Consultation Information Sheet
- On 5 May 2023, Woodside had a phone call with WAFIC to follow up on a number of EPs, including the activities proposed under this EP, and to request any further feedback. Woodside committed to providing WAFIC with a consolidated email outlining all the EPs Woodside is currently consulting WAFIC on for ease of feedback.
- On 5 May 2023, Woodside sent an email to WAFIC providing the status of feedback on a number of EPs, including the activities proposed under this EP. Woodside advised it would soon be submitting the EP for assessment and requested any further feedback.
- On 19 May 2023, Woodside had a phone call with WAFIC to follow up on a number of EPs, including the activities proposed under this EP and to request any feedback.
- On 20 June 2023, Woodside emailed WAFIC advising the fisheries it had assessed as having a potential for interaction in the Operational Area and EMBA for a number of EPs, including the activities proposed under this EP, in line with its consultation approach for unplanned events. Woodside re-provided the Consultation Information Sheet and followed up on any further feedback with respect to the proposed EP.
- On 27 June 2023, Woodside emailed WAFIC providing a response to feedback on a separate EP and followed up on feedback with respect to the activities proposed under this EP.

**The summary above demonstrates that consultation for the purpose of 25(1) is complete however, as per Woodside's commitment to ongoing consultation, engagement has continued as summarised below:**

**Ongoing consultation**

- On 25 July 2023, WAFIC's CEO sent a letter to Woodside's CEO to register significant frustration with regard to Woodside pursuing detailed responses to EPs or Decommissioning Proposals. WAFIC noted:
  - Since start of 2023, it had received more than 60 emails seeking feedback for activities proposed by Woodside;
  - Each email placed significant workload pressures on WAFIC, an organisation without sufficient resources to meet the deadlines required;
  - It had a number of other oil and gas titleholders operating in WA waters seeking similar feedback for their projects;
  - WAFIC requested Woodside to review its current consultation methodology for engagement with WAFIC.
- On 16 August 2023, Woodside emailed WAFIC and confirmed a meeting for 28 August 2023. Woodside also provided an outline of existing EP consultation and upcoming in the coming weeks which were not relevant to this EP.
- On 25 August 2023, Woodside's Executive Vice President replied to the letter from WAFIC CEO and noted:
  - Woodside's consultation is designed to ensure that relevant persons are identified and given sufficient information and a reasonable period to make an informed assessment of the possible consequences of the proposed activity.
  - Woodside is keen to meet with WAFIC and to ensure Woodside's consultation with WAFIC and the commercial fishing sector achieves this outcome.
  - Woodside thanked WAFIC for sharing concerns and appreciated the opportunity to discuss these matters further and will be in touch to organise a suitable meeting date.
- On 28 August 2023, Woodside met with WAFIC to discuss consultation on Environment Plans:
  - WAFIC noted the high level of consultation currently being experienced and resourcing requirements. It noted it needed to prioritise consultation and had provided guidance to offshore proponents.
  - Woodside discussed relevant persons consultation and acknowledged the high level of consultation to meet regulatory requirements and case law.
  - WAFIC noted the importance of genuine consultation and building a relationship with the commercial fishing sector.
  - Woodside sought to understand the most appropriate way to consult the commercial fishery sector.
  - WAFIC and Woodside agreed a more strategic approach to consultation was required, noting the WAFIC fee for service model.
  - Woodside recognised the need for WAFIC to be appropriately resourced to consider consultation materials.
  - It was noted it is challenging to make assumptions about certain offshore activities, for example considering water depth or distance from shore, to reduce consultation fatigue.
  - Pipeline installation, seismic and decommissioning are activities of the most interest to the commercial fishing sector.
  - WAFIC noted consultation at the Offshore Project Proposal stage was effective in understanding projects and upcoming work scopes.
  - Woodside and WAFIC agreed to identify a more strategic and tailored model to consult the commercial fishery sector.
  - Woodside gave a presentation on Environment Plan activities, consultation requirements, the environment that may be affected, and consultation on another EP.

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>WAFIC responded and requested further information including:</p> <ul style="list-style-type: none"> <li>• images of the proposed infrastructure that is expected to remain <i>in situ</i></li> <li>• the estimated final footprint, including what navigational safety are expected following decommissioning activities.</li> <li>• confirmation if any plastic type material is proposed to be left <i>in situ</i>.</li> <li>• requested Woodside also include a full assessment of the RTM <i>in situ</i> to understand the species present before towing an object to a new area, which may or may not naturally occur in that area.</li> </ul> <p>WAFIC also requested an assessment of fisheries interaction for proposed activities. In response to Woodside's update on RTM removal (which is subject to a separate EP), WAFIC noted the biosecurity only accounted for the vessel used in recovery. WAFIC requested a full assessment of the RTM <i>in situ</i> to understand the species present before towing. WAFIC noted this may change the distribution of endemic species.</p> <p>WAFIC has provided general feedback about consultation and has identified that pipeline installation, seismic and decommissioning are activities of the most interest to the commercial fishing sector.</p> <p>WAFIC also expressed frustration with the number of EPs received from the industry and</p>	<p>Woodside has responded to WAFIC's requests and provided a presentation on the project, an assessment of fisheries interaction for proposed activities and final footprint areas for equipment above the seabed.</p> <p>Woodside responded to WAFIC feedback on potential risks to the marine environment from the temporary relocation of sections of the RTM to the sheltered location for retrieval.</p> <p>Woodside agreed to identify a more strategic and tailored model to consult the commercial fishery sector on environment plans.</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 <b>Section 10.4.4</b>).</p>	<p>Woodside has assessed the potential for interaction with Commonwealth and State managed commercial fisheries in <b>Section 5.6.2</b> of 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>

<p>lack of resources to meet the deadlines required.</p> <p>WAFIC and Woodside are working towards a more strategic approach and tailored model to consult the commercial fishery sector.</p>		
<p><b>Recreational marine users and representative bodies</b></p>		
<p><b>Gascoyne Recreational Marine Users (formerly Onslow and Exmouth-based fishing clubs and charter boat / marine tourism operators)</b></p>		
<p>Woodside has discharged its obligations for consultation under Regulation 25(1) and consultation with Gascoyne Recreational Marine Users for the purpose of 25(1) is complete. Sufficient information and a reasonable period have been provided, as described in Section 6.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> <li>• Consultation Information Sheet was publicly available on the BHP website in February 2022, and the updated Consultation Information Sheet has been available on the Woodside website since February 2023.</li> <li>• Consultation information provided to Onslow and Exmouth-based fishing clubs and charter boat / marine tourism operators on 31 January 2022 based on their function, interest and activities.</li> <li>• Woodside published advertisements in a national, state, and relevant local newspapers including The Australian, The West Australian, North West Telegraph, Pilbara News, Midwest Times (15 February 2023) and the Geraldton Guardian (17 February 2023) advising of the proposed activities and requesting comments or feedback.</li> <li>• Woodside has addressed and responded to Gascoyne Recreational Marine Users over a 24-month period.</li> </ul> <p>Woodside consulted on Griffin decommissioning activities collectively. Some of the items raised during consultation may not be directly relevant to this EP, however these items have been presented here for completeness.</p> <p><b>Summary of information provided and record of consultation:</b></p> <ul style="list-style-type: none"> <li>• On 31 January 2022, Woodside emailed Onslow and Exmouth-based fishing clubs and charter boat / marine tourism operators and provided the Griffin Decommissioning Environment Plans Fact Sheet (Appendix F, reference 1.10).</li> <li>• On 11 February 2022, Ashburton Anglers responded and endorsed Woodside’s proposal to:             <ul style="list-style-type: none"> <li>○ Remove contaminants and leave the GEP <i>in situ</i>.</li> <li>○ Remove contaminants and leave as much of the Griffin Field infrastructure as possible.</li> <li>○ Ashburton Anglers also noted this feedback was consistent with its original feedback at the start of the decommissioning process.</li> </ul> </li> <li>• On 14 February 2022, Exmouth-based fishing clubs and charter boat / marine tourism operators were sent a reminder following up on feedback for the proposed activity (Appendix F, reference 1.10.1 and 1.10.2).</li> <li>• On 23 February 2022, Woodside responded noting the Ashburton Anglers feedback.</li> <li>• On 19 July 2022, Woodside provided an update to Onslow and Exmouth-based fishing clubs and charter boat / marine tourism operators that the RTM was now proposed to be removed from the title area, with proposed activities to be undertaken via the Griffin Decommissioning and Field Management Environment Plan (Appendix F, reference 2.21).</li> <li>• On 5 September 2022, Woodside provided additional information relating to its proposed plans to leave <i>in situ</i> concrete gravity bases, piled foundations and anchors at or below the mudline under the proposed EP (Appendix F, reference 2.21.1)</li> </ul>		



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<ul style="list-style-type: none"> <li>On 17 February 2023, Woodside sent a letter/email Gascoyne Recreational Marine Users advising of the proposed activity (Appendix F, reference 3.2, reference 3.2.1 and reference 3.2.2) and provided a Consultation Information Sheet.</li> <li>On 9 March 2023, Woodside sent a reminder letter to Gascoyne Recreational Marine Users advising of the proposed activity (Appendix F, reference 4.21) and provided a Consultation Information Sheet.</li> </ul>		
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 was received from Gascoyne Recreational Marine Users, with the exception of the Ashburton Anglers, which advised it endorsed Woodside's decommissioning approach, including to remove contaminants and leave as much of the Griffin Field infrastructure as possible.</p> <p>Whilst feedback has been received, there were no objections or claims</p>	<p>Woodside notes that no feedback has been received from Gascoyne Recreational Marine Users, with the exception of the Ashburton Anglers which endorsed Woodside's decommissioning approach.</p> <p>Woodside has provided consultation information to Recfishwest, Marine Tourism WA, WA Game Fishing Association and individual recreational marine users.</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 <b>Section 10.4.4</b>).</p>	<p>Woodside considers the measures and controls described within this EP address the potential impact from the proposed activities on Gascoyne Recreational Marine Users functions, interests or activities.</p> <p>No additional measures or controls are required.</p>
<b>Recfishwest</b>		
<p>Woodside has discharged its obligations for consultation under Regulation 25(1) and consultation with Recfishwest for the purpose of 25(1) is complete. Sufficient information and a reasonable period have been provided, as described in Section 6.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> <li>Consultation Information Sheet was publicly available on the BHP website in February 2022, and the updated Consultation Information Sheet has been available on the Woodside website since February 2023.</li> <li>Consultation information provided to Recfishwest on 31 January 2022 based on their function, interest and activities.</li> <li>Woodside published advertisements in a national, state, and relevant local newspapers including The Australian, The West Australian, North West Telegraph, Pilbara News, Midwest Times (15 February 2023) and the Geraldton Guardian (17 February 2023) advising of the proposed activities and requesting comments or feedback.</li> <li>Woodside has addressed and responded to Recfishwest over a 24-month period.</li> </ul> <p>Woodside consulted on Griffin decommissioning activities collectively. Some of the items raised during consultation may not be directly relevant to this EP, however these items have been presented here for completeness.</p> <p><b>Summary of information provided and record of consultation:</b></p> <ul style="list-style-type: none"> <li>On 31 January 2022, Woodside emailed Recfishwest and provided the Griffin Decommissioning Environment Plans Fact Sheet (Appendix F, reference 1.17).</li> <li>On 23 February 2022, Recfishwest responded and provided the following feedback:             <ul style="list-style-type: none"> <li>An overview of recreational fishing activities in the Gascoyne and Pilbara regions, noting its importance to regional communities and economies.</li> </ul> </li> </ul>		

- Comment on opportunities for healthy and resilient marine ecosystems through the creation and retention of key marine habitats from artificial reefs. Recfishwest also provided information on its experience in how marine infrastructure can benefit the environment, fishing experiences and communities.
- Recfishwest advised while it supported retaining marine infrastructure on the principle that these structures provide important ecosystem services and overall environmental benefit, its support for such projects were dependent on five reefing principles. Recfishwest added that it did not object with the steps being taken by Woodside to address concerns that the recreational fishing sector might have.
- Recfishwest also added that abandoned infrastructure should be augmented with purpose-built concrete artificial reef modules, particularly in the section commencing in line with Ashburton Island to Commonwealth waters. This would ensure minimum productive volume required for ecological productivity of the marine communities associated with the equipment. In addition, it would increase the social and economic benefits to the local communities of Exmouth and Onslow through increased fishing opportunities.
- Recfishwest requested further updates on the progress on these decommissioning activities, so it can make sure its constituents are well aware of any planned activities that are due to take place in the area.
- Additionally, Recfishwest requested to be consulted on any upcoming offshore decommissioning activities, irrespective of the distance from shore and that all charts are updated, so recreational fishers can locate the structure.
- On 2 March 2022, Woodside provided the following response:
  - Woodside noted the information provided on recreational fishing in the Gascoyne/Pilbara, including its contribution to economic and social well-being of regional communities.
  - Woodside also noted Recfishwest's comments on the proximity of the Griffin Field to fishing grounds, as well as opportunities for artificial reefs or alternative decommissioning strategies that can be achieved from the decommissioning of oil and gas infrastructure, in turn creating healthy and resilient marine ecosystems through the creation and retention of key marine habitats.
  - Woodside advised it had considered a number of decommissioning options for the Griffin Field and sought feedback from a broad range of stakeholders through an independently facilitated Comparative Assessment process in 2021 as part of decision-making for the proposed end-state of the Griffin Field.
  - Woodside advised it had since progressively engaged stakeholders on its plans for decommissioning by way of meetings with regional communities, and stakeholders with interests in commercial and recreational fishing, and marine tourism. These discussions also include consultation activities for EP approvals to undertake Specific activities, including the provision of information to Exmouth, Onslow and Dampier-based fishing clubs.
  - Woodside noted Recfishwest's position on its expectations for supporting reefing opportunities, including its five key principles, and that Recfishwest does not object with the steps being taken by Woodside to address concerns that the recreational fishing sector might have with respect to environmental safety and benefits.
  - Woodside acknowledged that Recfishwest's preference for structure augmentation. Woodside advised it approaches decommissioning on a case-by-case basis. On this occasion, augmentation was not progressed as an option for the pipeline due to its length and complexity of regulatory permissioning.
  - Woodside noted Recfishwest's request to receive further updates on the progress on these decommissioning activities, so its constituents are aware of planned activities that are due to take place in the area.
  - Woodside also noted Recfishwest's request to be consulted on future offshore decommissioning activities and that the location of infrastructure left *in situ* will be maintained on nautical charts.
- On 19 July 2022, Woodside emailed Recfishwest with an update on the activity (Appendix F, 2.20)
- On 5 September 2022, Woodside provided additional information relating to its proposed plans to leave *in situ* concrete gravity bases, piled foundations and anchors at or below the mudline under the proposed EP (Appendix F, reference 2.20.1).
- On 2 August 2022, Recfishwest responded to Woodside requesting to be consulted on any upcoming offshore exploration activities, irrespective of the distance from shore and that all charts are updated, so recreational fishers can locate the areas.
  - recreational fishers currently fish around the Griffin Field, in particular at the grounds between Serrurier and Bessieres Islands in the proposed recovery location area.

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- many of the experiences and species can be encountered in the proposed recovery location area.
- Recfishwest would like to know the duration of time for which the RTM sections will be set down in the recovery location area, prior to them being removed from the water. Recfishwest asked with the presence of a polymer buoyancy foam in two of the larger sections of the RTM, what is the risk of this foam leaking out of the sections during the towing and recovery process?
- Additionally, Recfishwest requested to be consulted on any upcoming offshore exploration activities, irrespective of the distance from shore and that all charts are updated, so recreational fishers can locate the areas.
- On 10 August 2022, Woodside responded and thanked Recfishwest for their feedback and confirmed that they will be kept up to date with all activities
- On 16 February 2023, Woodside emailed Recfishwest advising of the proposed activity (Appendix F, reference 3.1) and a provided a Consultation Information Sheet.
- On 2 March 2023 Recfishwest responded acknowledging Woodside’s update on the proposed decommissioning of Griffin and Stybarrow fields.
  - Recfishwest referred to advice previously provided on the importance of recreational fishing to the Gascoyne region and that areas around both fields are actively fished by the recreational fishing community, especially the grounds between Serrurier and Bessieres Islands.
  - Recfishwest noted that the proposed activities timing and that existing and new exclusion/cautionary zones will be in place during this period for activities proposed under separate EPs for decommissioning of the griffin field.
  - Recfishwest advised it had reviewed the consultation information sheets and had no concerns regarding the proposed activities.

Recfishwest requested to be kept informed as activities progress so that it may advise recreational fishers as required.
- On 10 March 2023, Woodside sent a follow up email (Appendix F, reference 4.6).
- On 24 March 2023 Woodside emailed Recfishwest noting its feedback on the activity update and for previous consultation activities. Woodside advised it would keep Recfishwest advised as activities are progressed for applicable EPs.

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>Recfishwest has provided feedback and comments on:</p> <ul style="list-style-type: none"> <li>● the proximity of the Griffin Field to fishing grounds</li> <li>● opportunities for artificial reefs or alternative decommissioning strategies that can be achieved from the decommissioning of oil and gas infrastructure,</li> <li>● noted this creates healthy and resilient marine ecosystems through the creation and retention of key marine habitats,</li> <li>● requested to be consulted on future offshore decommissioning activities</li> </ul>	<p>Woodside has responded to Recfishwest’s feedback and has confirmed it will keep Recfishwest updated on project updates and addressed comments with respect to the decommissioning of the Griffin field under separate EPs.</p> <p>Woodside has provided consultation information to Recfishwest, Marine Tourism WA, WA Game Fishing Association and individual recreational marine users.</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 <b>Section 10.4.4</b>).</p>	<p>Woodside has consulted Recfishwest in the course of preparing this EP. Woodside has assessed the claims or objections raised by Recfishwest. No additional measures or controls have been put in place.</p> <p>Woodside considers the measures and controls described within this EP address the potential impact from the proposed activities on Recfishwest’s functions, interests or activities.</p>

<p>and that the location of infrastructure left <i>in situ</i> will be maintained on nautical charts.</p> <p>Recfishwest also requested to be kept informed on the progress of the project.</p> <p>Recfishwest provided further feedback and questions on the update that the RTM was to be removed from the title area:</p> <ul style="list-style-type: none"> <li>• advised recreational fishers currently fish around the Griffin Field, in particular at the grounds between Serrurier and Bessieres Islands in the proposed recovery location area.</li> <li>• requested to know the duration of for which the RTM sections will be set down in the recovery location area, prior to them being removed from the water.</li> <li>• asked about the risk of foam leaking out of the sections during the towing and recovery process</li> </ul>		
<p><b>Marine Tourism WA</b></p>		
<p>Woodside has discharged its obligations for consultation under Regulation 25(1) and consultation with Marine Tourism WA for the purpose of 25(1) is complete. Sufficient information and a reasonable period have been provided, as described in Section 6.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> <li>• Consultation Information Sheet was publicly available on the BHP website in February 2022, and the updated Consultation Information Sheet has been available on the Woodside website since February 2023.</li> <li>• Woodside published advertisements in a national, state, and relevant local newspapers including The Australian, The West Australian, North West Telegraph, Pilbara News, Midwest Times (15 February 2023) and the Geraldton Guardian (17 February 2023) advising of the proposed activities and requesting comments or feedback.</li> <li>• Consultation information provided to Marine Tourism WA on 31 January 2022 based on their function, interest and activities.</li> <li>• Woodside has sent a follow up email seeking feedback on the proposed activities.</li> <li>• Woodside has provided Marine Tourism WA with the opportunity to provide feedback over a 24-month period.</li> </ul> <p>Woodside consulted on Griffin decommissioning activities collectively. Some of the items raised during consultation may not be directly relevant to this EP, however these items have been presented here for completeness.</p> <p><b>Summary of information provided and record of consultation:</b></p>		

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<ul style="list-style-type: none"> <li>On 31 January 2022, Woodside emailed Marine Tourism WA and provided the Griffin Decommissioning Environment Plans Fact Sheet (Appendix F, reference 1.18).</li> <li>On 14 February 2022, Woodside sent a reminder email to Marine Tourism WA with an invitation to provide feedback (Appendix F, reference 1.25).</li> <li>On 19 July 2022, Woodside provided an activity update (Appendix F, reference 2.18)</li> <li>On 5 September 2022, Woodside provided additional information relating to its proposed plans to leave <i>in situ</i> concrete gravity bases, piled foundations and anchors at or below the mudline under the proposed EP (Appendix F, reference 2.18.1).</li> <li>On 16 February 2023, Woodside emailed Marine Tourism WA advising of the proposed activity (Appendix F, reference 3.1) and provided a Consultation Information Sheet.</li> </ul>		
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 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 <b>Section 10.4.4</b>).</p>	No additional measures or controls are required.
<b>WA Game Fishing Association</b>		
<p>Woodside has discharged its obligations for consultation under Regulation 25(1) and consultation with WA Game Fishing Assn for the purpose of 25(1) is complete. Sufficient information and a reasonable period have been provided, as described in Section 6.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> <li>Consultation Information Sheet was publicly available on the BHP website in February 2022, and the updated Consultation Information Sheet has been available on the Woodside website since February 2023.</li> <li>Woodside published advertisements in a national, state, and relevant local newspapers including The Australian, The West Australian, North West Telegraph, Pilbara News, Midwest Times (15 February 2023) and the Geraldton Guardian (17 February 2023) advising of the proposed activities and requesting comments or feedback.</li> <li>Consultation information provided to WA Game Fishing Association on 16 February 2023 based on their function, interest and activities.</li> <li>Woodside has sent a follow up email seeking feedback on the proposed activities.</li> <li>Woodside has provided WA Game Fishing Association with the opportunity to provide feedback over a 12-month period.</li> </ul> <p>Woodside consulted on Griffin decommissioning activities collectively. Some of the items raised during consultation may not be directly relevant to this EP, however these items have been presented here for completeness.</p> <p><b>Summary of information provided and record of consultation:</b></p> <ul style="list-style-type: none"> <li>On 16 February 2023, Woodside emailed WA Game Fishing Association advising of the proposed activity (Appendix F, reference 3.1) and provided a Consultation Information Sheet.</li> <li>On 10 March 2023, Woodside sent a reminder email to WA Game Fishing Association advising of the proposed activity (Appendix F, reference 4.6) and provided a Consultation Information Sheet.</li> </ul>		
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 provided consultation information to Recfishwest, Marine Tourism 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 <b>Section 10.4.4</b>).</p>	<p>No additional measures or controls are required.</p>
<p><b>Peak Industry Representative bodies</b></p>		
<p><b>Australian Energy Association (AEP) (previously APPEA)</b></p>		
<p>Woodside has discharged its obligations for consultation under Regulation 25(1) and consultation with APPEA for the purpose of 25(1) is complete. Sufficient information and a reasonable period have been provided, as described in Section 6.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> <li>• Consultation Information Sheet was publicly available on the BHP website in February 2022, and the updated Consultation Information Sheet has been available on the Woodside website since February 2023.</li> <li>• Woodside published advertisements in a national, state, and relevant local newspapers including The Australian, The West Australian, North West Telegraph, Pilbara News, Midwest Times (15 February 2023) and the Geraldton Guardian (17 February 2023) advising of the proposed activities and requesting comments or feedback.</li> <li>• Consultation information provided to APPEA on 31 January 2022 based on their function, interest and activities.</li> <li>• Woodside has sent follow up emails seeking feedback on the proposed activities.</li> <li>• Woodside has provided APPEA with the opportunity to provide feedback over a 24-month period.</li> </ul> <p>Woodside consulted on Griffin decommissioning activities collectively. Some of the items raised during consultation may not be directly relevant to this EP, however these items have been presented here for completeness.</p> <p><b>Summary of information provided and record of consultation:</b></p> <ul style="list-style-type: none"> <li>• On 31 January 2022, Woodside emailed APPEA advising of the proposed activity (Appendix F, reference 1.19).</li> <li>• On 19 July 2022, Woodside emailed APPEA with an update on the proposed activity (Appendix F, reference 2.13).</li> <li>• On 5 September 2022, Woodside emailed APPEA reminding of the activity update (Appendix F, reference 2.13.1)</li> <li>• On 16 February 2023, Woodside emailed APPEA advising of the proposed activity (Appendix F, reference 3.1) and provided a Consultation Information Sheet.</li> <li>• On 10 March 2023, Woodside sent a reminder email to APPEA advising of the proposed activity (Appendix F, reference 4.6) and provided a Consultation Information Sheet.</li> </ul>		
<p><b>Summary of Feedback, Objection or Claim</b></p>	<p><b>Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response</b></p>	<p><b>Inclusion in Environment Plan</b></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 <b>Section 10.4.4</b>).</p>	<p>No additional measures or controls are required.</p>
<p><b>Traditional Custodians and nominated representative corporations</b></p>		
<p><b>Nganhurra Thanardi Garrbu Aboriginal Corporation (NTGAC)</b></p>		

NTGAC is established under the Native Title Act 1993 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.

Woodside has discharged its obligations for consultation under Regulation 25(1) and consultation with NTGAC for the purpose of 25(1) is complete. Sufficient information and a reasonable period have been provided, as described in Section 6.5 of the EP. Specifically:

**Sufficient Information:**

- Consultation Information Sheet was publicly available on the BHP website in February 2022, and the updated Consultation Information Sheet has been available on the Woodside website since February 2023. Provided response to questions asked about the activity through consultation. Through these questions, NTGAC have displayed an understanding of the activities under this EP.
- Provided Consultation Information Sheet and Summary Information Sheet to NTGAC on 21 February 2023 based on their function, interest and activities. 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.
- Woodside sought direction on NTGAC's preferred method of consultation. This resulted in face-to-face meetings being coordinated at the location of NTGAC's choosing, with NTGAC nominated representatives. These meetings included information that was readily accessible and appropriate.
- 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 EP.
- Advised that NTGAC can request that particular information provided in the consultation not be published (to align with 25(2)(4)).
- As per a request from NTGAC, Woodside funded YMAC's environmental scientist to attend two face-to-face meetings to support consultation and funded a YMAC lawyer to attend the 15 August 2023 meeting with NTGAC. This assisted in ensuring any technical information was provided in a way which allowed NTGAC to make an informed assessment of the possible consequences of the activities on the functions, interests or activities.

**Reasonable Period:**

- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, Northwest Telegraph, Pilbara News, Midwest Times (15 February 2023) and the Geraldton Guardian (17 February 2023) advising of the proposed activities and requesting comments or feedback.
- Woodside commenced consultation with NTGAC in February 2023. Woodside has since addressed and responded to NTGAC queries over 12 months, demonstrating a "reasonable period" of consultation.
- 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 February 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, 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 10.4.4 of the EP). Woodside considers the measures and controls described in this EP address the potential impact from the proposed activity on NTGAC's 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.

Woodside consulted on Griffin decommissioning activities collectively. Some of the items raised during consultation may not be directly relevant to this EP, however these items have been presented here for completeness.

**Summary of information provided and record of consultation:**

Yamatji Marlpa Aboriginal Corporation (YMAC) is the Native Title Representative Body (NTRB) for the Yamatji and Pilbara regions. NTRBs exist to provide assistance to native title claimants and holders with regard to the recognition and protection of their native title rights and interests. No native title has been recognised over the EMBA, however YMAC is identified in the North West Marine Parks Network Management Plan as the contact for identifying cultural values in nearby Australian Marine Parks.

- On 6 January 2023, Woodside phoned NTGAC via the representative body Yamatji Marlpa Aboriginal Corporation (YMAC) for the purpose of introduction and to explain that Woodside will be sending information concerning EPs.
- **(1)** On 27 January 2023 Woodside phoned and emailed NTGAC/YMAC to follow up on the information provided. Woodside requested if NTGAC required anything further ahead of a planned meeting with Woodside on 16 February 2023.
- Between 1 and 13 February 2023, Woodside and YMAC had a series of phone conversations and emails confirming a meeting with the NTGAC Board on 16 February 2023.
- **(1)** On 1 February 2023, NTGAC/YMAC phoned Woodside to confirm the planned meeting for 16 February 2023. It was arranged to hold a subsequent phone discussion between key representatives on 10 February 2023 to discuss scope for the consultation meeting. Woodside said that it is anticipating feedback from the group on the proposed activity at this consultation meeting and asked for any specific families or individuals that Woodside should be engaging with to be invited. NTGAC/YMAC responded that consultation with NTGAC as the representative body is appropriate.
- On 10 February 2023, Woodside phoned NTGAC and described the proposed scope of the consultation meeting planned for 16 February 2023.
- **(1)** On 16 February 2023, Woodside presented to a meeting of the NTGAC Board and YMAC representatives, in a pre-arranged meeting to discuss a number of proposed activities, including this proposed activity. Consultation Information Sheets and Summary Information Sheets were provided in the meeting:
  - Woodside described the EP framework, referring to the Offshore Petroleum and Greenhouse Gas Storage Act (Environment) Regulations, NOPSEMA's role as regulator and general contents of EPs.
  - Woodside encouraged NTGAC to raise anything which they feel is missing in the information provided during the meeting.
  - Woodside 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.
  - Woodside described the proposed activity, its timing and purpose, Woodside explained that the fields have finished producing oil and processing facilities have departed.
  - NTGAC asked Woodside to explain the Stybarrow and Griffin decommissioning activities by points of difference from the Nganhurra RTM decommissioning activities.
    - Woodside explained that Griffin is in shallower water than Nganhurra RTM, and the Griffin RTM is already on the seabed, and a section of pipeline is also being removed.
  - **(2)** NTGAC asked whether any oil will come out when equipment is removed.
    - Woodside responded that this is not expected however the activities do have risk of hydrocarbon loss of containment, which will be explained further in the meeting.



- Woodside described planned and unplanned environmental risks and impacts in accordance with the tables provided in the Information Sheets for the activities and emphasised that unplanned risks were not expected to occur and were unlikely. It was noted that at a high level the categories of risks and impacts were similar to another activity already discussed in the meeting.
- Woodside described the worst case EMBA for the activity.
- **(2 & 3)** YMAC/NTGAC asked about risk to marine parks and whale sharks.
  - Woodside replied explained that vessels move slowly to minimise impacts to marine fauna, and that nothing is planned to go into marine parks or Exmouth Gulf.
- **(2)** NTGAC asked whether other vessels could interfere with the activity.
  - Woodside explained that a 500m exclusion zone will be implemented to try to avoid this.
- **(3)** NTGAC asked whether the activities can be done outside whale shark season.
  - Woodside explained that it is not planned and noted that vessels move slowly.
- **(2)** (YMAC/NTGAC asked whether Woodside have had any incidents with similar activities before.
  - Woodside responded that we have completed decommissioning of the Balnaves field in the past with no material incidents.
- **(4)** YMAC made mention of a request that had been made for an environmental scientist to support consultation
  - Woodside replied they would respond to a formal request.
  - Woodside 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 unlikely to occur.
  - Woodside explained how spill risk is assessed and showed the environment that may be affected (EMBA) for each activity.
- **(2)** YMAC/NTGAC asked for more detail on how the potential loss of containment volumes were identified.
  - Woodside replied that it is either the largest fuel tank from a vessel, or what could come out of the wells where relevant. EMBA for each activity was shown again and scenarios reiterated.
  - Woodside noted this concluded the Decommissioning section of the meeting and called for any further questions or feedback. None were received.
  - Woodside stated that there is significant work and consultation coming up, and it hope to spend more time with NTGAC to understand expectations and desire of how Woodside can work with NTGAC.
  - YMAC expressed that they are being inundated with requests for consultation from oil and gas operators and are working internally on processes and priorities for consultation.
  - Woodside welcomed the transparency and discussion on capacity.
- **(5)** NTGAC expressed that consulting on these types of activities is not viewed as wasting time, but consultation which gives nothing back to the community is not a priority. They are interested in partnership programs and on-country engagements.
  - Woodside stated that while all the big companies will have deadlines and need to get feedback to meet legal requirements, Woodside desires it to be a jointly held process and that if NTGAC desires any support or assistance to please request it.
  - Woodside provided personal contact details for further feedback.
  - Woodside provided NOPSEMA contact details should NTGAC desire to provide feedback directly to the regulator.

- On 21 February 2023, NTGAC/YMAC emailed Woodside to seek clarification of the attendee names at the 16 February 2023 Board meeting.

- On 21 February 2023, Woodside emailed NTGAC/YMAC the attendee names at the 16 February 2023 Board meeting and provided a copy of the presentation pack. Woodside followed up on request for any further feedback on the proposed activity.
- On 21 February 2023, Woodside emailed NTGAC via YMAC advising of the proposed activity (Appendix F, reference 3.24) and provided a Summary Consultation Information Sheet (including a link to the detailed information sheet on Woodside's website) as well as a summary overview fact sheet.
- **(4)** On 22 February 2023, NTGAC/YMAC emailed Woodside to thank Woodside for sending the relevant information and noted that YMAC would liaise with Woodside on funding an environmental scientist.
- **(4)** Between 22-23 February 2023, NTGAC/YMAC and Woodside exchanged emails about additional resourcing so NTGAC could obtain independent expertise on a different activity but not for the proposed activities in this EP.
- On 22 March 2023, Woodside emailed and followed up by phone to NTGAC/YMAC to see if there was any feedback on the proposed activities.
- On 24 March 2023, NTGAC (via YMAC) responded that it would let Woodside know as soon as the Board had had the opportunity to review and provide comments.
- On 24 March 2023, Woodside emailed NTGAC (via YMAC) to enquire whether Woodside could assist with anything.
- On 28 March 2023, YMAC followed up with Woodside on a Woodside action arising from the 16 February 2023 meeting to supply photos and diagrams in relation to the different activity.
- On 31 March 2023, Woodside followed up with the relevant photos and diagrams (requested in discussion about another activity), also noting contact details and welcoming any further feedback. Woodside thanked NTGAC for their work to date and requested that NTGAC reach out for any assistance.
- On 1 June 2023, Woodside emailed NTGAC/YMAC to ask whether any further assistance or information was required on Woodside matters.
- On 7 June 2023, NTGAC/YMAC emailed Woodside to apologise for delayed response and to advise that the Board are currently busy, the request for information will be followed up.
- On 19 June 2023, Woodside emailed NTGAC/YMAC with information on an unrelated EP and asked if any further information was required on Woodside activities.
- On 19 June 2023, NTGAC/YMAC emailed Woodside with instructions from NTGAC Directors that they would like to undertake a consultation workshop with Woodside.
- On 19 June 2023, Woodside emailed NTGAC/YMAC to request a one-day meeting with the NTGAC Board/Directors at a time and location suitable to NTGAC and to offer funding to hold the meeting.
- On 20 June 2023, NTGAC/YMAC emailed Woodside noting it would enquire about the NTGAC Board's availability for a full day meeting.
- On 21 June 2023, NTGAC/YMAC emailed Woodside twice and acknowledged they would look at booking a full day's workshop and that they would like all EP activities to be covered.
- On 21 June 2023, Woodside emailed NTGAC/YMAC noting workshop and agreeing to assist with planning arrangements.
- On 30 June 2023, NTGAC/YMAC emailed Woodside with a date and proposed budget for a full day meeting with the NTGAC Board on 15 August 2023.
- On 5 July 2023, Woodside emailed NTGAC/YMAC to confirm the meeting date and to offer assistance with the meeting arrangements.
- **(5)** On 17 July 2023, NTGAC/YMAC emailed Woodside attaching a draft framework for consultation with PBC's. YMAC advised NTGAC was not in a position to provide comments on consultation wat that time. NTGAC stated it wanted to hold a strategic planning workshop to develop benefits Woodside could provide under the agreement and to discuss implementation of the framework.
- On 19 July 2023, Woodside emailed NTGAC NOPSEMA's Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information. This email also reiterated Woodside's request that NTGAC advised Woodside of any other Traditional Custodian groups or individuals with whom Woodside should consult.

- On 24 July 2023, Woodside emailed NTGAC to request a pre meeting to finalise the agenda for the 15 August workshop with NTGAC Board. The email set out suggested topics to support outcomes to address NTGAC's concerns and aspirations and to address Woodside's needs in respect of how best to work with NTGAC.
  - On 28 July 2023, NTGAC/YMAC confirmed availability for a pre meeting.
  - On 31 July 2023, Woodside emailed NTGAC/YMAC to suggest a pre meeting date.
  - On 31 July 2023, NTGAC emailed Woodside to suggest a preferred time.
  - On 31 July 2023, Woodside accepted the meeting time of 2pm on 15 August 2023.
  - On 3 August 2023, Woodside emailed NTGAC/YMAC about an unrelated activity and thanked NTGAC/YMAC for the pre meeting held on 2 August 2023 and confirmed the meeting with NTGAC on 15 August 2023. Woodside also emailed NTGAC NOPSEMA's Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information. This email also reiterated Woodside's request that NTGAC advise Woodside of any other Traditional Custodian groups or individuals with whom Woodside should consult.
  - On 9 August 2023, Woodside emailed NTGAC/YMAC to clarify any scheduling details for the 15 August meeting.
  - On 11 August 2023, Woodside emailed NTGAC/YMAC to confirm that an unrelated EP has adjusted its deadlines and reasserted its commitment to building a positive relationship with NTGAC. Woodside also confirmed meeting details for 15 August 2023 including noting the attendees.
  - On 14 August 2023, NTGAC/YMAC emailed Woodside to confirm the 15 August consultation meeting.
  - **(1)** On 15 August 2023, Woodside met with NTGAC. At the meeting Woodside:
    - Described the EP framework, referring to the Offshore Petroleum and Greenhouse Gas Storage Act (Environment) Regulations, NOPSEMA's role as regulator and general contents of EPs;
    - Displayed a map of activities open for feedback to be discussed in the meeting and provided a list of other upcoming activities which would be open for consultation in 2023;
    - Provided an overview of the broader EP activities that are relevant to the functions, interests and activities of NTGAC;
    - Described drilling and project activities including the proposed activities for this EP;
    - Described the types of vessels involved; o Described planned and unplanned environmental risks and impacts in accordance with tables provided in the Information Sheets for the activities, emphasising that unplanned risks were not expected to occur and were unlikely;
    - Displayed and spoke to the EMBA for each proposed activity;
    - Woodside specifically asked the following questions, to which no response was received:
      - 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 would 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 wish to provide feedback directly to the regulator.
- At the 15 August 2023 meeting NTGAC asked the following questions and provided the following feedback:
- **(2)** NTGAC asked about ballast water discharges. Woodside described Invasive Marine Species requirements and controls such as hull cleaning, quarantine rules and dry docking, and noted the risk was taken very seriously by Woodside;

- **(3)** YMAC/NTGAC asked about whale sightings and Woodside’s response to sightings. Woodside responded that the response to whale sightings depended on the specific activity and that controls like Marine Mammal Observers were implemented for particular activities;
  - 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 was too time consuming);
  - **(7)** NTGAC discussed social investment ideas and how Woodside could support the local community. Woodside supported providing help, in various ways, as needed by the community;
  - **(4)** NTGAC requested that an independent environment assessment be funded. Woodside confirmed whether this meant a non-Woodside employee. NTGAC agreed.
  - **(6)** A proposed framework for consultation was discussed, involving Woodside funding General Project Reports to be written by an independent suitably qualified and experienced consultant, to be provided to NTGAC initially and then to Woodside. The General Project Reports outlined the nature of the activities for each phase of the project and the risks associated with each of the relevant activities;
    - NTGAC requested that a table of EPs be submitted by December with a timeline;
    - **(5)** NTGAC stated that it did not consider that they had been consulted on a range of Woodside EPs, including for this proposed activity.
  - On 30 August 2023, Woodside emailed NTGAC following up on items arising from the meeting of 15 August 2023, none of which directly related to this activity. Woodside attached the presentation from the meeting. Woodside disagreed that consultation had not commenced on this activity and stated that consultation had commenced and was ongoing.
  - On 6 September 2023, Woodside emailed NTGAC/YMAC with responses to queries about another activity, that were raised in the 15 August 2023 meeting.
  - On 6 September 2023, NTGAC/YMAC emailed Woodside acknowledging information and noting it would pass the information over to its environmental scientist, as was stated as part of their proposed framework for consultation at the 15 August 2023 meeting.
  - **(5)** On 14 September 2023, Woodside emailed NTGAC advising of the planned start date for the activity, as well as a list of all other activities as requested by NTGAC at the 15 August 2023 meeting. Woodside also once again requested that if NTGAC was aware of any other people with whom Woodside should consult, and if there was any information NTGAC wished to provide on cultural values to advise Woodside. Woodside also reiterated that Woodside would take feedback after the commencement of the activity as part of ongoing consultation. The Summary Information Sheet for this activity was attached.
  - On 22 November 2023, Woodside emailed NTGAC to correct some information provided in response to a query at the meeting of 16 February 2023. NTGAC asked whether any oil would come out when equipment was removed, Woodside indicated that this was not expected. On further assessment Woodside notes that it will be necessary to cut the flowline into pieces, the email outlines the level of risk associated with the release of 14 m3 of crude oil and sand, Woodside outlines its considerations as to why it is an acceptable risk. Woodside notes that the EP will include a description of the oil and sand release.
- 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
<b>(1)</b> On 1 February 2023, in response to Woodside’s question as to whether there are specific families or individuals with whom Woodside should be engaging, NTGAC advised via a phone call that they are the appropriate body to consult with.	<ul style="list-style-type: none"> <li><b>(1)</b> Woodside accepts NTGAC’s advice that they are the appropriate body to consult with.</li> <li><b>(2)</b> Woodside responded to NTGAC’s requests for further information during face-to-face engagements and in writing, and no further information was requested on these topics.</li> </ul>	<ul style="list-style-type: none"> <li><b>(1)</b> Not required.</li> <li><b>(2)</b> Existing controls considered sufficient, as described in <b>Section 8</b>.</li> <li><b>(3)</b> Woodside updated <b>Section 5.6.1.7</b> to reflect NTGAC’s interests and potential cultural values, including whales and</li> </ul>

<p>(2) During face-to-face engagement in February and August, NTGAC requested further information on topics related to this proposed activity which was responded to during the meeting:</p> <ul style="list-style-type: none"> <li>• Potential for oil release</li> <li>• Vessel interference</li> <li>• Whale shark season</li> <li>• Experience with unexpected incidents</li> <li>• Waste disposal</li> <li>• Risk to marine parks</li> <li>• Whether any incidents have occurred during similar activities by Woodside</li> <li>• How loss of containment volumes were calculated</li> <li>• Whale sightings and response.</li> <li>• Marine parks and ballast water discharge.</li> </ul> <p>(3) NTGAC have expressed a general interest in whales and whale sharks. Woodside discussed controls protecting whales and whale sharks from an ecological perspective during meetings in which they were raised, and no further feedback or comment was received on these topics.</p> <p>(4) NTGAC requested funding for YMAC’s in-house environmental scientist.</p> <p>(5) NTGAC claimed that they have not been consulted about the activity to 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>(6) NTGAC are 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</p>	<p>(3) Woodside noted NTGAC’s interest in whales and whale sharks.</p> <p>(4) Woodside funded YMAC’s environmental scientist to attend two face-to-face meetings on 16 Feb 2023 and 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 (19 April 23) which has not been taken up.</p> <p>(5) 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 location of NTGAC’s choice on 16 Feb and 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 5.9.1 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 (see point 1) 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 12 months, demonstrating a “reasonable period” of consultation.</p> <p>(6) 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>(7) 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 <b>Section 10.4.4</b>)</p>	<p>whale sharks, and assessed potential impact on these, including controls, in <b>Section 8.</b></p> <p>(4) Not required</p> <p>(5) Not required</p> <p>(6) &amp; (7) 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, (<b>Appendix E</b>). 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>
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<p>and the risks associated with each of the relevant activities. Woodside are awaiting receipt of the initial draft of the General Report.</p> <p>(7) NTGAC are interested in exploring social investment opportunities with Woodside which may support NTGAC's Strategic Plan.</p>		
<p><b>Buurabalayji Thalanyji Aboriginal Corporation (BTAC)</b></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>		
<p>Woodside has discharged its obligations for consultation under Regulation 25(1) and consultation with BTAC for the purpose of 25(1) is complete. Sufficient information and a reasonable period have been provided, as described in Section 6.4 of the EP. Specifically:</p> <p><b>Sufficient Information:</b></p> <ul style="list-style-type: none"> <li>• Woodside sought direction on BTAC's preferred method of consultation. This has resulted in face-to-face meetings taking place at BTAC's preferred time and location. BTAC has exchanged multiple correspondence on the activity and there have been telephone engagements with BTAC representatives. Woodside has offered to coordinate further meetings at the location of BTAC's choosing, with BTAC nominated representatives. As sufficient information and a reasonable period have been provided (see below), any further meetings would be considered as ongoing engagement post Regulation 25 consultation.</li> <li>• Consultation Information Sheet was publicly available on the BHP website in February 2022, and the updated Consultation Information Sheet has been available on the Woodside website since February 2023.</li> <li>• Provided Consultation Information Sheet and Consultation Summary Sheets developed by Traditional Owner 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 in a digestible, plain English format.</li> <li>• Confirmed the purpose of consultation and set out in detail as to what was being sought through consultation.</li> <li>• Suggested that information and requests for feedback be distributed to members as required.</li> <li>• Provided NOPSEMA's Brochure "Consultation on offshore petroleum environment plans" and "Guideline: Consultation in the course of preparing an environment plan".</li> <li>• Provided response to questions asked about the activity through consultation. Through these questions, BTAC has displayed an understanding of the activities under this EP.</li> </ul> <p><b>Reasonable Period:</b></p> <ul style="list-style-type: none"> <li>• Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, Northwest Telegraph, Pilbara News, Midwest Times (15 February 2023) and the Geraldton Guardian (17 February 2023) advising of the proposed activities and requesting comments or feedback.</li> <li>• Consultation information was provided to BTAC on 5 September 2022 based on their function, interest and activities.</li> <li>• Woodside commenced consultation with BTAC on 22 February 2023. Woodside has since addressed and responded to BTAC queries over 12 months, demonstrating a "reasonable period" of consultation.</li> </ul>		

- Woodside advised that BTAC could request the particular information provided in the consultation not be published (to align with 25(2)(4)).
- 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 February 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, 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 (**Section 10.4.4**).

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.

Woodside consulted on Griffin decommissioning activities collectively. Some of the items raised during consultation may not be directly relevant to this EP, however these items have been presented here for completeness.

Woodside consulted on Griffin decommissioning activities collectively. Some of the items raised during consultation may not be directly relevant to this EP, however these items have been presented here for completeness.

**Summary of information provided and record of consultation:**

- On 5 September 2022, Woodside provided information relating to its proposed plans to leave *in situ* concrete gravity bases, piled foundations and anchors at or below the mudline under the proposed EP (Appendix F, reference 2.22).
- On 9 February 2023, Woodside emailed BTAC following up on correspondence regarding other EPs and advising that Woodside would be sending information about decommissioning activities for consultation.
- On 13 February 2023, BTAC representative called and spoke to Woodside asking what Woodside was proposing for next steps for consultation and whether Woodside would like to meet with the BTAC Board, the Council of Thalanyji Elders or present at a common law meeting. Woodside said they would be guided by BTAC but suggested meeting initially with the BTAC Board. Following a suggestion by BTAC that the group may benefit from an anthropologist to articulate sea country values, Woodside said they would look at those sorts of requests on a case-by-case basis. Woodside also confirmed they are able to support consultation meetings. A BTAC representative said he would discuss Woodside EPs with BTAC and aim to respond by 20 February 2023.
- On 20 February 2023, BTAC provided a letter to Woodside in relation to consultation on activities unrelated to this EP, however this correspondence also made assertions and requests that concern general consultation matters between BTAC and Woodside, including:
  - **(1 & 2)** BTAC confirmed that BTAC on behalf of Thalanyji people has interests and that the Thalanyji people have an enduring deep connection to sea country north of Onslow, extending out to islands off the Pilbara coast such as the Monte Bello islands, Barrow Island and the Mackerel Islands.
  - BTAC advised it was seeking the opportunity to engage with Woodside and NOPSEMA on activities unrelated to this EP.
  - **(5)** BTAC advised it has not specifically developed values regarding Sea Country into a format that could be articulated for consultation and 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.
  - **(3)** BTAC advised the information in the consultation fact sheets it has received as very general. 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.
  - **(4)** BTAC requested that emergency response capability is developed and locally provided to be able to respond to potential activities/actions that may cause an impact in the EMBA. BTAC encouraged Woodside and industry to build capacity and capability in BTAC's ranger program so that it could participate in response planning and management activities.

- **(6)** BTAC noted that ongoing consultation with BTAC will be imperative and likely continuous given recent changes to consultation requirements and this will continue to be a burden on the organisation. BTAC requested that Woodside enter a consultation or engagement framework to ensure BTAC can be properly resourced financially and intellectually to participate in the consultation and management planning processes for the activities.
- On 22 February 2023, Woodside emailed BTAC advising of the proposed activity (Appendix F, reference 3.25) and provided a Consultation Information Sheet. The email requested information on the interests that BTAC and its members may have within the EMBA, information on how BTAC would like to engage, and requested that BTAC provide information to members as required.
- On 22 February 2023, Woodside emailed RRF Australia (support organisation for BTAC) confirming that BTAC requested the email about activities be forwarded to them.
- On 23 February 2023, RRF Australia (support organisation for BTAC) emailed Woodside acknowledging email and informing they would provide advice to BTAC within the requested timeframe.
- On 13 March 2023, BTAC emailed Woodside asking to confirm whether there was a revised submission date in relation to the proposed activities.
- On 17 March 2023, Woodside emailed a letter to BTAC suggesting a forward plan for consultation on all EPs that Woodside had notified BTAC about. Woodside noted that it would formalise the matters outlined in its correspondence by including in each of the Environment Plans statements along the following lines:
  - BTAC for and on behalf of Thalanyji has interests and values in the EMBA and is concerned about the possible impact on these interests and values, including to Sea Country, arising from Woodside's proposed activities.
  - BTAC, with support from Woodside and through the provision of independent expertise, will on an ongoing basis:
    - convey to Woodside the nature of Thalanyji's interests and values, noting that BTAC would like to conduct work to articulate those values in a manner that Woodside understands.
    - provide information to Woodside about how those interests and values intersect with the EMBA and how that should be managed.
  - Woodside will engage in ongoing consultation with BTAC for the purposes of ongoing monitoring, management and emergency response associated with environmental risk.
  - Woodside and BTAC will work under an adaptive management approach as the understanding of each other's values and interests, activities, needs and aspirations grow during the course of ongoing consultation. This means that Woodside's Environment Plans may be updated from time to time so they accurately reflect environmental risk as they relate to BTAC's interests and values, and the management measures that Woodside and BTAC will put in place to avoid and otherwise mitigate and manage environmental risk.
  - BTAC can at any time can make direct representations to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) about the nature of BTAC's interests and how they may be affected by Woodside's activities.
  - **(3)** Woodside advised that in response to the provision of independent expert environmental management advice to BTAC, Woodside would be pleased to provide the resources necessary for BTAC to obtain and retain this advice on the basis that such advice is provided by an experienced and reputable oil and gas environmental management expert who is independent of Woodside, and who has the capacity to undertake this work to meet consultation schedules.
  - Woodside suggested a range of organisations for BTAC's consideration who are not working for Woodside.
  - **(4)** Woodside also advised it would be pleased to support BTAC to acquire anthropological advice.
  - Woodside advised, with reference to the timeframes described about activities unrelated to this EP, that environmental protection and management associated with these activities is subject to an adaptive management approach. This means that consultation between Woodside and BTAC about environmental risk and management responses is ongoing, and changes can be made to improve environmental protection and management practices over time, including in the associated Environment Plans (EPs). Woodside proposed the following next steps:
    - Woodside proposed if BTAC considers it appropriate, that the principles discussed in the letter of 17 March 2023 and BTAC's correspondence of 20 February 2023 (that was regarding matters unrelated to this EP) apply to the various decommissioning and drilling EPs that Woodside has notified BTAC about (which includes this EP). This would



ensure arrangements are formalised into regulatory processes and documentation. As per Woodside's ongoing consultation approach, feedback continues to be assessed through the life of the EPs.

- Woodside advised BTAC that its letter of 20 February 2023 and this response will be included in the EP. Woodside requested that if their feedback is sensitive, please inform Woodside, and it will make this known to NOPSEMA upon submission of the Environment Plans to ensure this information remains confidential to NOPSEMA.
- On 30 March 2023, Woodside spoke with BTAC to follow up on correspondence described above. BTAC indicated that they desired a consultation agreement and intended to provide correspondence accordingly.
- **(1 & 2)** On 17 April 2023, Woodside spoke with BTAC by telephone. The BTAC representative stated that they were aware that there were archaeological sites identified on nearshore islands and a cultural obligation to care for the environmental values of sea country. The BTAC representative stated there was in principle agreement to submission of current EPs while continuing to negotiate the collaboration agreement for support for rangers and support for recording of cultural values.
- On 18 April 2023, BTAC emailed a response regarding Woodside's consultation activities:
  - **(6)** BTAC agreed that subject to formalising arrangements, BTAC agrees in principle for Woodside to include the statements described in our letter dated 17 March.
  - **(6)** BTAC proposed that a Collaboration Agreement would be an appropriate mechanism to provide ongoing feedback to Woodside regarding its activities.
  - BTAC invited Woodside to a board meeting to discuss Scarborough activities and other short, medium and longer term activities, discuss BTAC's strategic plan and details of a collaboration agreement.
- On 19 April 2023, Woodside emailed to accept an invitation from BTAC to attend their forthcoming board meeting and requesting half a day of the board's time, preferably before the first week of May.
- On 28 April 2023, Woodside emailed BTAC to follow up in relation to BTAC's proposed collaboration agreement and discussed Environment Plans for other activities.
- On 4 May 2023, Woodside called BTAC. It was discussed that:
  - Woodside would be sending BTAC more EPs (for other activities) for consultation.
  - **(6)** Woodside was working on draft key terms/principles for the collaboration agreement for BTAC's consideration.
  - A meeting between Woodside and the BTAC board may be possible in June.
  - Woodside intended to submit EPs (including this proposed activity) soon.
- On 4 May 2023, BTAC emailed Woodside to continue discussion regarding a potential future meeting between Woodside and the BTAC board to discuss activities on Thalanyji Country; activities for which BTAC's ongoing consultation was sought, the collaboration agreement and other items not related to this proposed activity. It was proposed that BTAC invite Woodside to a BTAC monthly board meeting, that occurs at the end of the month.
- On 19 May 2023, Woodside phoned BTAC to inform them of some unrelated EPs to be notified and to talk about meeting BTAC to discuss this EP along with other EPs.
- On 19 May 2023, BTAC emailed Woodside about another EP, and to confirm that Woodside will prepare an overview presentation for BTAC on all existing and proposed EPs, including this EP.
- On 24 May 2023, Woodside emailed BTAC in relation to another EP and to confirm they will cover all EPs including this EP in a presentation to BTAC.
- **(6)** On 14 June 2023, Woodside emailed BTAC and attached a letter setting out a draft framework for ongoing consultation which included recording of Sea Country values, commitments to regular three-monthly meetings, support for BTAC's capacity to engage, a set of milestones for agreeing the framework and commencement of implementation.
- On 19 June 2023, Woodside emailed BTAC in relation to another EP and seeking confirmation of a meeting date and time.
- On 19 June 2023, BTAC emailed Woodside confirming they would like the new EPs included in the presentation Woodside was preparing for the upcoming meeting "in the near future".

- On the 6 July 2023, Woodside attempted to make contact via phone. BTAC did not answer.
- On the 7 July 2023, Woodside attempted to make contact via phone. BTAC did not answer.
- **(7)** On the 10 July 2023, Woodside followed a phone call with BTAC with an email seeking further confirmation that BTAC did not object to Woodside's submission of a number of EPs (including this one) that it was planning to submit to NOPSEMA. Woodside outlined a series of commitments to BTAC in order to ensure ongoing consultation and that a positive working relationship continued.
- On 19 July 2023, Woodside emailed BTAC NOPSEMA's Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information. This email also reiterated Woodside's request that BTAC advise Woodside of any other Traditional Custodian groups or individuals with whom Woodside should consult.
- On 19 July 2023, Woodside emailed BTAC seeking a time to continue discussion regarding a draft presentation to a meeting between Woodside and the BTAC Board about activities on Thalanyji country including other items not related to this proposed activity, and to discuss the collaboration principles.
- On 19 July 2023, BTAC emailed Woodside to organise a time for the discussion. BTAC also requested that maps be included of the EMBA's for the various EPs in relation to the Thalanyji native title determination area. In the email, BTAC also proposed to forward Woodside a Costs Acceptance Letter to address resourcing for on-going consultation.
- On 20 July 2023, Woodside emailed BTAC a draft presentation for discussion.
- On 26 July 2023, Woodside emailed BTAC Woodside's planned Program of Ongoing Engagement with Traditional Custodians.
- On 26 July 2023, Woodside emailed BTAC Woodside's template presentation further to an earlier draft for consideration.
- On 28 July 2023, Woodside emailed BTAC meeting details to join a Teams meeting of 28 July 2023.
- On 28 July 2023, BTAC emailed Woodside with outcomes of 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 noting that Woodside would be open to funding a special meeting with the board or sub-committee and requesting a cost estimate for such a meeting.
- On 31 July 2023, Woodside emailed 3 letters to BTAC, 1 of those letters related to another Woodside activity. The first letter outlined support for an ethnographic assessment to:
  - **(2)** identify sea country values generally sufficient to inform all Woodside EPs.
  - Any work necessary to clarify or define the offshore areas that are relevant to the Thalanyji People.
  - The delivery of interim reports if this will enable prioritising matters considered most critical by BTAC.
  - Woodside will be responsible for all reasonable costs to complete the assessment.
  - BTAC retains intellectual property.
  - The second letter outlined the requirement and sought support for a non-exclusive s91 license from BTAC as the recognised native title holders for an area where Woodside are seeking to undertake some decommissioning works.
- On 11 August 2023, BTAC emailed Woodside notifying that a response should be expected by the end of the week.
- On 15 August 2023, Woodside telephoned and emailed BTAC following up on correspondence from 31 July 2023, requesting to meet and discuss matters with BTAC.
- On 15 August 2023, Woodside emailed BTAC asking for feedback on the three letters sent on the 31 July 2023 addressing matters discussed previously including Woodside supporting BTAC in their recording of Sea Country values, outlining ethnographic assessment management strategies and noting another matter not related to this EP.
- On 22 August 2023, BTAC emailed Woodside acknowledging correspondence and noting it would come back with a time to meet and progress matters, within the following weeks.

- On 23 August 2023, Woodside emailed BTAC requesting to meet for an initial discussion to layout the various matters that had been under discussion, including BTAC's capacity and priority areas previously identified by BTAC.
- On 13 September 2023, Woodside emailed BTAC advising of the planned start date for the activity and requested feedback by 1 November 2023. Woodside also once again requested that if BTAC was aware of any other people with whom Woodside should consult, and if there was any information BTAC wished to provide on cultural values, to advise Woodside. Woodside also reiterated that Woodside would take feedback after the commencement of the activity as part of ongoing consultation. The Summary Information Sheet for this activity was attached.
- **(6)** 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. The letter included areas the agreed framework could address, and confirmed that the framework would allow BTAC to comment meaningfully on a range of issues including:
  - How/whether EP activities could impact cultural values, interests and customary or organisational activities and concerns and useful ways these could be addressed.
  - The content of EPs prior to submission to NOPSEMA.
  - Appropriate ways for mitigating risk and ensuring ongoing social licence. A further letter was attached outlining a proposed cost recovery mechanism for consultation activities, and BTAC stated that it did not sanction or endorse any consultation occurring without cost recovery.
- On 14 September 2023, Woodside emailed BTAC acknowledging BTAC's email of 14 September and planning further review and discussion.
- On 20 September 2023, BTAC emailed Woodside requesting a response from Woodside about accepting the proposed costs acceptance letter which BTAC sent on 14 September 2023 and requested a list of current and ongoing activities on which Woodside was seeking ongoing consultation.
- On 20 September 2023, BTAC emailed Woodside further to their earlier email, requesting a response to BTAC's cost proposal, a list of Woodside activities for ongoing consultation and an update on the status of the framework agreement for BTAC's review.
- **(6)** On 22 September 2023, Woodside emailed BTAC accepting BTAC's proposed consultation fee structure, the list of activities on which Woodside had consulted BTAC and advising that the draft framework agreement was under internal review.
- **(7)** On 26 September 2023, BTAC emailed Woodside acknowledging EP information received, signed costs and acceptance letter and that a draft agreement was currently under internal Woodside review. The email confirmed BTAC would be assisted with legal advice from Banks-Smith & Associates (BSA).
- On 27 September 2023, BSA emailed Woodside clarifying that they are instructed by BTAC on this matter.
- 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.
- **(9)** On 13 October 2023, 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.
- **(9)** On 31 October 2023, BSA emailed Woodside, requesting a response to the email about indemnifying BTAC.
- **(8)** 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.
- **(8)** 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.
- **(9)** 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.
- **(9)** 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.

- **(9)** 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.
- **(8)** 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.
- **(9)** 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:
  - **(4, 6 & 7)** 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.
- **(2, 3 & 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 anthropological support. Woodside confirmed support to pay reasonable costs for ethnographic/anthropological support for mapping and recording sea country values. Woodside requested to be contacted to enable progress on the above matters.

**Ongoing Relationship Building**

Woodside is continuing 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><b>(1)</b> BTAC stated its interests include archaeological sites identified on nearshore islands including the Montebello Islands, Barrow Island and the Montebello Islands.</p> <p><b>(2)</b> BTAC has a cultural obligation to care for the environmental values of Sea Country.</p> <p><b>(3)</b> BTAC requested Woodside supports BTAC in obtaining technical advice relating to the proposed activity sent to BTAC.</p>	<p><b>(1)</b> The nearshore islands identified by BTAC do not fall within the EMBA and will not be impacted by any of the activities set out in the EP.</p> <p><b>(2)</b> Woodside assessed BTAC’s cultural obligation to care for environmental values of Sea Country to represent potential cultural values.</p> <p><b>(3)</b> Woodside has offered financial support for technical advice and other support that has not been taken up (e.g., 17 March 2023 letter).</p> <p><b>(4)</b> Woodside will engage in ongoing consultation with BTAC for the purposes of ongoing monitoring, management and emergency response associated with environmental risk (e.g., 17 March 2023 letter).</p> <p><b>(5)</b> Woodside agreed to support the articulation and recording of sea country values. Since Woodside formally offered to support BTAC to undertake an ethnographic</p>	<p><b>(1)</b> Existing controls considered sufficient as described in <b>Section 8</b>. The First Strike Oil Spill Response Plan (for EPs where hydrocarbon spills may credibly occur) includes a requirement to notify Traditional Owners whose interests may be affected by a spill.</p> <p><b>(2)</b> Woodside updated <b>Section 5.6.1.5</b> to record BTAC’s interests and potential cultural values.</p> <p><b>(3)</b> Not required</p>

<p>(4) BTAC expressed desire to be involved in local emergency response capability, potentially via an Indigenous Ranger Program.</p> <p>(5) BTAC has not specifically developed values regarding Sea Country into a format that could be articulated for consultation. BTAC 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>(6) BTAC proposed a Collaboration Agreement as an appropriate mechanism to provide ongoing feedback to Woodside regarding its activities.</p> <p>(7) BTAC does not endorse any consultation without appropriate cost recovery BTAC expressed a desire for ongoing engagement and partnership.</p> <p>(8) BTAC invited Woodside to present at the BTAC Common Law Holders meeting.</p> <p>(9) BTAC's legal advisors requested an indemnity clause in the Collaboration Agreement against any court proceedings instigated by other parties against BTAC's consultation with Woodside on Woodside EPs.</p>	<p>assessment in July 2023, BTAC has not indicated that it desires to initiate the activity. Completion of an ethnographic assessment is not required to undertake or complete consultation under Regulation 25. Opportunity to undertake this work continues under the proposed Collaboration Agreement (see point 6) as part of ongoing engagement. Woodside has been able to develop a robust understanding of Thalanyji Sea Country cultural values and features in absence of this assessment.</p> <p>(6) Separate from consultation under Regulation 25, Woodside will establish a Collaboration Agreement with BTAC. The agreement would be used to frame ongoing consultation. Sufficient information to allow informed assessment has already been provided by other means, including Consultation Information Sheets and a Summary Information Sheet developed by Indigenous staff members, and slide packs associated with offered face-to-face meetings. Woodside and BTAC have agreed on a Costs Acceptance Letter. Woodside has developed a Framework Agreement for ongoing consultation which is under internal review and will be forwarded to BTAC for their consideration in December 2023. The agreement includes support for recording and articulation of Sea Country values.</p> <p>(7) Woodside assesses that the proposed Collaboration Agreement is an appropriate mechanism for addressing appropriate cost recovery for BTAC. Woodside has already offered BTAC support for technical advice (see 3), and informed BTAC that it would financially support consultation meetings (e.g., 13 Feb 23 discussion). As described in the summary above, Woodside has afforded sufficient information and reasonable time for BTAC to provide feedback in the course of preparing this EP.</p> <p>(8) Woodside met with BTAC members to establish the in-person relationship and re-iterate commitment to information that had previously been relayed through correspondence.</p> <p>(9) There was a delay to the previous target date for the Collaboration Agreement to be sent to BTAC due to the indemnity issue being put forward by BTAC's legal advisors. Woodside refused the request as it would not assist genuine engagement and consultation and leaves Woodside open to possible behaviours and court action from others who Woodside would not be engaging with.</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 10.4.4).</p>	<p>(4) The Program for Ongoing Engagement with Traditional Custodians (<b>Appendix E</b>) includes commitments to social investment to support Indigenous Ranger programs, and support for Indigenous oil spill response capabilities.</p> <p>(5) Woodside has taken all reasonable steps to identify cultural features and heritage features of Thalanyji people within the EMBA. This is described in <b>Section 5.6.1</b>. The proposed Collaboration Agreement recorded in <b>Appendix E</b> enables an ethnographic survey to be undertaken at a later date but is not required to discharge Regulation 25 requirements. 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 <b>Section 10.4.4</b>).</p> <p>(6) and (7) As identified in <b>Section 10.6</b> of this EP, Woodside will continue to consult following acceptance of the EP, as required by the implementation strategy as set out in regulation 22(15) of the Environment Regulations, this includes continued engagement regarding the Collaboration Agreement that Woodside seeks with BTAC, which could include ongoing support for BTAC to define and articulate values, provision of ongoing feedback and cost recovery. This is described further in the Program of Ongoing Engagement with Traditional Custodians, <b>Appendix E</b>.</p>
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		<p>(8) Ongoing consultation, as described in Section 6.7 and 10.6 of the EP.</p> <p>(9) Not required.</p>
<p><b>Yinggarda Aboriginal Corporation (YAC)</b></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>		
<p>Woodside has discharged its obligations for consultation under Regulation 25(1) and consultation with YAC for the purpose of 25(1) is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.5 of the EP. Specifically:</p> <p><b>Sufficient Information:</b></p> <ul style="list-style-type: none"> <li>• Woodside sought direction on YAC’s preferred method of consultation. This resulted in face-to-face meetings being coordinated at the location of YAC’s choosing, with YAC nominated representatives. These meetings included information that was readily accessible and appropriate.</li> <li>• Consultation Information Sheet was publicly available on the BHP website in February 2022, and the updated Consultation Information Sheet has been available on the Woodside website since February 2023.</li> <li>• 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.</li> <li>• 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.</li> <li>• Articulated planned and unplanned environmental risks and impacts, with proposed controls.</li> <li>• Confirmed the purpose of consultation and set out in detail what was being sought through consultation.</li> <li>• Asked for the consultation and information sheets to be distributed to members and individuals.</li> <li>• Provided NOPSEMA’s Brochure “Consultation on offshore petroleum EPs” and Guideline “Guideline: Consultation in the course of preparing an EP”.</li> <li>• Provided response to questions asked about the activity through consultation. Through these questions, YAC has displayed an understanding of the activities under this EP.</li> <li>• Advised that YAC could request the particular information provided in the consultation not be published (to align with 25(2)(4)).</li> </ul> <p><b>Reasonable Period:</b></p> <ul style="list-style-type: none"> <li>• Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, North West Telegraph, Pilbara News, Midwest Times (15 February 2023) and the Geraldton Guardian (17 February 2023) advising of the proposed activities and requesting comments or feedback.</li> <li>• Consultation information provided to YAC on 22 February 2023 based on their function, interest and activities.</li> <li>• Woodside has addressed and responded to YAC over 12 months demonstrating a “reasonable period” of consultation.</li> </ul> <p>Woodside advised that YAC could request that particular information provided in the consultation not be published (to align with 25(2)(4)).</p> <p>Woodside asked YAC if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult. None were identified.</p>		

Woodside has provided a reasonable opportunity for input since February 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, 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 10.4.4**).

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.

Woodside does not agree with YAC's assertion that it has not yet had sufficient time for consultation under regulation 25 for the activity. Woodside has assessed the claims and feedback raised by YAC, as detailed later in this section alongside Woodside's response to the claims. 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.

Woodside consulted on Griffin decommissioning activities collectively. Some of the items raised during consultation may not be directly relevant to this EP, however these items have been presented here for completeness.

**Summary of information provided and record of consultation:**

- On 22 February 2023, Woodside emailed YAC via YMAC advising of the proposed activity (Appendix F, reference 3.26) and provided a Consultation Information Sheet. Woodside noted it is seeking YAC's feedback as soon as possible on the proposed activity. Woodside stated that it would be grateful to meet with YAC at the earliest convenience at location of YAC's preference, providing budget and resources).
- On 24 February 2023, Woodside followed up with YAC/YMAC via phone call. YAC/YMAC advised it would send an email on 24 February to discuss an invitation for Woodside to meet with YAC.
- On 13 March 2023, Woodside met with YMAC legal representatives.
- On 20 March 2023, Woodside emailed YAC/YMAC to follow up the discussed invitation for a face-to-face meeting with its Board of Directors and offering a phone discussion if YAC had any questions on the activities in the meantime.
- On 23 March 2023, YAC via YMAC emailed Woodside and proposed a meeting on 3 May 2023 in Carnarvon and provided an estimate of its proposed costs. The invitation was accepted. and arrangements made for a pre-meeting with YMAC to coordinate details.
- On 23 March 2023, Woodside emailed YAC/YMAC confirming the meeting on 3 May 2023 stating that preference was to meet face to face to help develop relationships.
- On 23 March 2023, the YMAC lawyer emailed to arrange a pre-meet conversation on 31 April.
- On 24 March 2023, YAC/YMAC emailed Woodside proposing to meet on 31 March 2023.
- On 24 March 2023, Woodside responded to confirm the pre-meet conversation.
- On 30 March 2023, YAC via YMAC emailed Woodside to cancel the meeting planned for 31 March 2023.
- On 30 March 2023, Woodside emailed YAC via YMAC acknowledging the cancellation of the meeting.
- On 27 April 2023, Woodside emailed the YMAC lawyer to confirm timing and location for the face-to-face meeting on 3 May 2023, but the email bounced back requesting correspondence be forwarded to an alternate contact in YMAC.
- On 27 April 2023, Woodside forwarded the email seeking to confirm time and location for the planned meeting to the alternate contact in YMAC.
- On 27 April 2023, YMAC confirmed by email and phone call that they no longer represent Yinggara Aboriginal Corporation and that the meeting on 3 May 2023 had been cancelled. They informed Woodside that Gumala Aboriginal Corporation is now representing YAC and YMAC is in the process of hand over, including correspondence with Woodside. On 28 April 2023, Woodside attempted to call Gumala Aboriginal Corporation and left a voicemail to establish connection.

- On 27 April 2023, Woodside acknowledged YMAC email re Gumala Aboriginal Corporation transition to a new service provider.
  - On 28 April 2023, Woodside attempted to call Gumala Aboriginal Corporation and left a voicemail to establish connection.
  - On 28 April, Woodside emailed Gumala Aboriginal Corporation to establish contact and inform them of the prior context. Woodside stated that it is still interested in meeting with the YAC board if they are interested.
  - On 8 May, Woodside phoned Gumala Aboriginal Corporation to follow up the email, explaining that it is seeking to consult Yinggarda on the proposed activity and how the meeting had been cancelled. Gumala Aboriginal Corporation indicated that the email address previously contacted was correct and indicated that it would call back. No return call was received.
  - On 1 June 2023, Woodside emailed and phoned Gumala Aboriginal Corporation to speak with someone about consulting YAC on EPs. Reception said they would have a member of the governance team call back.
  - On 15 June 2023, Gumala Aboriginal Corporation (via YAC) emailed Woodside stating they were keen for Woodside to consult to the group. They indicated a date had been set for 6 July 2023 for a consultation meeting.
  - On 19 June 2023, Woodside emailed Gumala Aboriginal Corporation accepting the invitation to attend the YAC Board meeting, requesting a half day meeting with the YAC Board to allow YAC time to ask questions and have time to consider information.
  - On 21 June 2023, Gumala Aboriginal Corporation emailed Woodside inviting attendance at a half day YAC Board meeting to discuss other EP matters.
  - On 21 June 2023, Woodside emailed Gumala Aboriginal Corporation accepting the invite to attend the YAC Board meeting on 5 July, for a half day.
  - On 5 July 2023, Woodside presented to the YAC Board about several EPs, including this EP. At the meeting Woodside:
    - Described the EP framework, referring to the Offshore Petroleum and Greenhouse Gas Storage Act (Environment) Regulations, NOPSEMA's role as regulator and general contents of EPs;
    - 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;
    - Described the proposed activity, noting:
      - The types of vessels involved.
      - The 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 each proposed activity, and the individual worst-case loss of containment scenarios identified;
    - Stated that Woodside wanted to understand how the functions, activities or interests of YAC and the people it represents may be impacted by any of those activities.
    - Woodside 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 YAC for the life of the EP;
    - Provided personal contact details for further feedback. Woodside provided NOPSEMA contact details, should YAC desire to provide feedback directly to the regulator.
- At the 5 July 2023, meeting YAC asked the following questions and provided the following feedback:
- Whether Woodside has undertaken environmental studies and whether these studies are ongoing.



- What environmental monitoring happens after the EPs are 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.
  - **(1)** YAC expressed sadness at the potential for environmental impact.
    - Response: 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.
  - **(1)** YAC stated plants, animals and the environment are inexorably linked to their culture and asked: whether Woodside has undertaken environmental studies and whether these studies ongoing; and what environmental monitoring happens after the EPs are approved.
    - Response: Woodside has undertaken numerous environmental studies that form part of the EPs and has an ongoing commitment to environmental studies and research, some of which are set out on Woodside's website.
    - **(2)** 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.
  - **(1) (2)** YAC expressed concern about potential impacts to potential impact patterns of whales, and potential collisions. Woodside responded by explaining controls which would be in place to minimise impacts and risks to whales, and no further information was requested.
- On 17 July 2023, Woodside emailed YAC a letter summarising the 5 July meeting.
  - On 19 July 2023, Woodside emailed YAC NOPSEMA's Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information. This email also reiterated Woodside's request that YAC advise Woodside of any other Traditional Custodian groups or individuals with whom Woodside should consult.
  - On 19 July 2023, Woodside emailed YAC NOPSEMA's Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information. This email also reiterated Woodside's request that YAC advise Woodside of any other Traditional Custodian groups or individuals with whom Woodside should consult.
  - On 19 July 2023, YAC emailed Woodside acknowledging receipt of Woodside's email of 19 July.
  - On 26 July 2023, Woodside emailed MAC Woodside's planned Program of Ongoing Engagement with Traditional Custodians
  - On 2 August 2023 YAC's new lawyer emailed Woodside after 6 months of consultation, to advise that they had been placed on retainer by YAC to advise on NOPSEMA matters.
  - On 4 August 2023, YAC legal representative emailed Woodside confirming they have been retained by the YAC Board to deal with requests for consultation with them for NOPSEMA purposes. The email noted that YAC would like a consultation agreement for their consideration.
  - **(4) (5)** On 10 August 2023, YAC lawyer emailed Woodside to provide instructions that the YAC Board requires more time for consultation on this activity and other activities and seeking a consultation agreement and alternative funding arrangements.
  - On 11 August 2023, YAC (via Gumala) emailed Woodside confirming that BSA had been appointed to act as legal representative for YAC.
  - On 11 August 2023, Woodside emailed YAC to confirm its commitment to ongoing engagement with YAC, work with YAC on a consultation agreement and commencing processes to enable new funding arrangements.
  - On 14 August 2023, YAC emailed Woodside confirming arrangements for provision of resourcing.

<ul style="list-style-type: none"> <li>On 13 September 2023, Woodside emailed YAC advising of the planned start date for the activity, and once again requesting if YAC is aware of any other people with whom Woodside should consult, and if there is any information WGAC wish to provide on cultural values, and reiterating that Woodside will take feedback after the commencement of the activity as part of ongoing consultation. The Summary Information Sheet for this activity was attached.</li> <li>(3) On 13 September 2023, YAC via their law firm responded to Woodside advising that in the absence of a draft consultation agreement they were unable to respond in substance to the matters raised.</li> <li>(3) On 14 September 2023, Woodside emailed YAC via their law firm with a proposed consultation framework.</li> <li>(3) On 14 September 2023, YAC via their law firm confirmed receipt of the consultation framework and advised they would seek direction from the YAC Board.</li> <li>(6) On 13 October 2023, BSA emailed Woodside confirming they act for YAC 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 regarding the consultation they engaged on with Woodside EP's.</li> <li>(6) On 2 November 2023, Woodside emailed BSA noting they would not agree to the request to indemnify YAC against any court proceedings as a result of consultation they engage in with Woodside on EP's.</li> <li>(6) On 2 November 2023, BSA emailed Woodside requesting more detail about Woodside not supporting the indemnity request.</li> <li>(6) On 18 November 2023, Woodside emailed BSA with further information about why they will not indemnify YAC as requested in the 13 October 2023 email. Woodside explained that it could harm genuine engagement, may promote behaviors 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.</li> </ul>		
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 engagements related to this activity and others YAC requested further information on topics related to this proposed activity which was responded to during the meeting:</p> <ul style="list-style-type: none"> <li>whether Woodside has undertaken environmental studies and whether these studies are ongoing.</li> </ul> <p>YAC also expressed the following:</p> <ul style="list-style-type: none"> <li>sadness at the potential for environmental impact</li> <li>ranger programs could assist with environmental management and monitoring.</li> <li>concern about potential impacts to patterns of whales, and potential collisions.</li> </ul>	<p>(1) Woodside responded to YAC's requests for further information during face-to-face engagements, and no further information was requested on these topics.</p> <p>(2) Woodside noted YAC's interest in whales and responded by explaining controls protecting whales from an ecological perspective.</p> <p>(3) Separate from consultation under Regulation 25, Woodside will establish a framework agreement with YAC. The agreement would 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 (pictures, maps, video) and project attendance allowing opportunity to ask questions and seek further understanding.</p> <p>(4) Woodside does not agree with YAC's claim it requires more time for consultation on this on the activity. Woodside met with YAC's nominated representatives, at location of YAC's choice on 5 July a half day meeting where the activity was described face to face by Woodside project representatives, subject matter experts and First Nations relations advisers (see section 5 for approach). This included specifically developed "plain English" material developed by First Nations personnel in collaboration with technical</p>	<p>(1) Existing controls are considered sufficient, as described in <b>Section 8</b>.</p> <p>(2) Woodside updated <b>Section 5.6</b> to record YAC's interests, including whales and assessed potential impact on these.</p> <p>(3) Although consultation for the purpose of Regulation 25 is complete, Woodside will continue to engage with YAC through ongoing engagement and continue to progress with establishing a framework agreement as part of Woodside's Program of Ongoing Engagement with Traditional Custodians, <b>Appendix E</b>.</p> <p>(4) Not required.</p> <p>(5) Not required.</p> <p>(6) Not required</p>

<p>(2) YAC expressed a general interest in whales. Woodside discussed controls protecting whales from an ecological perspective during meetings in which they were raised, no further feedback or comment was received on these topics.</p> <p>(3) Woodside has provided a draft Consultation Framework Agreement which includes suggested timeframes to settle the agreement and timeframes for ongoing consultation with the Board.</p> <p>(4) YAC stated, after 6 months of consultation, that it requires further time to consider the proposed activity and other activities.</p> <p>(5) YAC stated it requires further funding and a consultation agreement to consider the proposed activity and other activities.</p> <p>(6) YAC requested Woodside provide an indemnity clause in the Framework Agreement.</p>	<p>experts, maps, pictures and a short video visually communicating the drilling process. During the meeting YAC representatives were encouraged to control the pace of the engagement and seek clarification. YAC asked questions about the activity (see points 1, 2 and 3) which indicates that material was engaged with.</p> <p>(5) Woodside has agreed to further reasonable costs and a consultation agreement relevant to:</p> <ul style="list-style-type: none"> <li>• Activities for which consultation under Regulation 25 is closed but for which ongoing consultation applies (such as this activity); and</li> <li>• For consultation under future EPs.</li> </ul> <p>(6) Woodside responded to YAC as to why it does not agree to YAC's indemnity request. 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 <b>Section 10.4.4</b>).</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.

Woodside has discharged its obligations for consultation under Regulation 25(1) and consultation with YMAC for the purpose of 25(1) is complete. Sufficient information and a reasonable period have been provided, as described in Section 6.4 of the EP. Specifically

- Consultation Information Sheet was publicly available on the BHP website in February 2022 and the updated Consultation Information Sheet has been available on the Woodside website since February 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, North West Telegraph, Pilbara News, Midwest Times (15 February 2023) and the Geraldton Guardian (17 February 2023) advising of the proposed activities and requesting comments or feedback.
- Provided Consultation Information Sheet and Consultation Summary Sheets to YMAC. 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.

**Reasonable Period:**

- Consultation information provided to YMAC on 21 February 2023 based on their function, interest and activities.

- Woodside addressed and responded to YMAC over a 12-month period, demonstrating a “reasonable period” of consultation. Woodside asked YMAC 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 February 2023 and a genuine two-way dialogue has occurred. Woodside engages in ongoing consultation, beyond that required by Regulation 25, 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 10.4.4). Woodside considers the measures and controls described in this EP address the potential impact from the proposed activity on YMAC functions, interests or activities. Woodside consulted on Griffin decommissioning activities collectively. Some of the items raised during consultation may not be directly relevant to this EP, however these items have been presented here for completeness.

**Summary of information provided and record of consultation:**

- On 21 February 2023, Woodside emailed YMAC advising of the proposed activity (Appendix F, reference 3.27) and provided a Consultation Information Sheet.
- On 13 March 2023, Woodside emailed YMAC as to whether YMAC considers itself a ‘relevant person’ under Regulation 2525(1) of the Environment Regulations for the purposes of consultation on EPs and, if so, whether that relevance is limited to a facilitation function in its capacity as a representative of Traditional Owner groups/corporations that overlap or adjacent to the environment that may be affected (EMBA) of a particular activity.
- On 15 March 2023, Woodside emailed YMAC requesting a position on whether YMAC consider itself a ‘relevant person’ under the Environment Regulations for the purpose of consultation in EPs.
- **(1)** On 20 March 2023, YMAC replied to confirm that in its view it is a ‘relevant person’ under Regulation 2525 (1) of the Environment Regulations for the purposes of consultation on EPs only in relation to its facilitation and coordination function as a Native Title Representative Body under applicable federal legislation. YMAC does not intend to provide substantive comment on the content of EPs.
- On 20 March 2023, Woodside emailed YMAC to thank it for its reply and to advise that that this assessment would be included in Woodside’s EPs.
- On 20 March 2023, YMAC emailed Woodside confirming that they agree to their advice being included in reporting (YMAC is the representative for NTGAC and was the representative for Yinggarda Aboriginal Corporation until April 2023).
- On 12 June 2023, YMAC emailed Woodside on behalf of itself and its clients. The email attached:
  - **(2)** a proposal to fund in-house expertise to support consultations and administration of the consultation framework
  - **(2)** a draft consultation framework.
- On 12 June 2023, Woodside emailed YMAC, thanking them for the documents and informing them that Woodside would respond shortly.
- On 25 July 2023, Woodside emailed YMAC:
  - 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.
  - stating that Woodside is open to considering an industry funded position at YMAC to support the work they are facilitating.
  - seeking a meeting with YMAC in relation to the draft consultation framework at YMAC’s earliest convenience.

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) YMAC has provided feedback that in its view it is a 'relevant person' under Regulation 25 (1) of the Environment Regulations for the purposes of consultation on EPs only in relation to its facilitation and coordination function as a Native Title Representative Body under applicable federal legislation and does not intend to provide substantive comment on the content of EPs.</p> <p>(2) YMAC has provided feedback that it is seeking an industry funded position to support consultations for this and other activities.</p> <p>YMAC has provided a draft consultation framework to assist the consultation process.</p>	<p>(1) Woodside notes YMAC's position that it does not intend to provide substantive comment on EPs.</p> <p>(2) 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>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 <b>Section 10.4.4</b>).</p>	<p>(1) Not required.</p> <p>(2) Although consultation for the purpose of Regulation 25 is complete, Woodside will continue to engage with YMAC through ongoing engagement and continue engaging with YMAC in relation to its request for an industry funded position and a draft consultation framework. This is described further in the Program of Ongoing Engagement with Traditional Custodians, <b>Appendix E</b>.</p>
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**Local government and community representative groups or organisations**

**Shire of Ashburton**

Woodside has discharged its obligations for consultation under Regulation 25(1) and consultation with the Shire of Ashburton for the purpose of 25(1) is complete. Sufficient information and a reasonable period have been provided, as described in Section 6.4 of the EP. Specifically:

- Consultation Information Sheet was publicly available on the BHP website in February 2022, and the updated Consultation Information Sheet has been available on the Woodside website since February 2023.
- Consultation information provided to Shire of Ashburton on 31 January 2022 based on their function, interest and activities.
- Woodside published advertisements in a national, state, and relevant local newspapers including The Australian, The West Australian, North West Telegraph, Pilbara News, Midwest Times (15 February 2023) and the Geraldton Guardian (17 February 2023) advising of the proposed activities and requesting comments or feedback.
- Woodside has addressed and responded to Shire of Ashburton over a 24-month period.

Woodside consulted on Griffin decommissioning activities collectively. Some of the items raised during consultation may not be directly relevant to this EP, however these items have been presented here for completeness.

**Summary of information provided and record of consultation:**

- On 31 January 2022, Woodside emailed the Shire of Ashburton and provided the Griffin Decommissioning Environment Plans Fact Sheet (Appendix F, reference 1.11).
- On 2 February 2022, Shire of Ashburton responded and advised Woodside's email had been forwarded to the Shire's Waste Team for response, noting that the Shire's C4 land site was a primary opportunity for managing waste streams.
- On 2 March 2022, Woodside sent a reminder email with an invitation for the Waste Team to provide feedback.

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- On 5 September 2022, Woodside provided additional information relating to its proposed plans to leave *in situ* concrete gravity bases, piled foundations and anchors at or below the mudline under the proposed EP (Appendix F, reference 2.22).
- On 17 February 2023, Woodside emailed Shire of Ashburton advising of the proposed activity (Appendix F, reference 3.19) and provided a Consultation Information Sheet.
- On 2 March 2023, Woodside met with Shire of Ashburton and discussed Environment Plans and consultation including the activities proposed under this EP. No concerns or questions were raised about the proposed activity.
- On 8 May 2023, Woodside attended an Onslow Community Information Night hosted by the Shire of Ashburton and presented on decommissioning activities. There were no questions raised about the proposed activity.

As stated, the summary above demonstrates that Woodside's consultation with Shire of Ashburton for the purpose of 25(1) is complete. However as per Woodside's ongoing commitment to consultation, engagement with Shire of Ashburton continues as summarised below;

**Ongoing consultation:**

- On 7 August 2023, Woodside emailed the Shire of Ashburton on a variety of matters/query responses (for other EPs) including organising an opportunity to brief the Shire's Local and District Emergency Management Committee (LEMC) on its approach to managing a hydrocarbon release in the highly unlikely event this occurs.
- On 14 August 2023, Shire of Ashburton emailed Woodside thanking it for the response which was deemed sufficient and inviting Woodside to present at the Shire's December community information sessions. It was also suggested that for more regular information sharing, Woodside could submit articles to the *Onslow Pipeline*.
- On 26 September 2023, Woodside emailed the Shire of Ashburton asking when the next Shire's LEMC meeting was.
- On 26 September 2023, Shire of Ashburton responded with the next LEMC meeting date and shared the contact details for Woodside to be added to the invite list.
- On 26 September 2023, Woodside emailed Shire of Ashburton with a list of desired meeting attendees to be invited and confirmed start time.
- On 26 September 2023, Shire of Ashburton responded with Teams link invite and confirmed contact details of Woodside requested attendees. The Shire advised it will confirm the exact presentation time, closer to the meeting date.
- On 17 October 2023, the Shire of Ashburton and Woodside exchanged further emails confirming presentation start time and attendee details.
- On 21 November 2023, Woodside presented at the Shire of Ashburton LEMC meeting and provided:
  - An overview of proposed activities relevant to the Shire including this EP;
  - An outline of the consultation approach and explanation of the EMBA as a modelling process of the broadest spatial extent an unplanned hydrocarbon release could spread based on a number of conditions;
  - Details of the oil spill response approach in the highly unlikely event of a hydrocarbon spill;
  - Woodside's key steps when activating an oil spill response plan;
  - Shire of Ashburton thanked Woodside for presenting to the committee and no questions or concerns were raised.
- On 27 November 2023, Woodside emailed Shire of Ashburton with Woodside contact details for the LEMC, as per meeting action.

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>Shire of Ashburton responded and advised Woodside's email had been forwarded to the Shire's Waste Team for response. No further feedback received.</p> <p>Shire of Ashburton met with Woodside and attended a presentation on decommissioning activities. No concerns or questions were raised about the proposed activity.</p> <p>Shire of Ashburton requested Woodside to present to the Shire's Local and District Emergency Management Committees (LEMC) on its planned responses to such events, before any activities commence. Advised the next one was Nov 2023.</p> <p>No questions or comments were raised.</p>	<p>Woodside presented at the Shire of Ashburton's LEMC on oil spill response.</p> <p>Woodside notes that no objections or claims were raised about the proposed activity by the Shire.</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 <b>Section 10.4.4</b>).</p>	<p>Woodside considers that 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><b>Onslow Chamber of Commerce and Industry (CCI)</b></p>		
<p>Woodside has discharged its obligations for consultation under Regulation 25(1) and consultation with Onslow CCI for the purpose of 25(1) is complete. Sufficient information and a reasonable period have been provided, as described in Section 6.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> <li>• Consultation Information Sheet was publicly available on the BHP website in February 2022, and the updated Consultation Information Sheet has been available on the Woodside website since February 2023.</li> <li>• Consultation information provided to Shire of Ashburton on 5 September 2022 based on their function, interest and activities.</li> <li>• Woodside published advertisements in a national, state, and relevant local newspapers including The Australian, The West Australian, North West Telegraph, Pilbara News, Midwest Times (15 February 2023) and the Geraldton Guardian (17 February 2023) advising of the proposed activities and requesting comments or feedback.</li> <li>• Woodside has addressed and responded to Shire of Ashburton over a 17-month period.</li> </ul> <p>Woodside consulted on Griffin decommissioning activities collectively. Some of the items raised during consultation may not be directly relevant to this EP, however these items have been presented here for completeness.</p> <p><b>Summary of information provided and record of consultation:</b></p> <ul style="list-style-type: none"> <li>• On 5 September 2022, Woodside provided additional information relating to its proposed plans to leave <i>in situ</i> concrete gravity bases, piled foundations and anchors at or below the mudline under the proposed EP (Appendix F, reference 2.22).</li> <li>• On 2 March 2023, Woodside met with the Onslow Chamber of Commerce and Industry and discussed Environment Plans and consultation, including the activities proposed under this EP. Onslow CCI provided feedback they are over consulted by industry and do not provide comment back to operators but do share consultation materials with their Board. Woodside sought advice on how to continue sending consultation materials to the Onslow CCI for consultation on the EMBA. Woodside indicated it would check in periodically on any feedback.</li> </ul>		

<ul style="list-style-type: none"> <li>On 8 May 2023, Woodside attended an Onslow Community Information Night hosted by the Shire of Ashburton. Woodside presented on decommissioning activities, including the activities proposed under this EP. Onslow Chamber of Commerce and Industry representatives attended. No concerns or questions were raised about the proposed activity.</li> </ul>		
Inclusion in Environment Plan	Woodside Energy's Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
<p>Onslow Chamber of Commerce and Industry met with Woodside and attended a presentation on decommissioning activities. No concerns or questions were raised about the proposed activity.</p> <p>Whilst feedback has been received, there were no objections or claims.</p>	<p>Woodside notes that no concerns or objections were raised with respect to the proposed activity.</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 <b>Section 10.4.4</b>).</p>	<p>Woodside considers the measures and controls in the EP address the Onslow Chamber of Commerce and Industry's functions, interests or activities.</p> <p>No additional measures or controls are required.</p>
<b>Other non-government groups or organisations</b>		
<b>Greenpeace Australia Pacific (GAP)</b>		
<p>Woodside has discharged its obligations for consultation under Regulation 25(1) and consultation with GAP for the purpose of 25(1) is complete. Sufficient information and a reasonable period have been provided, as described in Section 6.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> <li>Consultation Information Sheet was publicly available on the BHP website February 2022, and the updated Consultation Information Sheet has been available on the Woodside website since February 2023.</li> <li>Woodside published advertisements in a national, state, and relevant local newspapers including The Australian, The West Australian, North West Telegraph, Pilbara News, Midwest Times (15 February 2023) and the Geraldton Guardian (17 February 2023) advising of the proposed activities and requesting comments or feedback.</li> <li>Consultation information provided to GAP on 3 March 2023 based on their function, interest and activities.</li> <li>Woodside has addressed and responded to GAP over 11-month period.</li> </ul> <p>Woodside consulted on Griffin decommissioning activities collectively. Some of the items raised during consultation may not be directly relevant to this EP, however these items have been presented here for completeness.</p> <p><b>Summary of information provided and record of consultation:</b></p> <ul style="list-style-type: none"> <li>On 16 February 2023, GAP emailed Woodside seeking recognition as a relevant person for EP consultation purposes and requested additional information on the decommissioning of the Griffin Field. GAP requested:             <ul style="list-style-type: none"> <li>Updated versions of the three Griffin EPs currently being assessed by NOPSEMA.</li> <li>A full text copy of the BHP Griffin Foam Study - Long-term Fate of Polyurethane Foam in the Marine Environment of Western Australia.</li> <li>Details on the content, chemical properties and toxicity of the foam in the Griffin riser turret mooring.</li> <li>Details on the risk of the foam in the Griffin riser turret mooring escaping and the potential environmental harm that may result if that were to occur.</li> <li>A detailed history of maintenance and inspections conducted on the Griffin riser turret mooring since it sank, including information on whether the structure has since been subject to further deterioration.</li> </ul> </li> </ul>		



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- Details on ongoing maintenance and inspection planning for the Griffin riser turret mooring until such time as it can be completely decommissioned.
- Details on how Woodside will respond should contaminants be released from the Griffin riser turret mooring before it can be completely decommissioned.
- Details on compliance with NOPSEMA General Direction 832, which requires Woodside to publish an annual progress report on its web site.
- On 3 March 2023, Woodside responded to GAP and advised that:
  - Full copies of draft EPs are not available while they are being developed or under assessment, and that Greenpeace had been provided an information sheet that provided information about proposed decommissioning.
  - The 2022 progress report will be published on the Woodside website once accepted by NOPSEMA.
- On 31 March 2023, GAP sent an email/letter to Woodside:
  - Noting there are three proposed EPs for the decommissioning of the Griffin field, including the activities proposed under this EP.
  - Requested advice on relevant person status.
  - Requested a description of Woodside’s process for relevant person consultation.
  - Requested an updated version of each of the proposed Griffin decommissioning EPs.
- On 6 June 2023, Woodside responded to GAP:
  - Noting GAP’s ongoing interest in the decommissioning activities and advised Woodside’s consultation with GAP was iterative and ongoing.
  - Advising the current Griffin decommissioning EPs are under assessment with NOPSEMA and during this assessment process any amendments Woodside made to the proposed activities have been described in a Consultation Information Sheet provided to GAP on 14 February 2023 via subscription and via email on 3 March, 2023. A final revision of the full EPs will be publicly available once accepted by the regulator.
  - Noting its continued compliance with Regulation 25 in relation to the consultation process for the Griffin decommissioning EPs including ongoing consultation with relevant persons throughout the life an EP.

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>GAP sought recognition as a Relevant Person for EP consultation purposes and requested additional information issues relating to another EP.</p>	<p>Woodside responded to GAP and advised full copies of draft EPs are not available while they are being developed or under assessment, and that GAP had been provided an information sheet that provided information about proposed decommissioning.</p> <p>Woodside advised GAP that the 2022 progress report will be published on the Woodside website once accepted by NOPSEMA.</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 <b>Section 10.4.4</b>).</p>	<p>Woodside has consulted GAP in the course of preparing this EP. Woodside has assessed the claims or objections raised by GAP. Woodside has committed to retrieving foam in the highly unlikely event that it is released from the compartment.</p> <p>Woodside considers the measures and controls described within this EP address the potential impact from the proposed activities on GAP’s functions, interests or activities.</p> <p>No additional EP controls are required.</p>

Woodside has discharged its obligations for consultation under Regulation 25(1) and consultation with Friends of the Earth for the purpose of 25(1) is complete. Sufficient information and a reasonable period have been provided, as described in Section 6.4 of the EP. Specifically:

- Consultation Information Sheet was publicly available on the BHP website in February 2022, and the updated Consultation Information Sheet has been available on the Woodside website since February 2023.
- Consultation information provided to Friends of the Earth on 8 February 2023 based on their function, interest and activities.
- Woodside published advertisements in a national, state, and relevant local newspapers including The Australian, The West Australian, North West Telegraph, Pilbara News, Midwest Times (15 February 2023) and the Geraldton Guardian (17 February 2023) advising of the proposed activities and requesting comments or feedback.
- Woodside has addressed and responded to Friends of the Earth over a 12-month period.

Woodside consulted on Griffin decommissioning activities collectively. Some of the items raised during consultation may not be directly relevant to this EP, however these items have been presented here for completeness.

**Summary of information provided and record of consultation:**

- On 11 January 2023, Friends of the Earth emailed Woodside requesting a meeting as the new Offshore Gas Campaigner for Friends of the Earth, with a brief to concentrate on the decommissioning process.
- On 23 January 2023, Woodside responded requesting a suitable date/time for a videocall in early February 2023.
- On 23 January 2023, friends of the Earth emailed with a suitable time.
- On 30 January 2023, Woodside confirmed the time and advised an invite would be sent.
- On 8 February 2023, Woodside had a meeting with Friends of the Earth of Australia:
  - Friends of the Earth provided Woodside an overview of the organisation’s functions, activities and interests.
  - Woodside provided an overview of its upcoming decommissioning activities, including activities proposed under this EP.
  - Friends of the Earth advised its desire for recycling, but also to leave certain infrastructure *in situ* because of the habitat it has created. Friends of the Earth also expressed its views on dredging to minimise turbidity and working with Traditional Custodians to be guided on their views.
  - Woodside provided an overview of its expanded approach to consultation on the EMBA for proposed activities, including risks and mitigations.
- On 9 February 2023, Woodside emailed Friends of the Earth Australia thanking it for its time to meet with Woodside on 8 February 2023. Woodside summarised the proposed activities, including the activities proposed under this EP and provided a link to the Activity Update Consultation Information Sheet as well as Woodside’s Consultation website which can be subscribed to.
- On 30 May 2023, Woodside had an email exchange with Friends of the Earth to arrange an update on Woodside’s decommissioning activities, including the activities proposed under this EP.
- On 30 May 2023, Woodside met with Friends of the Earth Australia and discussed the merits of leaving infrastructure *in situ*, where there are net environmental benefits for marine life and/or other relevant considerations. It was agreed a meeting to discuss decommissioning further would be beneficial.
- On 6 June 2023, Woodside sent an email to Friends of the Earth Australia thanking it for the 30 May 2023 discussion and provided a copy of a number of Consultation Information Sheets, including the activities proposed under this EP and offered to arrange a meeting.

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>Friends of the Earth provided feedback including:</p> <ul style="list-style-type: none"> <li>advising its desire for recycling, but also to leave certain infrastructure <i>in-situ</i> because of the habitat it has created.</li> <li>its views on dredging to minimise turbidity</li> <li>working with Traditional Custodians to be guided on their views.</li> <li>advising that its interest is in marine life, social justice and Indigenous issues, and welcomed a further meeting to further discuss proposed decommissioning activities.</li> </ul> <p>Whilst feedback has been received, there were no objections or claims.</p>	<p>Woodside has addressed Friends of the Earth's feedback, including:</p> <ul style="list-style-type: none"> <li>providing an overview of its expanded approach to consultation on the EMBA for proposed activities, including risks and mitigations.</li> <li>recommending Friends of the Earth subscribe to the Woodside Consultation Page to receive all the latest updates on all Woodside's proposed activities.</li> <li>agreeing to send further information about proposed decommissioning activities</li> </ul> <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 <b>Section 10.4.4</b>).</p>	<p>Woodside considers the measures and controls in the EP address the potential impact from the proposed activities on Friends of the Earth's functions, interests or activities.</p> <p>No additional measures or controls are required.</p>
<p><b>Maritime Union of Australia (MUA)</b></p>		
<p>Woodside has discharged its obligations for consultation under Regulation 25(1) and consultation with the MUA for the purpose of 25(1) is complete. Sufficient information and a reasonable period have been provided, as described in Section 6.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> <li>Consultation Information Sheet was publicly available on the BHP website in February 2022, and the updated Consultation Information Sheet has been available on the Woodside website since February 2023.</li> <li>Woodside published advertisements in a national, state, and relevant local newspapers including The Australian, The West Australian, North West Telegraph, Pilbara News, Midwest Times (15 February 2023) and the Geraldton Guardian (17 February 2023) advising of the proposed activities and requesting comments or feedback.</li> <li>Consultation information provided to MUA on 20 May 2022 based on their function, interest and activities.</li> <li>Woodside has addressed and responded to MUA over an 21-month period.</li> </ul> <p>Woodside consulted on Griffin decommissioning activities collectively. Some of the items raised during consultation may not be directly relevant to this EP, however these items have been presented here for completeness.</p> <p><b>Summary of information provided and record of consultation:</b></p> <ul style="list-style-type: none"> <li>On 20 May 2022, the MUA sent a letter to NOPSEMA which was provided to Woodside with respect to the decommissioning of the Griffin field, including the activities proposed under this EP. The MUA:             <ul style="list-style-type: none"> <li>Noted concerns with infrastructure proposed to be left <i>in situ</i> rather than remove it under the Offshore Petroleum and Greenhouse Gas Storage (OPGGS) Act.</li> <li>Stated that the MUA's position that full removal of infrastructure should always be the preferred practice.</li> </ul> </li> <li>On 20 September 2022, Woodside sent a letter to the MUA noting it had received its 20 May 2022 correspondence via NOPSEMA and thanking it for its feedback. Woodside:             <ul style="list-style-type: none"> <li>Noted the MUA's views with respect to the OPGGS Act and decommissioning provisions and referred the MUA to the wider decommissioning provisions of the legislation.</li> </ul> </li> </ul>		

- Referred the MUA to decommissioning information available on NOPSEMA's website and from DISR, which confirms that removal of infrastructure is not the only available decommissioning option under the OPGGS Act.
- Noted that each of the Griffin Eps, including the activities proposed under this EP, sets out an assessment of feasible decommissioning options or alternatives for each piece of equipment or infrastructure and also risk assesses the alternatives so as to manage risk to ALARP, which is consistent with the provisions of the OPGGS Act.
- Woodside referred the MUA to Section 3 and Section 8 of the Eps.
- On 21 February 2023, Woodside emailed the MUA advising of the proposed activity (Appendix F, reference 3.22) and provided a Consultation Information Sheet.
- On 10 March 2023, Woodside sent a reminder email to the MUA advising of the proposed activity (Appendix F, reference 4.2) and provided a Consultation Information Sheet.
- On 15 March 2023, the MUA emailed thanking Woodside for the opportunity to comment on the Griffin Decommissioning Eps. The MUA advised it had no further comments to make on the projects.
- On 15 March 2023 Woodside responded thanking the MUA for its response.
- On 30 May 2023, Woodside met the new MUA representative at an industry conference and committed to follow up directly later in relation to the MUA position of removal of all infrastructure.
- On 6 June 2023, Woodside sent an email to the MUA thanking it for the 30 May 2023 discussion and provided a copy of a number of Consultation Information Sheets, including the activities proposed under this EP.
- On 14 June 2023, the MUA sent an email thanking Woodside for its 6 June 2023 email and provided potential dates for a meeting.
- Between 15 June 2023 and 22 June 2023, Woodside and MUA sent email correspondence to arrange a meeting on 5 July 2023.
- Between 3 July and 4 July Woodside and MUA exchanged emails to arrange an alternative meeting time.
- On 18 July 2023, MUA emailed Woodside requesting further information and a meeting regarding Griffin with equipment left *in situ*. MUA advised it had not provided feedback regarding this to-date, however, now had reason to need further details. Information required included options assessment and criteria, images of equipment, final footprint and cumulative impacts of equipment left *in situ*. The request to meet is guided by design principles allowing for drag anchors to be removed. MUA further noted:
  - Woodside does list a feasible option for the Griffin anchors.
  - It does not believe leaving equipment in situ will result in an equal or better outcome.
  - Issues already flagged by DNP, NCWHAC, Tuna Australia and WAFIC requires that MUA review all information at hand prior to addressing concerns with the regulator.
- On 20 July 2023, Woodside responded to the MUA seeking available times to meet and discuss the information requested.
- On 21 July 2023, MUA responded with its meeting time availability.
- On 27 July 2023, Woodside offered meeting times suitable to the MUA.
- On 27 July 2023, MUA responded with a date to meet of 4 August 2023.
- On 31 July 2023, Woodside set up the meeting for 4 August 2023 and agreed to provide information in advance of the meeting.
- On 3 August 2023, Woodside sent a briefing note to the MUA in response to the MUA's request for information in advance of the meeting.
- On 4 August 2023, Woodside met with the MUA to answer questions in relation to the decommissioning EPs where equipment was left *in-situ*, including this EP. Summary of meeting as follows:
  - Woodside provided an overview of the in situ activities covered in this EP.

- MUA asked questions in relation to the anchor chains and how much of the anchor will be below the mudline. Woodside advised anchors are currently buried and it is proposed they are cut off at the chain up to 1 m from the mudline (to avoid seabed disturbance).
- In outlining the options assessment approach before any in situ decision, Woodside advised careful consideration is given to the best environmental and social outcome. Woodside advised various factors are weighed up including feedback from stakeholders to then provide a case to the regulator.
- MUA noted fisheries must like the decision to leave equipment in situ.
- MUA discussed recent research about steel contamination and requested Woodside provide the source for a report that was referenced in an unrelated EP. Woodside responded to this request in a letter sent to the MUA on 20 October 2023 (see below). MUA highlighted a recent CSIRO study in the Bass Strait that said more analysis on steel contamination is required.
- MUA noted its role was to look after the social side of decommissioning work and represent workers. Woodside advised the MUA the *in situ* decommissioning work was part of a larger campaign that involved the employment of maritime workers across many large decommissioning activities.
- MUA said looking at other stakeholder feedback deviation appeared to be a hot topic. MUA committed to send Woodside more information via email in the interest of time.
- The MUA stated the new consultation requirements were critical and the MUA had benefited from this. The MUA advised the more succinct and targeted the communication, the better.
- On 28 August 2023, the MUA sent correspondence via NOPSEMA as a follow up to the 4 August meeting summarised as follows:
  - MUA, as a key stakeholder in the industry, is a 'relevant person'.
  - MUA reviewed the consultation information received for this EP and requested further information which resulted in a meeting with Woodside. After the meeting the MUA remained unconvinced an equal or better outcome would be achieved by leaving equipment in the ocean.
  - MUA rejected Woodside's requests to leave infrastructure in situ and points out that Woodside appears to be exhausting available time allowed by the regulator to seek concessions rather than adhere to the OPGGS Act.
  - MUA stated all equipment to be left in perpetuity has alternatives for feasible removal.
  - MUA stated removing the 12 drag anchors is a straightforward process and warrants removal as per the OPGGS Act.
  - In an unrelated EP, Woodside referred to numerous studies about leaving steel in situ; the MUA requested the sources for this research be made available by Woodside. A recent CSIRO study raises issues for the safety of marine life in the vicinity of oil and gas fields and as such requires further analysis. MUA advised the full impact of sea dumping is careless, unnecessary and should be avoided.
- On 5 September 2023, the MUA sent Woodside its guide to consultation entitled *Preferred Consultation – For titleholders in the course of preparing for offshore infrastructure decommissioning*. The guide outlined the following:
  - The document's purpose – outlining MUA's priorities within the scope of current statutory consultation requirements.
  - MUA's identification as a 'relevant person' for decommissioning activities.
  - MUA's position on decommissioning offshore oil and gas infrastructure, that it – to progress positive outcomes for its membership and a belief that there is no benefit for the workforce or community in leaving infrastructure in the ocean.
  - The stakeholder engagement records shall not be misrepresented and the MUA will contest any titleholder efforts that are tokenistic or superficial.
  - A benchmark of genuine consultation for a titleholder is to return a reasonable and supported assessment of the MUA's responses and objections, supported by how the consultation has informed the adoption of alternate measures.
  - A minimum period of three months is reasonable for consultation information to be considered.

- A useful summary for MUA purposes would feature vessel specifications, images, contractor and crew agency details to assist members to prepare for upcoming work. This is unrelated to this EP.
- When scientific evidence is purported to justify 'equal or better outcomes', this material is freely available upon request.
- A concise and specific summary of deviation from base case of full removal is provided.
- All objections and significant concerns that are raised by an individual stakeholder are shared by the titleholder to all other relevant persons.
- On 20 October 2023, Woodside responded to MUA's letter received via NOPSEMA on 28 August 2023 as follows:
  - Woodside met with the MUA on 4 August 2023 and providing additional information on the *in situ* activities included in this EP.
  - Woodside explained the environmental considerations and options assessment and criteria used to determine this outcome.
  - Woodside advised it had fairly demonstrated alternative decommissioning approaches of not removing some infield equipment as these deliver equal or better environmental outcomes compared with complete removal.
  - Woodside requested more specific information to be able to locate the research referenced by the MUA in an unrelated EP as this could not be found. Woodside did not receive a response at the time of the EP submission.
  - Woodside noted receiving MUA's recent guide to consultation and committed to ongoing discussion on decommissioning activities.
  - Woodside reaffirmed that leaving some infrastructure is warranted, not only on safety grounds but as it does deliver equal or better environmental outcomes.
  - This EP will show the options assessment and alternatives for each piece of equipment and the risk assessment so as to manage risk to As Low As Reasonably Practical.
  - MUA's feedback on this EP will be included in the EP submission.
- On 20 October 2023, Woodside responded to MUA's 5 September 2023 correspondence as follows:
  - Woodside notes:
    - the MUA considers itself relevant for decommissioning activities and we will continue to consult the MUA for these activities.
    - the MUA position that there is no benefit for the workforce or community in leaving infrastructure in the ocean. Woodside noted that alternate decommissioning options where there is equal or better environmental outcomes compared to complete removal will be considered. In doing so, Woodside must meet all applicable requirements under the OPGGS Act and regulations, and other applicable laws. Woodside is willing to share this information with the MUA where feasible.
    - Environment Plan consultation outcomes with stakeholders with full transcripts is accurately reflected in documentation provided to NOPSEMA.
    - It would be inappropriate and impractical to share claims of one relevant person with all relevant persons consulted. Summaries of consultation is included in Environment Plans where stakeholders have not requested confidentiality. Claims received from a relevant person are specific to their interest, activities or functions and may not be specific to another relevant person's interest, activities or functions.
  - Woodside will
    - provide sufficient time and information for relevant persons to assess the impacts to their functions, interests or activities, however, a blanket three month period following receipt of consultation information may not be suitable. Woodside will discuss the approach with the MUA for each activity so that information is provided in a concise form and understandable, and within a suitable timeframe for both parties.

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>The Maritime Union of Australia provided feedback, including:</p> <ul style="list-style-type: none"> <li>• Noted concerns with infrastructure proposed to be left <i>in situ</i> rather than remove it under the OPGGS Act.</li> <li>• Stated that it's the MUA's position that full removal of infrastructure should always be the preferred practice.</li> <li>• New research determines that further investigation is required into the impact of steel contamination over time, from equipment left in situ.</li> </ul>	<p>Woodside has addressed the MUA's feedback, including:</p> <ul style="list-style-type: none"> <li>• Referring the MUA to decommissioning information available on NOPSEMA's website and DISR, which confirms that removal of infrastructure is not the only available decommissioning option under the OPGGS Act.</li> <li>• Noting that the activities proposed under this EP set out an assessment of feasible decommissioning options or alternatives for each piece of equipment or infrastructure and also risk assesses the alternatives so as to manage risk to ALARP, which is consistent with the provisions of the OPGGS Act.</li> <li>• Referring the MUA to Sections 3 and Section 8 of the EPs for its assessment.</li> <li>• Reaffirming that leaving some infrastructure is warranted, not only on safety grounds but as it delivers equal or better environmental outcomes.</li> <li>• Acknowledging the recent CSIRO research, however unrelated to this EP and location of the activity, and seeking further information to be able to share Woodside references to related research in an unrelated EP.</li> </ul> <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 <b>Section 10.4.4</b>).</p>	<p>Woodside has consulted the MUA in the course of preparing this EP. Woodside has assessed the claims or objections raised by the MUA. No additional measures or controls have been put in place.</p> <p>Woodside considers the measures and controls described within this EP address the potential impact from the proposed activities on the MUA's functions, interests or activities.</p>
<p><b>Research institutes and local conservation groups or organisations</b></p>		
<p><b>Australian Institute of Marine Science (AIMS)</b></p>		
<p>Woodside has discharged its obligations for consultation under Regulation 25(1) and consultation with AIMS for the purpose of 25(1) is complete. Sufficient information and a reasonable period have been provided, as described in Section 6.4 of the EP. Specifically:</p> <ul style="list-style-type: none"> <li>• Consultation Information Sheet was publicly available on the BHP website in February 2022, and the updated Consultation Information Sheet has been available on the Woodside website since February 2023.</li> <li>• Woodside published advertisements in a national, state, and relevant local newspapers including The Australian, The West Australian, North West Telegraph, Pilbara News, Midwest Times (15 February 2023) and the Geraldton Guardian (17 February 2023) advising of the proposed activities and requesting comments or feedback.</li> <li>• Consultation information provided to AIMS on 21 February 2023 based on their function, interest and activities.</li> <li>• Woodside has addressed and responded to AIMS over a 12-month period.</li> </ul> <p>Woodside consulted on Griffin decommissioning activities collectively. Some of the items raised during consultation may not be directly relevant to this EP, however these items have been presented here for completeness.</p> <p><b>Summary of information provided and record of consultation:</b></p> <ul style="list-style-type: none"> <li>• On 21 February 2023, Woodside emailed AIMS advising of the proposed activity (Appendix F, reference 3.29) and provided a Consultation Information Sheet.</li> <li>• On 10 March 2023, Woodside sent a reminder email to AIMS advising of the proposed activity (Appendix F, reference 4.16) and provided a Consultation Information Sheet.</li> </ul>		

Griffin Field Decommissioning (End State) Environment Plan

<ul style="list-style-type: none"> <li>On 21 March 2023, AIMS responded to Woodside and said that it will be undertaking offshore vessel and coring operations in this region out to 500 m depth over the next 12 months (actual dates yet to be determined). AIMS requested maintaining communications to minimise the risk of respective activity overlap.</li> <li>On 27 March 2023, Woodside responded thanking AIMS for its feedback and sought clarity on the region where activities may take place. Woodside committed to ongoing communication to support planning of respective activities.</li> <li>On 2 June 2023, Woodside followed up with AIMS with respect to the location where their activities are proposed.</li> <li>On 10 July 2023, AIMS responded advising it was planning the sampling design for the coring work to minimise the risk of overlap with Woodside operations/infrastructure. AIMS advised it had applied a 5km buffer zone around all known structures. However, requested access to a GIS layer of infrastructure within a given polygon.</li> <li>On 18 July 2023, Woodside responded to AIMS with the GIS infrastructure for Griffin and Stybarrow. Woodside committed to providing more up to date information about infrastructure as soon as it is available and will share this with AIMS.</li> <li>On 30 November 2023, Woodside sent updated GIS infrastructure files to AIMS for Stybarrow &amp; Griffin projects.</li> </ul>		
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>AIMS responded that it will be undertaking offshore vessel and coring operations in this region out to 500 m depth over the next 12 months (actual dates yet to be determined).</p> <p>AIMS requested maintaining communications to minimise the risk of respective activity overlap</p> <p>AIMS requested GIS data within a given polygon to ensure it did not overlap with Woodside operations/infrastructure.</p>	<p>Woodside sought clarity on the region where activities may take place and committed to ongoing communication to support planning of respective activities within the Griffin field. Woodside notes that no activities are planned for this EP and therefore this advice isn't applicable for this EP.</p> <p>Woodside provided AIMS the GIS data requested.</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 <b>Section 10.4.4</b>).</p>	<p>Woodside has consulted AIMS in the course of preparing this EP. Woodside has assessed the claims or objections raised by AIMS.</p> <p>No additional measures or controls are required.</p>



**Table 2: Engagement Report with Persons or Organisations Assessed as Not Relevant**

Commonwealth and WA State Government Departments or Agencies – Marine		
<b>Australian Border Force (ABF)</b>		
<p>Woodside consulted on Griffin decommissioning activities collectively. Some of the items raised during consultation may not be directly relevant to this EP, however these items have been presented here for completeness.</p> <p><b>Summary of information provided and record of consultation:</b></p> <ul style="list-style-type: none"> <li>On 31 January 2022, Woodside emailed ABF and provided the Griffin Decommissioning Environment Plans Fact Sheet (Appendix F, reference 1.21).</li> <li>On 19 July 2022, Woodside provided an update that the RTM was now proposed to be removed from the title area, with proposed activities to be undertaken via the Griffin Decommissioning and Field Management Environment Plan (Appendix F, reference 2.2).</li> <li>On 5 September 2022, Woodside provided additional information relating to its proposed plans to leave <i>in situ</i> concrete gravity bases, piled foundations and anchors at or below the mudline under the proposed EP (Appendix F, reference 2.2.1).</li> <li>On 16 February 2023, Woodside emailed ABF advising of the proposed activity (Appendix F, reference 3.1) and provided a Consultation Information Sheet.</li> <li>On 10 March 2023, Woodside sent a reminder email to ABF advising of the proposed activity (Appendix F, reference 4.6) and provided a Consultation Information Sheet.</li> </ul>		
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 <b>Section 10.4.4</b> ).	No additional measures or controls are required.
<b>Australian Maritime Safety Authority (AMSA) - Marine Safety</b>		
<p>Woodside consulted on Griffin decommissioning activities collectively. Some of the items raised during consultation may not be directly relevant to this EP, however these items have been presented here for completeness.</p> <p><b>Summary of information provided and record of consultation:</b></p> <ul style="list-style-type: none"> <li>On 31 January 2022, Woodside emailed AMSA and provided the Griffin Decommissioning Environment Plans Fact Sheet (Appendix F, reference 1.2).</li> <li>On 7 February 2022, AMSA responded providing the following requests: <ul style="list-style-type: none"> <li>Please have the main vessel/s notify AMSA’s Joint Rescue Coordination Centre (JRCC) for promulgation of radio-navigation warnings 24-48 hours before operations commence. AMSA’s JRCC will require the vessel details (including name, call sign and Maritime Mobile Service Identity (MMSI)), satellite communications details (including INMARSAT-C and satellite telephone), area of operation, requested clearance from other vessels and need to be advised when operations start and end.</li> <li>The Australian Hydrographic Office (AHO) must be contacted through <a href="mailto:datapcentre@hydro.gov.au">datapcentre@hydro.gov.au</a> no less than four working weeks before operations commence for the promulgation of related notices to mariners.</li> </ul> </li> </ul>		

<p>AMSA also had the following queries on Woodside’s activities:</p> <ul style="list-style-type: none"> <li>○ Does the outcome of the decommissioning result in an ongoing exclusion zone around the abandonment area and, if so, the total size of that area?</li> <li>○ Does Woodside’s assessment of the environment also include other users of the area, i.e. the social and economic aspects such as shipping?</li> </ul> <ul style="list-style-type: none"> <li>● On 2 March 2022, Woodside responded addressing AMSA’s expectations with respect to maritime safety information: <ul style="list-style-type: none"> <li>○ Notify AMSA’s Joint Rescue Coordination Centre (JRCC) at least 24-48 hours before operations commence, in order to promulgate radio-navigation warnings. Notify JRCC when operations start and end.</li> <li>○ Notify the AHO no less than four weeks before operations, with details relevant to the operations in order for the AHO to promulgate the appropriate Notice to Mariners.</li> <li>○ Woodside also advised it would provide updates to AHO and the JRCC on progress and any changes to intended operations, as well as ensure the appropriate exhibition of appropriate lights and shapes and will</li> <li>○ Comply with the International Rules for Preventing Collisions at Sea</li> <li>○ Ensure vessel navigation status is set correctly in the ship’s AIS unit</li> <li>○ Woodside provided the following responses with respect to exclusion zones and EP socio/economic assessment: <ul style="list-style-type: none"> <li>▪ The Environment Plan for proposed activities includes an assessment of a range of environmental and social impacts within the Operational Area, as well as the environment that may be affected (EMBA) in the unlikely event of the worst-case hydrocarbon spill scenario identified as relevant to the activity.</li> <li>▪ These socio-economic aspects include commercial fishing, traditional fishing, tourism and recreation, oil and gas activities, commercial shipping and defence. These assessments have been supported by consultation with stakeholders relevant to these activities and include relevant government departments, representative organisations, commercial fishing licence holders and marine tourism operators.</li> <li>▪ With respect to marine traffic, there are no recognised shipping routes in or near the Operational Area, with the nearest shipping fairway designated by AMSA located over 80 km to the north-west. We would be happy to provide further details on these assessments if you have interest.</li> </ul> </li> </ul> </li> <li>● On 19 July 2022, Woodside provided an update that the RTM was now proposed to be removed from the title area, with proposed activities to be undertaken via the Griffin Decommissioning and Field Management Environment Plan (Appendix F, reference 2.4).</li> <li>● On 21 July 2022, AMSA responded to Woodside advising the initial advice on the proposed activity will continue to apply. AMSA requested Woodside continue to provide updates to AMSA as the project progresses.</li> <li>● On 1 August 2022, Woodside responded to AMSA acknowledging the advice.</li> <li>● On 5 September 2022, Woodside provided additional information relating to its proposed plans to leave <i>in situ</i> concrete gravity bases, piled foundations and anchors at or below the mudline under the proposed EP (Appendix F, reference 2.4.1).</li> <li>● On 16 February 2023, Woodside emailed AMSA advising of the proposed activity (Appendix F, reference 3.6) and provided a Consultation Information Sheet.</li> <li>● On 15 March 2023, Woodside sent a reminder email to AMSA advising of the proposed activity (Appendix F, reference 4.19) and provided shipping lane figures.</li> </ul>		
<b>Summary of Feedback, Objection or Claim</b>	<b>Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response</b>	<b>Inclusion in Environment Plan</b>

Griffin Field Decommissioning (End State) Environment Plan

<p>AMSA provided feedback and requested:</p> <ul style="list-style-type: none"> <li>• Vessels notify JRCC 24-48 hours before ops commence.</li> <li>• Woodside notify AHO no less than 4 weeks before ops commence.</li> </ul> <p>AMSA also sought clarification on decommissioning effect on ongoing exclusion zone and whether Woodside’s assessment of environment included other users of the area.</p> <p>AMSA requested it continues to be updated as the activity progresses.</p>	<p>Woodside has addressed AMSA – Marine Safety’s feedback, including clarifying exclusion zones and EP socio/economic assessment.</p> <p>Woodside will contact/notify:</p> <ul style="list-style-type: none"> <li>• the AHO no less than 4 weeks before operations commence</li> <li>• AMSA’s JRCC at least 24-48 hours before operations commence</li> <li>• provide updates to both the AHO and AMSA on any changes</li> </ul> <p>As there is no activity for the proposed EP, no notifications are required.</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 <b>Section 10.4.4</b>).</p>	<p>Woodside will notify AHO that the RTM anchors, partially removed piled foundations and MDB concrete gravity bases will be left in situ so they can continue to be marked on navigation charts as <b>PS 1.4</b> in this EP.</p> <p>Woodside considers the measures and controls in the EP address AMSA’s functions, interests or activities.</p> <p>No additional measures or controls are required.</p>
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**Commonwealth and WA State Government Departments or Agencies – Environment**

**Director of National Parks (DNP)**

Woodside consulted on Griffin decommissioning activities collectively. Some of the items raised during consultation may not be directly relevant to this EP, however these items have been presented here for completeness.

**Summary of information provided and record of consultation:**

- On 31 January 2022, Woodside emailed DNP and provided the Griffin Decommissioning Environment Plans Fact Sheet (Appendix F, reference 1.4).
- On 16 February 2022, DNP responded seeking clarification on activities to be managed under the EP. DNP also requested a list of equipment specifically being assessed to be abandoned *in situ* under this EP including a list of what is covered by ‘selected equipment’.
- On 21 February 2022, Woodside responded advising it had undertaken a single consultation activity with relevant stakeholders for the remaining scope of decommissioning of the Griffin Field and associated infrastructure and provided a list of equipment proposed to be left *in situ* in the Griffin Field.
- On 25 February 2022, DNP responded with the following response:
  - Based on the information sheet provided, the planned activities do not overlap any Australian Marine Parks. Noted that the operational area is approximately 59 km, 69 km, and 78 km from Ningaloo, Montebello, and Gascoyne marine parks respectively. Therefore, there are no authorisation requirements from the DNP.
  - Given the proximity to the Marine Parks however, activities undertaken may affect the values present in this Marine Park and noted the following biologically important areas (BIAs) are present in the title area and parts of the operational area:
    - Turtle inter-nesting buffer – flatback turtle
    - Seabird breeding – wedge-tailed shearwater
    - Foraging – whale shark

- Migration – humpback whale
- Distribution – pygmy blue whale
- Noted that the Key Ecological Feature (KEF) of the Ningaloo Coast World Heritage Area is located nearby to the operational site. These BIAs and the KEF are identified values of the Ningaloo, Montebello and Gascoyne Marine Parks and it is expected that activities that could affect these BIAs are managed accordingly and factored into risk assessments.
- To enable consideration of the proposed activity and to identify any claims and objections the DNP sought further detail in regards to the equipment expected to be left *in situ*. The DNP requested documentation relating to the assessment of options for the decommissioning of the equipment proposed to be left *in situ*, in particular the Riser Turret mooring, and the associated identification of risks to the environment across short, medium and long-term horizons.
- Noted that a Sea Dumping permit may be required for leaving equipment *in situ* and noted the responsible area's contact details can be found on the Department of Agriculture, Water and the Environment's website and Please that engaging with this area of the Department is separate to the Director of National Parks.
- Noted that to assist in the preparation of an EP for petroleum activities that may affect Australian marine parks, NOPSEMA worked closely with Parks Australia to develop and publish a guidance note that outlines what titleholders need to consider and evaluate.
- Noted that in preparing the EP, Woodside should consider the Australian marine parks and their representativeness. In the context of the management plan objectives and values, the EP should ensure that it:
  - identifies and manages all impacts and risks on Australian marine park values (including ecosystem values) to an acceptable level and has considered all options to avoid or reduce them to as low as reasonably practicable.
  - clearly demonstrates that the activity will not be inconsistent with the management plan.
  - The North-west Marine Parks Network Management Plan 2018 (management plan) came into effect on 1 July 2018 and provides further information on values for Ningaloo, Montebello, and Gascoyne marine parks. Australian marine park values are broadly defined into four categories: natural (including ecosystems), cultural, heritage and socio-economic. Information on the values for the marine parks is also located on the Australian Marine Parks Science Atlas.
- On 3 March 2022, Woodside responded acknowledging DNP's confirmation that the proposed activities do not overlap an Australian Marine Park and that no authorisations were required from the DNP.
  - Woodside noted DNP's comments on the presence of BIA's confirmed those BIAs that had been identified and assessed in the EP were:
    - Turtle inter-nesting buffer – flatback turtle
    - Seabird breeding – wedge-tailed shearwater
    - Foraging – whale shark
    - Migration – humpback whale
    - Distribution – pygmy blue whale
  - The operational area overlaps one key ecological feature (KEF), the Ancient coastline at 125 m depth contour.
  - Woodside provided a summary of infrastructure proposed to be left *in situ*, assessment options and assessment criteria. Noted that of the feasible decommissioning options, Woodside's preferred option was removal of contaminants (where applicable) and abandonment *in situ*. Woodside confirmed that the options represent the best safety outcomes and preserve the environment that has developed on and around the equipment, minimising disturbance to other users.
  - Woodside confirmed it was progressing discussions with DAWE on the implications for sea dumping permissions for infrastructure proposed to be left *in situ*.
  - Woodside noted DNP's provision of its guidance note for the preparation EPs for activities that may impact AMPs and that the EP should:
    - identify and manage all impacts and risks on Australian marine park values (including ecosystem values) to an acceptable level and consider all options to avoid or reduce them to as low as reasonably practicable

- demonstrate that the activity will not be inconsistent with the North-west Marine Parks Network Management Plan 2018.
  - Woodside advised DNP it did not anticipate that planned activities will impact the nearest marine parks (Ningaloo, Montebello and Gascoyne marine parks), given their distance from Production Licences WA-10-L and WA-12-L. It also confirmed that it had referenced the North-west Marine Parks Network Management Plan 2018 in the planning the EP, as well as the Australian Marine Parks Science Atlas as a source of information on the values for the marine parks.
- On 19 July 2022, Woodside provided an update that the RTM was now proposed to be removed from the title area, with proposed activities to be undertaken via the Griffin Decommissioning and Field Management Environment Plan (Appendix F, reference 2.8).
- On 28 July 2022, Woodside responded to DNP and confirmed the following information:
  - DNP's expectations and contact details for consultation in the event of an incident that was likely to impact a marine park had been included in the environmental plan.
  - Potential impacts to marine park values had been assessed in developing the environment plan.
  - An assessment of planned activities, including leaving equipment in situ, and mitigating the activity's impact upon the environment had been included in the environment plan.
  - BIAs had been assessed in the environment plan.
  - KEFs had been assessed in the environment plan.
  - Information had been provided to the Yamatji Marlpa Aboriginal Corporation on behalf of the Nganhurra Thanardi Garrbu Aboriginal Corporation as part of consultation activities.
  - Woodside acknowledged references provided by DNP to support development of the environment plan, these being:
    - The North-west Marine Parks Network Management Plan 2018 (management plan)
    - The Australian Marine Parks Science Atlas.
- On 28 July 2022, DNP emailed Woodside, noting that the matters raised by DNP will be captured in the EP and that Woodside will provide an update in regards to the OPEP when it is available.
  - DNP also requested a copy of the draft EP, or parts that relate to the assessment of decommissioning options.
- On 29 July 2022, Woodside emailed DNP and advised that it is unable to provide more fulsome details of the options assessment in advance of the EP being finalised.
  - Woodside suggested the alternative of providing DNP with relevant references when the EP is finalised and has been submitted to NOPSEMA, allowing DNP information in order to provide informed feedback.
  - Woodside confirmed that future feedback from DNP would be reviewed by Woodside and included in the final EP for assessment and acceptance by NOPSEMA.
- On 29 July 2022, DNP responded to Woodside and advised that this was no problem and to advise when the EPs are available via NOPSEMA.

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- On 5 September 2022, Woodside provided additional information relating to its proposed plans to leave *in situ* concrete gravity bases, piled foundations and anchors at or below the mudline under the proposed EP (Appendix F, reference 2.8.1).
- On 16 February 2023, Woodside emailed DNP advising of the proposed activity considering potential risks to AMPs (Appendix F, reference 3.13), and provided a Consultation Information Sheet.
- On 10 March 2023, Woodside sent a reminder email to DNP advising of the proposed activity (Appendix F, reference 4.14) and provided a Consultation Information Sheet.
- On 21 April 2023, the DNP responded, thanked Woodside for the opportunity to comment.
  - The DNP confirmed that the planned activities do not overlap any AMPs and there are no authorisation requirements from the DNP.
  - Advised that the DNP had no objections and claims at this time.
  - The DNP noted it has worked closely with NOPSEMA to develop and publish a guidance note and included link to the online document.
  - The DNP noted that the EP should:
    - - identify and manage all impacts and risks on Australian marine park values (including ecosystem values) to an acceptable level and consider all options to avoid or reduce them to as low as reasonably practicable.
    - - clearly demonstrate that the activity will not be inconsistent with the management plan.
  - The DNP also noted:
    - - the North-west Marine Parks Network Management Plan 2018 (management plan) came into effect on 1 July 2018 and provides further information on values for Gascoyne Marine Park, which is the nearest to the proposed activity.
    - - Australian marine park values are broadly defined into four categories: natural (including ecosystems), cultural, heritage and socio-economic. Information on the values for the marine parks is also located on the Australian Marine Parks Science Atlas.
- On 4 May 2023, Woodside responded to the DNP thanking it for its response and:
  - noted the DNP's confirmation that planned activities do not overlap any Australian Marine Parks (AMPs), and as such there are no approvals required from DNP;
  - noted that as this EP proposes to leave infrastructure *in situ*, the DNP's request with respect to buffers from turtle nesting beaches does not apply to this EP and therefore has not been applied.
  - there are no claims or objections at this time.

Summary of Feedback, Objection or Claim	Woodside Energy's Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
DNP responded seeking clarification on activities to be managed under the EP and requested: <ul style="list-style-type: none"> <li>• a list of equipment specifically being assessed to be abandoned <i>in situ</i> under this EP including a list of what is covered by selected equipment.</li> <li>• advised that the DNP had no objections and claims at this time.</li> </ul>	Woodside has addressed the DNP's feedback, including:	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 ( <b>Section 5.4.4</b> ).

<ul style="list-style-type: none"> <li>advised that the planned activities do not overlap any AMPs and there are no authorisation requirements from the DNP.</li> </ul>	<ul style="list-style-type: none"> <li>Noting the BIAs and KEFs had been identified and assessed in the EP.</li> <li>Provided a summary of infrastructure proposed to be left <i>in situ</i>, assessment options and assessment criteria.</li> <li>Noted the operational area (EMBA for this EP) overlaps one key ecological feature (KEF), the Ancient coastline at 125 m depth contour.</li> <li>confirmed it was progressing discussions with DAWE (now DCCEEW – Sea Dumping) on the implications for sea dumping permissions for infrastructure proposed to be left <i>in situ</i>.</li> <li>noted DNP’s provision of its guidance note for the preparation EPs for activities that may impact AMPs.</li> <li>Woodside confirmed that it had referenced the North-west Marine Parks Network Management Plan 2018 in the planning the EP, as well as the Australian Marine Parks Science Atlas as a source of information on the values for the marine parks.</li> </ul> <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 <b>Section 10.4.4</b>).</p>	<p>The impacts of the petroleum activity on BIAs and KEFs have been considered in the EP (<b>Section 8</b>).</p> <p>No additional EP controls are required.</p>
<p><b>Ningaloo Coast World Heritage Advisory Committee (NCWHAC)</b></p>		
<p>Woodside consulted on Griffin decommissioning activities collectively. Some of the items raised during consultation may not be directly relevant to this EP, however these items have been presented here for completeness.</p> <p><b>Summary of information provided and record of consultation:</b></p> <ul style="list-style-type: none"> <li>On 16 February 2023, Woodside emailed NCWHAC advising of the proposed activity (Appendix F, reference 3.30), and provided a Consultation Information Sheet.</li> <li>On 10 March 2023, Woodside sent a reminder email to NCWHAC advising of the proposed activity (Appendix F, reference 4.25) and provided a Consultation Information Sheet.</li> <li>On 15 April 2023, NCWHAC responded to Woodside via NOPSEMA (received by Woodside 3 May 2023) noting additional potential impacts to the outstanding universal value (OUV) within and adjacent to NCHWA for the Griffin field decommissioning. With respect to the proposed EP, the NCWHAC:             <ul style="list-style-type: none"> <li>Noted cumulative impacts from infrastructure left <i>in situ</i> and requested a review other infrastructure left <i>in situ</i> near the site.</li> </ul> </li> <li>On 6 June 2023, Woodside responded to the NCWHAC regarding its comments raised with respect to the proposed decommissioning of the Griffin field. With respect to the proposed activity, Woodside advised:             <ul style="list-style-type: none"> <li>A full environmental impact assessment of the potential impacts of leaving infrastructure <i>in situ</i> has been completed in accordance with the <i>Offshore Petroleum and Greenhouse Gas Storage Act 2006</i>.</li> </ul> </li> </ul>		
<p><b>Summary of Feedback, Objection or Claim</b></p>	<p><b>Woodside Energy’s Assessment of Merits of Feedback, Objection or Claim and its Response</b></p>	<p><b>Inclusion in Environment Plan</b></p>
<p>The NCHWAC provided feedback with respect to the proposed activity. It noted cumulative impacts from infrastructure left <i>in situ</i> and</p>	<p>Woodside has addressed the NCWHAC’s feedback with respect to the proposed EP, including:</p> <ul style="list-style-type: none"> <li>Conducting a full environmental impact assessment of the potential impacts of leaving infrastructure <i>in situ</i></li> </ul>	<p>The Environment Plan demonstrates that the proposed activities are outside the boundaries of the Ningaloo Marine Park and identifies that there are no credible impacts</p>

<p>requested a review of other infrastructure left <i>in situ</i> near the site.</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 <b>Section 10.4.4</b>).</p>	<p>to the values of the Ningaloo Marine Park (<b>Section 5.4.4</b>).</p> <p>Woodside has consulted the NCHWAC in the course of preparing this EP. Woodside has assessed the claims or objections raised by the NCHWAC. No additional measures or controls have been put in place.</p> <p>Woodside considers the measures and controls described within this EP address the potential impact from the proposed activities on the NCHWAC's functions, interests or activities.</p>
<p><b>Commonwealth Commercial fisheries and representative bodies</b></p>		
<p><b>Commonwealth Fisheries Association (CFA)</b></p>		
<p>Woodside consulted on Griffin decommissioning activities collectively. Some of the items raised during consultation may not be directly relevant to this EP, however these items have been presented here for completeness.</p> <p><b>Summary of information provided and record of consultation:</b></p> <ul style="list-style-type: none"> <li>On 31 January 2022, Woodside emailed CFA and provided the Griffin Decommissioning Environment Plans Fact Sheet (Appendix F, reference 1.22).</li> <li>On 14 February 2022, Woodside sent a reminder email to CFA with an invitation to provide feedback (Appendix F, reference 1.26).</li> <li>On 19 July 2022, Woodside provided an update that the RTM was now proposed to be removed from the title area, with proposed activities to be undertaken via the Griffin Decommissioning and Field Management Environment Plan (Appendix F, reference 2.15).</li> <li>On 5 September 2022, Woodside provided additional information relating to its proposed plans to leave <i>in situ</i> concrete gravity bases, piled foundations and anchors at or below the mudline under the proposed EP (Appendix F, reference 2.15.1)</li> <li>On 16 February 2023, Woodside emailed the CFA advising of the proposed activity (Appendix F, reference 3.8) and provided a Consultation Information Sheet.</li> <li>On 10 March 2023, Woodside sent a reminder email to CFA advising of the proposed activity (Appendix F, reference 4.10) and provided a Consultation Information Sheet.</li> </ul>		
<p><b>Summary of Feedback, Objection or Claim</b></p>	<p><b>Woodside Energy's Assessment of Merits of Feedback, Objection or Claim and its Response</b></p>	<p><b>Inclusion in Environment Plan</b></p>
<p>No feedback, objections or claims received despite follow up.</p>	<p>Woodside has provided consultation information to AFMA, DAFF - Fisheries, CFA, ASBTIA, Tuna Australia, WAFIC and individual relevant licence holders.</p>	<p>Woodside has assessed the potential for interaction with Commonwealth and State managed commercial fisheries in <b>Section 5.6.2</b> of this EP.</p>



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	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 <b>Section 10.4.4</b> ).	No additional measures or controls are required.
<b>Australian Southern Bluefin Tuna Industry Association (ASBTIA)</b>		
Woodside consulted on Griffin decommissioning activities collectively. Some of the items raised during consultation may not be directly relevant to this EP, however these items have been presented here for completeness.		
<b>Summary of information provided and record of consultation:</b>		
<ul style="list-style-type: none"> <li>On 31 January 2022, Woodside emailed ASBTIA and provided the Griffin Decommissioning Environment Plans Fact Sheet (Appendix F, reference 1.23).</li> <li>On 14 February 2022, Woodside sent a reminder email to ASBTIA with an invitation to provide feedback (Appendix F, reference 1.27).</li> <li>On 19 July 2022, Woodside provided an update that the RTM was now proposed to be removed from the title area, with proposed activities to be undertaken via the Griffin Decommissioning and Field Management Environment Plan (Appendix F, reference 2.14).</li> <li>On 5 September 2022, Woodside provided additional information relating to its proposed plans to leave <i>in situ</i> concrete gravity bases, piled foundations and anchors at or below the mudline under the proposed EP (Appendix F, reference 2.14.1).</li> <li>On 1 June 2023, Woodside emailed the ASBTIA advising of the proposed activity (Appendix F, reference 4.23) and provided a Consultation Information Sheet.</li> </ul>		
<b>Summary of Feedback, Objection or Claim</b>	<b>Woodside Energy's Assessment of Merits of Feedback, Objection or Claim and its Response</b>	<b>Inclusion in Environment Plan</b>
No feedback, objections or claims received despite follow up.	Woodside has provided consultation information to AFMA, DAFF - Fisheries, CFA, ASBTIA, Tuna Australia, WAFIC and individual relevant licence holders.  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 <b>Section 10.4.4</b> ).	Woodside has assessed the potential for interaction with Commonwealth and State managed commercial fisheries in <b>Section 5.6.2</b> of this EP.  No additional measures or controls are required.
<b>Tuna Australia</b>		
Woodside consulted on Griffin decommissioning activities collectively. Some of the items raised during consultation may not be directly relevant to this EP, however these items have been presented here for completeness.		
<b>Summary of information provided and record of consultation:</b>		

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- On 31 January 2022, Woodside emailed Tuna Australia and provided the Griffin Decommissioning Environment Plans Fact Sheet (Appendix F, reference 1.8).
- On 14 February 2022, Woodside sent a reminder email with an invitation to provide feedback (Appendix F, reference 1.8.1).
- On 15 February 2022, Tuna Australia responded and advised it had no objections to proposed activities, as its members did not currently undertake fishing in the areas identified in the activity overview.
- On 19 July 2022, Woodside sent Tuna Australia a further update for the Griffin Field decommissioning in Commonwealth waters (Appendix F, reference 2.16)
- On 5 September 2022, Woodside provided additional information relating to its proposed plans to leave *in situ* concrete gravity bases, piled foundations and anchors at or below the mudline under the proposed EP (Appendix F, reference 2.16.1).
- On 16 February 2023, Woodside emailed Tuna Australia advising of the proposed activity (Appendix F, reference 3.9) and provided a Consultation Information Sheet.
- On 10 March 2023, Woodside sent a reminder email to Tuna Australia advising of the proposed activity (Appendix F, reference 4.11) and provided a Consultation Information Sheet.
- On 15 March 2023 Tuna Australia responded and provided a position statement for consideration prior to consultation taking place.
  - An overview of Tuna Australia's functions, interests and activities as well as the organisation's company objectives.
  - The geographic areas that Tuna Australia represents by membership Statutory Fishing Rights
  - A recommendation that project proponents also engage with the Australian Southern Bluefin Tuna Industry Association for any proposals in the Southern Bluefin Tuna fishing area.
  - The position that Tuna Australia considers itself a 'relevant person' consistent with NOPSEMA guidelines.
  - Tuna Australia requested:
    - contact when any proposed activity has the potential to impact vessel navigation, fishing activities, and/or the conservation of fish resources consistent with the Offshore Petroleum and Greenhouse Gas Storage Act 2006.
    - a map from proponents of the proposed activity to determine if its member interests may be affected on a case-by-case basis.
    - that where potential effects exist, there is a need for a service agreement. Tuna Australia advised it can no longer coordinate consultation with offshore energy activities on behalf of our members without a service agreement in place. Tuna Australia requests proponents execute our services agreement and provide information in a written succinct manner including estimated boundaries for extent of planned activity impacts (i.e. artificial light, noise, discharges etc) as well as activities within the operational area. This advice will be distributed to members and non-members holding SFRs in the Eastern (114 concession holders) and Western (61 concession holders) Tuna and Billfish Fisheries for comment. Information provided would be relevant to tuna and billfish fisheries in the area that may affect vessel navigation, fishing activities, and/or the conservation of fish resources based on the planned aspects of the activity, and proposed control measures to manage impacts.
    - Tuna Australia noted that it wishes to engage constructively with project proponents for all situations where there is potential for conflict with vessel navigation, access to fishing area and/or gear, and the biology of target fish and baitfish. Advice provided can change annually due to the dynamic nature of our fisheries.
    - Tuna Australia encouraged companies requiring advice from our sector to enter into a consultation services agreement with Tuna Australia to support their applications. Noting that Tuna Australia may be able to provide information on vessel navigation, fishing activities and/or the conservation of fish resources that may be affected that is not publicly available and will be an important input to environmental impact and risk assessment processes.

The summary above demonstrates that consultation for the purpose of 25(1) is complete however, as per Woodside's commitment to ongoing consultation, engagement has continued as summarised below:

**Ongoing consultation:**

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- On 26 May 2023, Woodside had a phone call with the Tuna Australia CEO and explained that Woodside would like to discuss a path forward following receipt of Tuna Australia's Position Statement across its EP activities, including the activities proposed under this EP.
  - Noted Tuna Australia's correspondence to NOPSEMA and copied to Woodside dated 17 May 2023, with respect to unrelated EPs.
  - Noted Tuna Australia's previous EP consultation feedback that Woodside had responded to with respect to unrelated EPs.
  - Reiterated that Woodside does not expect Tuna Australia to provide a consultation report for each of its EPs and are concerned about this potential misalignment on expectations.
  - Tuna Australia advised it would like to discuss a way forward as woodside suggested and requested Woodside call Tuna on 30 May 2023, which Woodside committed to.
- On 2 June 2023, Woodside called Tuna Australia to follow up on its phone call on 26 May 2023.
  - Woodside left a message requesting a call back and the opportunity to meet with Tuna Australia to discuss Woodside's portfolio of environment plan activities.
  - Woodside requested the opportunity to discuss options to consult with Tuna Australia and potentially lessen the burden on Tuna Australia for providing feedback on Woodside's EPs.
  - Woodside offered the opportunity to take Tuna Australia through the entire EP portfolio, inclusive of decommissioning, so Tuna Australia could better assess the volume of activities.
  - Woodside reiterated that there was no expectation for Tuna Australia to provide a consultation report on each individual EP, and potentially there is an opportunity for Woodside and Tuna Australia to work together on a more strategic approach.
- On 2 June 2023, Woodside had a text message exchange with Tuna Australia and Tuna Australia advised it would call Woodside the following week.
- On 20 June 2023, Woodside had a meeting with Tuna Australia and:
  - Discussed Tuna Australia's position statement, and in particular its reference to activities that have the potential to impact vessel navigation, fishing activities, and/or the conservation of fish resources.
  - Provided an overview of Woodside's activities and changes to consultation requirements following recent case law.
  - Tuna Australia agreed to provide more detail on how it would distribute consultation materials to its membership/licence holders and the format of any report arising from the data collected.
  - Woodside committed to review TA's Service Agreement.
- On 26 June 2023, Woodside emailed Tuna Australia thanking it for the 20 June 2023 meeting. Woodside:
  - Noted the clarity Tuna Australia's position statement provided with respect to being contacted when the proposed activity has the potential to impact vessel navigation, fishing activities, and/or the conservation of fish resources.
  - Noted that Woodside had provided a description of its activities and how recent case law and NOPSEMA guidance had resulted in Woodside undertaking consultation on the widest potential EMBA, which is a significantly greater area than any planned activity and any activity within an Operational Area.
  - Noted Tuna Australia's agreement to provide more detail on how Tuna Australia will distribute consultation materials to its members/licence holders and the format of any report.
- On 30 June 2023, Tuna Australia responded to Woodside. Tuna Australia:
  - Noted outcomes of the recent case law focussed on stakeholder engagement and ensuring energy companies meet regulatory requirements and NOPSEMA guidelines.
  - Requested Woodside send the recent case law.

- Reached out to energy companies who have executed a services agreement with TA and asked whether TA could inform Woodside about their working relationship. Beach Energy confirmed it was happy for TA to share its details.
  - Advised how it contacts concession holders and what it provides to them.
  - Provided a TA contact who manages engagement with energy companies to progress a service agreement with TA.
- On 17 July 2023, Woodside emailed Tuna Australia and confirmed:
  - Woodside's legal team had reviewed the Tuna Australia document and requested some minor changes to be made.
  - Woodside asked Tuna Australia if a marked-up version of the Service Agreement would be the simplest way for Tuna Australia to review.
  - Woodside attached a Supplier Questionnaire as part of its due diligence process and asked Tuna Australia to complete the form.
- On 18 July 2023, Tuna Australia emailed Woodside and confirmed:
  - Woodside should send a marked-up version of the Service Agreement for TA to review.
  - TA would fill out the Supplier Questionnaire and return in the next couple of days.
- On 18 July 2023, Woodside emailed Tuna Australia and sent a marked-up version of the Service Agreement for TA to review.
- On 19 July 2023, Tuna Australia emailed Woodside and thanked it for sending through edits to TA's services agreement and commented:
  - TA does not want any changes made to Schedule 2 of their Service Agreement and if Woodside has requirements outside of what TA provides, then this will need to be discussed, agreed, and costed accordingly.
  - TA would like further details on the Annual service for the Woodside Master Existing document including the rationale for the payment proposed.
  - TA does not agree to a fixed price for the above bodies of work. TA wants clarification on what the Annual service entails, and how the fixed priced value was arrived at.
  - Re the fixed fee for delivery of a specific consultation service, TA need to remain flexible to clients' needs and discuss additional works should they be required. TA says it specified in the schedule that it would never proceed with more work or charge more money without approval and this should suffice for Woodside.
  - TA does not agree on the current terms which have been changed in Item 2 of Schedule 1 and says it seeks a two-year agreement as per the agreement template.
- On 2 August 2023, Woodside emailed Tuna Australia, thanked them for their response re the Service Agreement and advised that Woodside's legal team will review, and Woodside will revert as soon as possible. Woodside asked Tuna Australia to please complete the Supplier Questionnaire which was sent on 17 July 2023.
- On 3 August 2023, Tuna Australia replied, apologised for the delay and sent the completed Supplier Questionnaire to Woodside.
- On 8 August 2023, Tuna Australia responded in regard to another EP stating that as per its recent discussions with Woodside, Tuna Australia could consult on the EP once it had a services agreement in place.
- On 23 August 2023, Tuna Australia emailed Woodside following up on Woodside's consultation requirements with the tuna longline industry regarding another EP. Tuna Australia asked for clarity on whether Woodside was planning to engage Tuna Australia to consult on behalf of the tuna longline industry on this and other upcoming EPs that Woodside was seeking feedback on.
- On 30 August 2023, Woodside emailed Tuna Australia and advised that Tuna Australia's feedback on the Service Agreement had been discussed with Woodside's legal team. Woodside asked for clarity on whether Tuna Australia would accept section 15: Ethical Business Practices. Once this had been accepted, Woodside could work through Tuna Australia's other points.
- On 4 September 2023, Tuna Australia emailed Woodside and advised that it had seen these anti bribery and corruption clauses included in the vendor registration process of other energy companies but had not seen it proposed inside an agreement before. Tuna Australia advised it was not against including them in the agreement, but asked if it was the best place for it.
- On 6 November 2023, Tuna Australia emailed Woodside in regards to another EP, and said:

- it is prepared to assist Woodside to ensure this (and other) environmental plans are comprehensive and extend to all relevant persons, and that Woodside is aware the AFMA webpage requesting concession owners and holders to be contacted is out of date.
- the proponent must address planned fishing efforts and development of the fishery, and that focussing on historical fishing effort as the basis for validating the environment plan is a flawed assessment.
- it is concerned recent consultation by energy companies has involved accessing mailing lists sourced from AFMA or elsewhere, as some contact lists are outdated, inaccurate and not fit-for-purpose as they do not contact the required target audience; while Tuna Australia’s database is up to date, accurate and actively managed and reviewed.
- it has offered to assist energy companies to genuinely and comprehensively meet consultation and reporting requirements and its view is that consultation not conducted through its services is highly likely to be incomplete.
- Woodside should advise Tuna Australia if it wishes to progress with a services agreement and work collaboratively.
- On 22 November 2023, Woodside responded thanking Tuna Australia for its email and advised:
  - as Tuna Australia is aware, offshore proponents consult relevant persons under the Commonwealth Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009.
  - Woodside’s consultation process identifies relevant persons and provides them sufficient information and a reasonable period to make an informed assessment of the possible consequences of the proposed activity on their functions, interests and activities.
  - Woodside obtains contact details of individual Commonwealth fishing statutory fishing rights and fishing permit holders so that consultation is consistent with the Regulations. As noted on its website, AFMA’s expectation is that petroleum operators consult with fishing operators about all activities and projects which may affect day-to-day fishing activities.
  - In addition to consulting individual licence holders, Woodside consults relevant fishing industry associations and representative bodies such as Tuna Australia and Commonwealth Fisheries Association and refers to the AFMA website to help inform which associations and bodies are relevant.
  - While the management area for the Western Tuna and Billfish Fishery overlaps the Operational Area for this EP, based on AFMA data, no recent fishing effort has occurred within the Operational Area for at least the past 10 years. Despite this, Woodside chose to consult licence holders in this fishery.
  - The Offshore Environment Regulations do not require entry into service agreements in order to meet Environment Plan consultation requirements.

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>Tuna Australia advised it had no objections to proposed activities, as its members did not currently undertake fishing in the areas identified in the activity overview.</p> <p>Tuna Australia provided Woodside with their position statement for engaging with energy companies seeking consultation advice from stakeholders on environmental plans and project proposals.</p>	<p>Tuna Australia advised it had no objections to proposed activities.</p> <p>The fishery management area for the Western Tuna and Billfish Fishery, which Tuna Australia represents, overlaps the infrastructure proposed to be left <i>in situ</i> and the EMBA. However, there is considered to be no potential for interaction within these areas as:</p> <ul style="list-style-type: none"> <li>● No recent fishing effort has occurred within or nearby to the Operational Area.</li> <li>● Fishery Status Report 2022 indicates current fishing effort is concentrated between Carnarvon and Albany and did not occur within the EMBA in the last five years (2016–2021) (Patterson et al., 2022).</li> <li>● Woodside acknowledges previous feedback received from Tuna Australia with respect to separate EPs. Woodside confirms that it has conducted a decommissioning options</li> </ul>	<p>Woodside has assessed the potential for interaction with Commonwealth and State managed commercial fisheries in <b>Section 5.6.2</b> of this EP.</p> <p>Woodside has consulted Tuna Australia in the course of preparing this EP. Woodside has assessed the claims or objections raised by Tuna Australia. No additional measures or controls have been put in place.</p>

<p>The position statement requests that where there is the potential for the proposed activity to impact Tuna Australia's functions, interests or activities or that of its members, there is a need for a service agreement to be executed.</p> <p>Whilst feedback has been received, there were no objections or claims.</p>	<p>assessment including evaluating impact and risk assessments for leaving infrastructure <i>in situ</i> in order to identify and manage environmental impacts and risks, which includes potential interaction with recreational and commercial fishers.</p> <p>To manage potential interactions, Woodside has the following controls in place with regard to the EP:</p> <ul style="list-style-type: none"> <li>• Woodside will notify AHO that the RTM anchors, partially removed piled foundations and MDB concrete gravity bases will be left <i>in situ</i> so they can continue to be marked on navigation charts.</li> <li>• Woodside will notify relevant State and Commonwealth fisheries of the RTM anchors, partially removed piled foundations and MDB concrete gravity bases location and that they will remain <i>in situ</i> for perpetuity.</li> </ul> <p>Woodside has provided consultation information to AFMA, DAFF - Fisheries, CFA, ASBTIA, Tuna Australia, 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 <b>Section 10.4.4</b>).</p>	<p>Woodside considers the measures and controls described within this EP address the potential impact from the proposed activities on Tuna Australia's functions, interests or activities.</p>
<p><b>Pearl Producers Association (PPA)</b></p>		
<p>Woodside consulted on Griffin decommissioning activities collectively. Some of the items raised during consultation may not be directly relevant to this EP, however these items have been presented here for completeness.</p> <p><b>Summary of consultation provided and responses:</b></p> <ul style="list-style-type: none"> <li>• On 19 July 2022, Woodside emailed the PPA with an update on the activity post-merger with BHP Petroleum (appendix F, reference 2.19)</li> <li>• On 5 September 2022, Woodside provided additional information relating to its proposed plans to leave <i>in situ</i> concrete gravity bases, piled foundations and anchors at or below the mudline under the proposed EP (Appendix F, reference 2.19.1).</li> <li>• On 16 February 2023, Woodside emailed PPA advising of the proposed activity (Appendix F, reference 3.1) and provided a Consultation Information Sheet.</li> <li>• On 10 March 2023, Woodside sent a reminder email to PPA advising of the proposed activity (Appendix F, reference 4.6) and provided a Consultation Information Sheet.</li> </ul>		
<p><b>Summary of Feedback, Objection or Claim</b></p>	<p><b>Woodside Energy's Assessment of Merits of Feedback, Objection or Claim and its Response</b></p>	<p><b>Inclusion in Environment Plan</b></p>
<p>No feedback, objections or claims received despite follow up.</p>	<p>Woodside has provided consultation information to AFMA, DAFF - Fisheries, CFA, ASBTIA, Tuna Australia, WAFIC and individual relevant licence holders.</p>	<p>Woodside has assessed the potential for interaction with Commonwealth and State</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 <b>Section 10.4.4</b>).</p>	<p>managed commercial fisheries in <b>Section 5.6.2</b> of this EP.</p> <p>No additional measures or controls are required.</p>
<p><b>Recreational marine users and representative bodies</b></p>		
<p><b>Karratha Recreational Marine Users (formerly Dampier-based fishing clubs and charter boat / marine tourism operators)</b></p>		
<p>Woodside consulted on Griffin decommissioning activities collectively. Some of the items raised during consultation may not be directly relevant to this EP, however these items have been presented here for completeness.</p> <p><b>Summary of information provided and record of consultation:</b></p> <ul style="list-style-type: none"> <li>On 31 January 2022, Woodside emailed Dampier-based fishing clubs and charter boat / marine tourism operators and provided the Griffin Decommissioning Environment Plans Fact Sheet (Appendix F, 1.10).</li> <li>On 14 February 2022, Woodside sent a follow up to Dampier-based fishing club and charter boat / marine tourism operators (Appendix F, reference 1.10.1 and 1.10.2).</li> <li>On 14 February 2022, a Dampier-based operator advised that areas Woodside mentioned do not interfere with its operations and have no objection on what is proposed.</li> <li>On 3 March 2022, Woodside responded acknowledging the operator's feedback.</li> <li>On 19 July 2022, Woodside provided an update to Onslow and Exmouth fishing clubs that the RTM was now proposed to be removed from the title area, with proposed activities to be undertaken via the Griffin Decommissioning and Field Management Environment Plan (Appendix F, reference 2.21).</li> <li>On 17 February 2023, Woodside emailed Karratha Recreational Marine Users advising of the proposed activity (Appendix F, reference 4.40 and reference 4.40.1) and provided a Consultation Information Sheet.</li> <li>On 10/15 March 2023, Woodside sent a reminder email to Karratha Recreational Marine Users advising of the proposed activity (Appendix F, reference 4.41 and reference 4.41.1) and provided a Consultation Information Sheet.</li> </ul>		
<p><b>Summary of Feedback, Objection or Claim</b></p>	<p><b>Woodside Energy's Assessment of Merits of Feedback, Objection or Claim and its Response</b></p>	<p><b>Inclusion in Environment Plan</b></p>
<p>No feedback was received from Karratha Recreational Marine Users, with the exception of one Dampier-based operator, which advised that areas Woodside mentioned do not interfere with its operations and have no objection on what is proposed.</p>	<p>Woodside notes that no feedback has been received from Karratha Recreational Marine Users, with the exception of one Dampier-based operator which advised it had no objections to the proposed activities.</p> <p>Woodside has provided consultation information to Recfishwest, Marine Tourism WA, WA Game Fishing Association and individual recreational marine users.</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 <b>Section 10.4.4</b>).</p>	<p>Woodside considers the measures and controls described within this EP address the potential impact from the proposed activities on Karratha Recreational Marine Users functions, interests or activities.</p> <p>No additional measures or controls are required.</p>
<p><b>Local government and community representative groups or organisations</b></p>		

<b>Shire of Exmouth</b>		
<b>Summary of information provided and record of consultation:</b>		
<ul style="list-style-type: none"> <li>On 17 February 2023, Woodside emailed Shire of Exmouth advising of the proposed activity (Appendix F, reference 3.18) and provided a Consultation Information Sheet.</li> <li>On 10 March 2023, Woodside sent a reminder email to Shire of Exmouth advising of the proposed activity (Appendix F, reference 4.24) and provided a Consultation Information Sheet.</li> </ul>		
<b>Summary of Feedback, Objection or Claim</b>	<b>Woodside Energy's Assessment of Merits of Feedback, Objection or Claim and its Response</b>	<b>Inclusion in Environment Plan</b>
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 <b>Section 10.4.4</b> ).	No additional measures or controls are required.
<b>Exmouth Community Liaison Group (formerly Exmouth Community Reference Group)</b>		
<ul style="list-style-type: none"> <li>Base Marine</li> <li>Bgahwan Marine</li> <li>Cape Conservation Group Inc.</li> <li>DBCA</li> <li>Department of Defence</li> <li>Department of Transport</li> <li>Exmouth Bus Charter</li> <li>Exmouth Chamber of Commerce and Industry</li> <li>Exmouth District High School</li> <li>Exmouth Freight and Logistics</li> <li>Exmouth Game Fishing Club</li> <li>Exmouth Tackle and Camping Supplies</li> <li>Exmouth Visitors Centre</li> <li>Exmouth Volunteer Marine Rescue</li> <li>Fat Marine</li> <li>Gascoyne Development Commission</li> </ul>		



Griffin Field Decommissioning (End State) Environment Plan

<ul style="list-style-type: none"> <li>• Gun Marine Services</li> <li>• Ningaloo Lodge</li> <li>• Offshore Unlimited</li> <li>• Shire of Exmouth</li> <li>• BHP Petroleum</li> <li>• Santos</li> <li>• Community Member</li> </ul>		
<p><b>Summary of information provided and record of consultation:</b></p> <ul style="list-style-type: none"> <li>• On 4 October 2021, Woodside provided an overview of Griffin activities at the Exmouth CLG meeting, including this EP (Appendix F, reference 1.24).</li> <li>• On 21 September 2022, Woodside presented to the Exmouth CLG on a number of activities, including the activities proposed under this EP (Appendix F, reference 2.23)</li> <li>• On 16 February 2023, Woodside emailed the Exmouth CLG advising of the proposed activity (Appendix F, reference 3.15) and provided a Consultation Information Sheet.</li> <li>• On 10 March 2023, Woodside sent a reminder email to the Exmouth CLG advising of the proposed activity (Appendix F, reference 4.17) and provided a Consultation Information Sheet.</li> <li>• On 27 July 2023, Woodside attended an Exmouth Community Liaison Group meeting and acknowledged the increased volume of consultation material being sent. Woodside recapped on EPs that the Exmouth CLG had recently been consulted on including this EP. No feedback was received for this EP.</li> <li>• On 21 November 2023, Woodside attended the Exmouth Community Liaison Group meeting, provided updates on specific unrelated EPs, presented a slide on the EPs the CLG had been previously consulted on, including this EP, and again acknowledged the increased volume of consultation material the CLG members had been receiving. No feedback was received for this EP.</li> </ul>		
<b>Summary of Feedback, Objection or Claim</b>	<b>Woodside Energy's Assessment of Merits of Feedback, Objection or Claim and its Response</b>	<b>Inclusion in Environment Plan</b>
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 <b>Section 10.4.4</b> ).	No additional measures or controls are required.
<b>Other non-government groups or organisations</b>		
<b>Australian Conservation Foundation (ACF)</b>		
<p><b>Summary of information provided and record of consultation:</b></p> <ul style="list-style-type: none"> <li>• On 16 February 2023, Woodside emailed ACF advising of the proposed activity (Appendix F, reference 3.4) and provided a Consultation Information Sheet.</li> <li>• On 10 March 2023, Woodside sent a reminder email to ACF advising of the proposed activity (Appendix F, reference 4.8) and provided a Consultation Information Sheet.</li> </ul>		
<b>Summary of Feedback, Objection or Claim</b>	<b>Woodside Energy's Assessment of Merits of Feedback, Objection or Claim and its Response</b>	<b>Inclusion in Environment Plan</b>

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 <b>Section 10.4.4</b> ).	No additional measures or controls are required.
<b>Conservation Council of Western Australia (CCWA)</b>		
<p><b>Summary of information provided and record of consultation:</b></p> <ul style="list-style-type: none"> <li>• On 16 February 2023, Woodside emailed CCWA advising of the proposed activity (Appendix F, reference 3.3) and provided a Consultation Information Sheet.</li> <li>• On 10 March 2023, Woodside sent a reminder email to CCWA advising of the proposed activity (Appendix F, reference 4.7) and provided a Consultation Information Sheet.</li> </ul>		
<b>Inclusion in Environment Plan</b>	<b>Inclusion in Environment Plan</b>	<b>Inclusion in Environment Plan</b>
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 <b>Section 10.4.4</b> ).	No additional measures or controls are required.
<b>Research institutes and local conservation groups or organisations</b>		
<b>Cape Conservation Group (CCG)</b>		
Woodside consulted on Griffin decommissioning activities collectively. Some of the items raised during consultation may not be directly relevant to this EP, however these items have been presented here for completeness.		
<p><b>Summary of information provided and record of consultation:</b></p> <ul style="list-style-type: none"> <li>• On 17 February 2023, Woodside emailed the CCG advising of the proposed activity (Appendix F, reference 3.16) and provided a Consultation Information Sheet.</li> <li>• On 10 March 2023, Woodside sent a reminder email to CCG advising of the proposed activity (Appendix F, reference 4.18) and provided a Consultation Information Sheet.</li> <li>• On 14 March 2023, CCG responded to Woodside advising there is heightened potential of damage to the marine environment and wildlife during Woodside decommissioning activities that are unrelated to this EP. <ul style="list-style-type: none"> <li>○ Higher risk to reef and island habitats from spills</li> <li>○ Increased potential negative impacts on migrating whales from marine noise</li> <li>○ Higher possibility for contamination of inshore areas and reef habitat by chemicals used in the process of growth removal as a result of persistent and reckless delays in maintenance and disposal.</li> </ul> </li> </ul> <p>CCG submits that:</p> <ul style="list-style-type: none"> <li>○ NOPSEMA and Regulators deny approval to Environmental Plans that include intentional petroleum releases.</li> <li>○ Woodside be held accountable for failing to maintain infrastructure during and after the use/decommissioning of a field, as well as environmental and social damage caused by its industrial activities. <ul style="list-style-type: none"> <li>▪ the use of CSV working in shallow waters increases risk</li> <li>▪ NOPSEMA requires the mandated use of an HLV to mitigate this risk.</li> </ul> </li> </ul> <p>CCG further submits that:</p>		

Griffin Field Decommissioning (End State) Environment Plan

<ul style="list-style-type: none"> <li>○ No more delay or environmental damage from Griffin can be tolerated.</li> <li>○ Due to previous Woodside consultations being unsatisfactory, CCG efforts in this space will be directed towards the regulators, government and media.</li> <li>● On 24 May 2023, Woodside responded thanking the CCG for its letter with respect to a number of EPs, Woodside advised:             <ul style="list-style-type: none"> <li>○ All current and proposed field management and decommissioning activities will be undertaken in accordance with relevant accepted EPs under NOPSEMA’s regulatory jurisdiction.</li> <li>○ Impacts and risks associated with these activities will be reduced to a level that is as low as reasonably practicable (ALARP) and acceptable to the satisfaction of NOPSEMA.</li> <li>○ The proposed EP does not have vessel-based activities associated with its scope and therefore does not present a credible spill risk or marine noise risk.</li> <li>○ Woodside is committed to completing the decommissioning of the Stybarrow and Griffin fields. Woodside is executing several decommissioning projects and is on track to meet its plans and any regulatory requirements stipulated by the regulator through general directions. We continue to work with the regulator to progress our decommissioning commitment.</li> </ul> </li> </ul>		
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>CCG responded to Woodside seeking additional information unrelated to this EP.</p> <p>CCG submits that Woodside be held accountable for failing to maintain infrastructure after decommissioning of a field.</p> <ul style="list-style-type: none"> <li>● Higher risk to reef and island habitats from spills</li> <li>● Increased potential negative impacts on migrating whales from marine noise</li> <li>● Higher possibility for contamination of inshore areas and reef habitat by chemicals used in the process of growth removal as a result of persistent and reckless delays in maintenance and disposal.</li> </ul>	<p>Woodside responded advising:</p> <ul style="list-style-type: none"> <li>● All current and proposed field management and decommissioning activities will be undertaken in accordance with relevant accepted EPs under NOPSEMA’s regulatory jurisdiction.</li> <li>● Impacts and risks associated with these activities will be reduced to a level that is as low as reasonably practicable (ALARP) and acceptable to the satisfaction of NOPSEMA.</li> <li>● The proposed EP does not have vessel-based activities associated with its scope and therefore does not present a credible spill risk or marine noise risk.</li> </ul> <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 <b>Section 10.4.4</b>).</p>	<p>Woodside has consulted CCG in the course of preparing this EP. Woodside has assessed the claims or objections raised by CCG. No additional measures or controls have been put in place.</p> <p>Woodside considers the measures and controls described within this EP address the potential impact from the proposed activities on CCG’s functions, interests or activities.</p>
<b>Protect Ningaloo</b>		
<p>Woodside consulted on Griffin decommissioning activities collectively. Some of the items raised during consultation may not be directly relevant to this EP, however these items have been presented here for completeness.</p> <p><b>Summary of information provided and record of consultation:</b></p>		

Griffin Field Decommissioning (End State) Environment Plan

<ul style="list-style-type: none"> <li>On 17 February 2023, Woodside emailed Protect Ningaloo advising of the proposed activity (Appendix F, reference 3.17) and provided a Consultation Information Sheet.</li> <li>On 10 March 2023, Woodside sent a reminder email to Protect Ningaloo advising of the proposed activity (Appendix F, reference 4.5) and provided a Consultation Information Sheet.</li> </ul>		
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 <b>Section 10.4.4</b> ).	No additional measures or controls are required.
<b>University of Western Australia (UWA)</b>		
<p>Woodside consulted on Griffin decommissioning activities collectively. Some of the items raised during consultation may not be directly relevant to this EP, however these items have been presented here for completeness.</p> <p><b>Summary of information provided and record of consultation:</b></p> <ul style="list-style-type: none"> <li>On 21 February 2023, Woodside UWA advising of the proposed activity (Appendix F, reference 3.20) and provided a Consultation Information Sheet.</li> <li>On 10 March 2023, Woodside sent a reminder email to the UWA advising of the proposed activity (Appendix F, reference 4.4) and provided a Consultation Information Sheet.</li> </ul>		
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 <b>Section 10.4.4</b> ).	No additional measures or controls are required.
<b>Western Australian Marine Science Institution (WAMSI)</b>		
<p>Woodside consulted on Griffin decommissioning activities collectively. Some of the items raised during consultation may not be directly relevant to this EP, however these items have been presented here for completeness.</p> <p><b>Summary of information provided and record of consultation:</b></p> <ul style="list-style-type: none"> <li>On 21 February 2023, Woodside emailed WAMSI advising of the proposed activity (Appendix F, reference 3.21) and provided a Consultation Information Sheet.</li> <li>On 10 March 2023, Woodside sent a reminder email to WAMSI advising of the proposed activity (Appendix F, reference 4.3) and provided a Consultation Information Sheet.</li> </ul>		
Summary of Feedback, Objection or Claim	Woodside Energy's Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan

Griffin Field Decommissioning (End State) 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 <b>Section 10.4.4</b> ).	No additional measures or controls are required.
<b>Commonwealth Scientific and Industrial Research Organisation (CSIRO)</b>		
<p>Woodside consulted on Griffin decommissioning activities collectively. Some of the items raised during consultation may not be directly relevant to this EP, however these items have been presented here for completeness.</p> <p><b>Summary of information provided and record of consultation:</b></p> <ul style="list-style-type: none"> <li>On 21 February 2023, Woodside emailed CSIRO advising of the proposed activity (Appendix F, reference 3.28) and provided a Consultation Information Sheet.</li> <li>On 21 February 2023, CSIRO sent an automated email acknowledging receipt of the email and provided an enquiry reference number.</li> <li>On 4 June 2023, Woodside sent a reminder email to CSIRO advising of the proposed activity (Appendix F, reference 4.22).</li> </ul>		
<b>Summary of Feedback, Objection or Claim</b>	<b>Woodside Energy's Assessment of Merits of Feedback, Objection or Claim and its Response</b>	<b>Inclusion in Environment Plan</b>
<p>CSIRO responded with an automated email acknowledging receipt of the email.</p> <p>Whilst feedback has been received, there were no objections or claims.</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 <b>Section 10.4.4</b>).</p>	<p>Woodside considers the measures and controls in the EP address CSIRO's functions, interests or activities.</p> <p>No additional EP controls are required.</p>

## 1. Initial Consultation (February 2022)

### 1.1 Consultation Information Sheet sent to relevant persons

# BHP

## Petroleum

### Invitation for Feedback: Stakeholder Information Fact Sheet



## Griffin Decommissioning Environment Plans Northern Carnarvon Basin, North West Australia

BHP is decommissioning the Griffin Field (in production licences WA-10-L) and the associated gas export pipeline (GEP) (pipeline licences WA-3-PL, TPL/10, and PL 20) (Figure 1). BHP is the designated operator of the Griffin Field and pipeline on behalf of BHP Petroleum Pty Ltd, INPEX Alpha Ltd, and Mobil Exploration and Producing Australia Pty Ltd.

The Griffin Field lies approximately 67 km north-east of Onslow, Western Australia. The GEP extends from the Griffin Field to shore, near the former Griffin Gas Export facility, now AGIG's Tubridgi gas storage facility.

Decommissioning activities to date in the Griffin Field include plug and abandonment of all wells in 2017 and removal of the mid-depth buoys.

In November 2021 BHP consulted on the removal of the majority of the remaining equipment located in the Griffin Field. On 22 December 2021 the associated environment plan (EP) for these removal activities, the *Griffin Decommissioning and Field Management EP*, was submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for assessment.

BHP is now planning additional decommissioning activities and is seeking stakeholder feedback to inform the development of the associated EPs for submission to NOPSEMA and the Department of Mines, Industry Regulation and Safety (DMIRS). These activities comprise:

- Construction, operation and rehabilitation of a temporary pumping and liquid storage area (onshore Western Australia).
- Removal of residual mercury contamination within the GEP (onshore Western Australia, coastal waters, and Commonwealth waters) to acceptable thresholds for mercury in sediment, as defined by *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (2016) and Department of Water and Environmental Regulation (DWER) guidelines.
- Abandoning the GEP *in situ* following verification of successful mercury removal and surveying (coastal waters and Commonwealth waters).
- Abandoning *in situ* selected equipment in the Griffin Field (Commonwealth waters).

Separate EPs will be required for the proposed additional activities, with two EPs to be submitted to NOPSEMA for activities planned for Commonwealth waters and an EP to be submitted to the DMIRS for activities planned for State waters/lands. The EPs are being written to allow the activity to occur at any time of year as schedules are subject to change and to allow our business flexibility.

BHP is considering leaving the following equipment *in situ* at the completion of decommissioning activities:

- Concrete gravity bases
- The riser turret mooring (RTM) following removal of sections containing foam and other contaminants (plastics, batteries)
- The RTM mooring leg anchors, which are embedded in the seabed

- Piled foundations embedded in the seabed following removal of the portion of the piles above the seabed
- the GEP

BHP undertook an environmental impact assessment of the feasible decommissioning options for the equipment groups and GEP being left *in situ*. This assessment concluded that leaving these items *in situ* was a better environmental outcome due to:

- the environmental damage caused by their removal. The items listed above are either very heavy (the RTM is approximately 2,000 tonnes) or deeply embedded in the seabed.
- the very low environmental risk from the degradation of equipment. Once mercury removal from the GEP and foam and contaminants removal from the RTM is complete, the remaining equipment consists almost entirely of steel and concrete. The degradation products of steel and concrete are not considered toxic and these materials are routinely used in the construction of marinas, breakwaters etc.
- the marine communities associated with the equipment, particularly the GEP and RTM. Studies of the fish assemblages along the GEP noted a higher diversity and abundance of fishes, including substantially greater biomass of commercially and recreationally important fish species.

The equipment BHP is considering abandoning *in situ* in Commonwealth waters is subject to NOPSEMA's Section 572 Maintenance and Removal of Property (2020). This policy requires that BHP demonstrate that any alternatives to full removal of property, such as abandonment *in situ*, yields equal or better environmental outcomes compared to full removal.

The decommissioning activities will not take place within any marine conservation areas. Marine conservation areas and their distances from the decommissioning activities operational area are listed in Table 1.

The decommissioning activities described in this Stakeholder Fact Sheet are planned to commence in Q1 2023, pending approvals, vessel availability and weather constraints.

**Table 1 Marine conservation areas in proximity to the decommissioning activities operational area**

Marine Conservation Area	Approx. Distance from the Operational Area
Muiron Islands Marine Management Area (State)	38 km
Ningaloo Marine Park (State)	52 km
Ningaloo Marine Park (Commonwealth)	59 km
Barrow Island Marine Management Area (State)	66 km
Montebello Marine Park (Commonwealth)	69 km
Gascoyne Marine Park (Commonwealth)	78 km

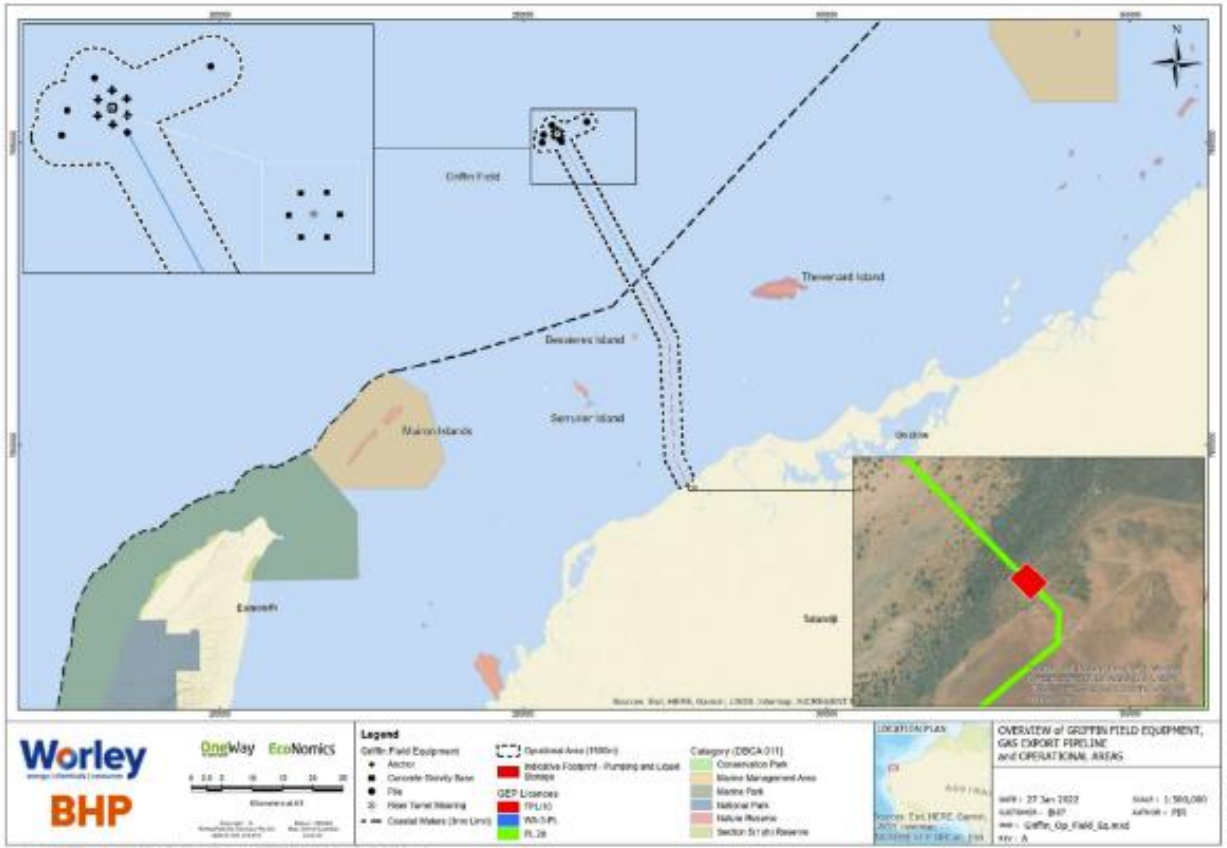


Figure 1 Overview of decommissioning activities in this stakeholder fact sheet  
 Document number: 411012-00328-23000-LST-0009



## Proposed Activity

A summary of decommissioning activities is presented in Table 2. The decommissioning activities are anticipated to include:

- Construction, operation and rehabilitation of temporary onshore pumping and liquid storage area.
- Removal of mercury contamination within the GEP.
- Abandonment *in situ* of the GEP. The GEP is a concrete-coated, 219 mm diameter steel pipeline that extends between the Griffin field and the former Griffin onshore gas plant. The length of the GEP between the Griffin field and the shore crossing is approximately 61.6 km long. The GEP is largely buried in state waters due to trenching during installation, with some sections that couldn't be buried secured to the seabed by rock bolts. The majority of the GEP in Commonwealth waters was laid directly on the seabed as no additional stabilisation was required. The GEP is stable on the seabed, with little evidence of any lateral displacement following installation.
- Abandonment *in situ* of the following equipment within the Griffin Field:
  - Six concrete gravity bases for the mid-depth buoys. These are large concrete structures and are mostly buried, sitting flush with the seabed.
  - The riser turret mooring (RTM), following placement of the mooring on the seabed and removal of the top sections containing foam and other contaminants. The remaining section of the RTM is a steel structure with iron ore ballast and is ~65 m long and 6 m in diameter.
  - Piled foundations for the pipeline end manifold (PLEM) and four distribution skids. Piles will be cut as close as practical to the mudline. Piles are steel and cement structures, 30-inch diameter and ~20 m long.
  - Anchors used to hold the RTM in place (anchor legs removed from above the seabed). There are 12 anchors, 2 per mooring leg. They are buried and any protrusions will be cut at as close as practical to the mudline.

The location of the equipment is in Table 3.

The GEP contains residual mercury. BHP will remove mercury from the GEP using a chemical cleaning process that involves specialist chemicals being pushed by pipeline inspection gauges (PIGs) from shore to the end of the GEP in Commonwealth waters. The fluids will then be pushed back to shore, along with extracted mercury in the GEP, where they will be recovered and disposed of.

A temporary onshore pumping and liquid storage area is required to send and receive cleaning fluids along the GEP. This temporary pumping and liquid storage area will be constructed onshore behind the dunes along the PL 20 pipeline licence. Access to and from the temporary pumping and liquid storage area will be by existing roads and tracks where practicable. The tank storage for liquids, including potentially hazardous hydrocarbon and mercury removal liquids, and high-risk spill locations will be bunded to prevent accidental releases polluting the environment.

After the mercury removal activities are completed, all equipment will be removed from the temporary pumping and liquid storage area. The area disturbed by the construction and operation of the temporary pumping and liquid storage area will then be rehabilitated.

The mercury removal process will require a vessel at the PLEM to support the pigging operations. BHP will verify the effectiveness of mercury removal from the GEP following the pigging activities. There are no planned releases of chemicals in Commonwealth or State waters. The PLEM and GEP Z spool will be removed, as described in the *Griffin Field Management and Equipment Removal EP*. If mercury levels in the GEP cannot be reduced to acceptable thresholds, additional mitigation measures will be implemented, such as burial or removal.

Following cleaning, BHP will undertake a survey of the GEP, which may include multibeam sonar, side scan sonar and visual inspection, after which the GEP will be abandoned *in situ*.

The equipment in the Griffin Field that BHP proposes to abandon *in situ* will be left as is following the equipment removal campaign. This equipment consists of benign materials, such as concrete and steel, and lies in approximately 130 m water depth. The RTM, along with the GEP, supports diverse benthic habitats and associated communities. These habitats support relatively high diversity and abundance fish communities, including fish species targeted by recreational and commercial fishers. Removal of the equipment proposed to be abandoned *in situ* would eliminate these habitats and associated fish, as well as substantially disturb the seabed.

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The buried structures do not support benthic habitats or associated communities, but given the degree of burial, materials of construction and the object sizes, their recovery will create a significant environmental disturbance. The buried structures are made from concrete and steel, which poses negligible environmental risk as they degrade over time.

**Table 2 Summary of decommissioning activities**

Griffin Subsea Infrastructure Decommissioning Activities	
Earliest expected commencement date	Earliest start is Q1 2023, subject to approvals, vessel availability, and weather constraints.
Petroleum licences	WA-10-L (Cwth), WA-12-L (Cwth), WA-3-PL (Cwth), TPL/10 (WA), PL-20 (WA)
Operational area	A 1,500 m radius temporary Operational Area (precautionary) around the GEP and equipment in the Griffin Field A temporary onshore site hosting tanks, pumping equipment, and supporting facilities. All material from the temporary onshore site will be removed following completion of the mercury removal activities. The site will then be rehabilitated.
Estimated duration	90-120 days
Infrastructure	1 x gas export pipeline (GEP) 1 x riser turret mooring (RTM) 12 x RTM anchors 5 x piled foundations (1 x PLEM, 4 x distribution skids) 6 x concrete gravity bases
Vessels	Support vessels are planned to be used to support removal of mercury from the GEP. No more than 2 vessels will be used at any one time
Distance to nearest towns/land fall (from field centre point)	Muiron Islands ~43 km Thevenard Island ~20 km Onslow ~41 km Exmouth ~85 km North West Cape ~71 km

**Table 3 Indicative locations of equipment considered in this stakeholder fact sheet**

Subsea Infrastructure	Easting <sup>1</sup>	Northing <sup>1</sup>	Activity
Gas export pipeline – start (PLEM)	256393	7650218	Remove mercury and leave <i>in-situ</i>
Gas export pipeline – KP0	277214	7593548	
Riser turret mooring (RTM)	255645	7651464	Leave <i>in situ</i> after placement on seabed and removal of sections containing foam
RTM anchor pair 1 <sup>2</sup>	255639	7652302	
RTM anchor pair 2 <sup>2</sup>	256384	7651890	
RTM anchor pair 3 <sup>2</sup>	256388	7651058	
RTM anchor pair 4 <sup>2</sup>	255671	7650628	
RTM anchor pair 5 <sup>2</sup>	254930	7651040	
RTM anchor pair 6 <sup>2</sup>	254934	7651863	
PLEM pile foundation	256393	7650218	Cut at the seabed, remove cut section, and leave buried section <i>in situ</i>
Distribution skid 1/2	260535	7653488	
Distribution Skid 4	253150	7650065	

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Subsea Infrastructure	Easting <sup>1</sup>	Northing <sup>1</sup>	Activity
Distribution Skid 5	253418	7651297	Leave in situ
Distribution Skid 6	254782	7652896	
Concrete gravity base 1	255714	7651571	
Concrete gravity base 2	255779	7651463	
Concrete gravity base 3	255716	7651352	
Concrete gravity base 4	255589	7651351	
Concrete gravity base 5	255524	7651460	
Concrete gravity base 6	255587	7651567]	
Onshore temporary pumping and liquid storage area	Indicative footprint shown in Figure 1		Construction, operation, and rehabilitation

<sup>1</sup> All coordinates in MGA50/GDA94

<sup>2</sup> Both anchors within 100 m of point

### Project Vessels

At least one offshore support vessel is required for the mercury removal from the GEP and subsequent pipeline survey. Vessels may require routine support, such as resupply and personnel transfers.

### Communication with Mariners

A 1,500 m radius Operational Area will apply around the GEP to allow for vessels to undertake decommissioning activities. A temporary 500 m exclusion zone will apply around the vessel supporting mercury removal activities at the PLEM.

Marine notices will be issued prior to activity commencement to alert vessels which may be operating in waters nearby.

### Implications for Stakeholders

BHP will consult relevant stakeholders whose functions, interests, and activities may be affected by the proposed decommissioning activities outlined in this Stakeholder Fact Sheet. We will also keep other stakeholders who have identified an interest in the activities informed about our planned activities.

### Summary of Key Impacts and Risks

BHP has identified potential impacts and risks to the environment based on the nature and scale of the decommissioning activities. Mitigation and management measures for these impacts and risks are summarised in Table 4. Further details will be provided in the EP.

**Table 4 Potential risks and associated management measures**

Potential Risks	Management and/or mitigation measures
<b>Planned Activities</b>	
Physical presence: Interactions with other marine users	<ul style="list-style-type: none"> <li>BHP's existing infrastructure is marked on nautical charts.</li> <li>Establishment of a 1,500 m operational area around the GEP for the duration of the activity.</li> <li>Consultation with relevant stakeholders (e.g., adjacent petroleum titleholders, commercial fishers and their representative organisations, and government departments and agencies) to inform decision making for the proposed activity and the development of the EP.</li> <li>BHP will notify relevant fishing industry representative organisations/associations and Government maritime safety agencies of the start and end dates for the activity, and details of exclusion zones prior to commencement of the activity.</li> </ul>
Emissions: Light	<ul style="list-style-type: none"> <li>Lighting is minimised to that required for safety and navigational purposes.</li> </ul>

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Potential Risks	Management and/or mitigation measures
Emissions: Above water and under water noise	<ul style="list-style-type: none"> <li>Measures will be in place for interacting with protected marine fauna as per the Environment Protection Biodiversity Conservation (EPBC) Regulations (Part 8).</li> </ul>
Planned discharges to the marine environment	<ul style="list-style-type: none"> <li>Chemical use will be managed in accordance with BHP and contractor chemical selection and approval procedures.</li> <li>All routine marine discharges will be managed according to legislative and regulatory requirements and BHP's Environment Performance Standards where applicable.</li> </ul>
Waste generation	<ul style="list-style-type: none"> <li>Waste generated aboard the support vessels will be managed in accordance with legislative requirements and a Waste Management Plan.</li> <li>Wastes will be managed and disposed of in a safe and environmentally responsible manner that prevents accidental loss to the marine or terrestrial environment.</li> <li>Wastes transported onshore will be sent to appropriate recycling or disposal facilities by a licenced waste contractor.</li> </ul>
Emissions: Air	<ul style="list-style-type: none"> <li>Vessels will comply with the International Convention for the Prevention of Pollution from Ships (MARPOL) 73/78 Annex VI and Marine Order 97 (Marine Pollution Prevention – Air Pollution)</li> </ul>
Benthic habitat disturbance	<ul style="list-style-type: none"> <li>Minimise disturbance where possible noting that physical removal of subsea infrastructure may have measurable but limited impacts to the environment, where recovery of ecosystem function is expected within &lt;1 year.</li> </ul>
Cleaning of vegetation	<ul style="list-style-type: none"> <li>Clearing to be limited to area in approved EP</li> <li>Make use of existing roads where practicable</li> <li>Rehabilitation of cleared areas following completion of onshore activities</li> <li>Stockpiling of topsoil during clearing for rehabilitation use</li> </ul>
Introduction of weeds	<ul style="list-style-type: none"> <li>Weed management of vehicles and equipment</li> </ul>
Disturbance of heritage sites	<ul style="list-style-type: none"> <li>Heritage survey prior to commencing ground disturbance</li> <li>Avoidance of known and discovered heritage sites</li> </ul>
<b>Unplanned Risks</b>	
Marine fauna interaction	<ul style="list-style-type: none"> <li>Measures will be in place for interacting with protected marine fauna as per the EPBC Regulations (Part 8).</li> </ul>
Invasive marine species	<ul style="list-style-type: none"> <li>BHP contracted vessels comply with Australian biosecurity requirements and guidance, and Australian ballast water requirements.</li> <li>Vessels will be assessed and managed in line with BHP procedures to prevent the introduction of invasive marine species.</li> </ul>
Unplanned releases including hydrocarbons	<ul style="list-style-type: none"> <li>All personnel undertaking activities will undergo relevant inductions and training.</li> <li>Procedures for lifts, equipment maintenance, inspections and bunding.</li> <li>All offshore activities will be managed in accordance with lifting and transfer procedures.</li> <li>Recovery of solid wastes lost overboard where safe and practicable to do so.</li> <li>Oil Pollution Emergency Plan (OPEP) and Operational and Scientific Monitoring Plan (OSMP) in place and tested.</li> <li>Appropriate vessel spill response plans, equipment and materials will be in place and maintained.</li> <li>Bunding of onshore storage of hazardous liquids</li> </ul>
Vessel collision	<ul style="list-style-type: none"> <li>Marine notifications will be made to relevant stakeholders, describing the location of the activity and the 1,500 m operational area, to manage the risk of vessel collisions.</li> </ul>

### Protecting Our People and the Environment

Safety of our people and the communities in which we operate always comes first. Identifying, controlling, and mitigating safety risks is managed through an overarching, consistent approach guided by BHP's Risk Management governance framework, with supporting processes and performance standards. All activities (routine and non-routine) will be performed in accordance with the industry-leading standards established in BHP's Charter, HSEC Framework and Controls, BHP's Wells and Seismic Delivery Management System, Engineering Standards and Procedures, and the EP accepted by NOPSEMA.

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Offshore petroleum activities are regulated through a robust and comprehensive environmental protection regime administered by NOPSEMA under the Commonwealth *Offshore Petroleum and Greenhouse Gas Storage Act 2006*. BHP undertakes risk assessments for all environmental aspects of a petroleum activity and stringently adheres to the regulatory regime.

The objective of the EP is to ensure that potential adverse impacts on the environment associated with activities, during both routine and non-routine activities, are identified, and will be continuously reduced to as low as reasonably practicable (ALARP) and an acceptable level. BHP is committed to understanding the impacts of our activities on stakeholders with an interest in the Griffin field and seeks feedback as part of the development of the EP.

### Responding to Emergencies

BHP's incident response plans are accepted by the regulator NOPSEMA. The Commonwealth Oil Pollution Emergency Plan (OPEP) is required by law under the Environmental Regulations and forms an appendix to the full EP. The OPEP outlines responsibilities, specific procedures and identifies resources available in the unlikely event of an oil pollution incident. BHP maintains a constant vigilance and readiness to prevent and/or respond to hydrocarbon loss of containment incidents. The readiness and competency of BHP to respond to incidents is maintained and tested by conducting activity-specific emergency response exercises.

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Should you have any questions, concerns or grievances regarding these activities or any other BHP Petroleum activities, please call BHP WA Community Hotline on **1800 421 077** or send an email to [bhppetexternalaffairs@bhp.com](mailto:bhppetexternalaffairs@bhp.com)

**BHP believes in putting health and safety first, being environmentally responsible and supporting our communities.**

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## 1.2 Email sent to Australian Hydrographic Office (AHO) and Australian Maritime Safety Authority (AMSA) – Marine Safety (1 February 2022)

Dear AHO and AMSA,

BHP is planning for the next stage of its ongoing safe and sustainable closure of the Griffin Field in Commonwealth waters offshore Western Australia.

The Griffin Field ceased production in 2009, with decommissioning being undertaken in stages. Decommissioning activities to date include the plugging and abandonment of all wells in 2017 and removal of the mid-depth buoys.

In November 2021 BHP consulted on the removal of the majority of the remaining equipment in the Griffin Field. On 22 December 2021 the associated environment plan (EP) for these removal activities, the *Griffin Decommissioning and Field Management Environment Plan*, was submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for assessment.

BHP is now planning additional decommissioning activities at the Griffin Field and the associated gas export pipeline (GEP), which extends from the Field to the former onshore Griffin Gas Export Facility, south of Onslow. BHP is seeking stakeholder feedback to inform the development of the associated EPs for Regulator assessment, with an activity summary provided in the table below.

Separate EPs will be required for the proposed additional activities, with two EPs to be submitted to NOPSEMA for activities planned for Commonwealth waters and an EP to be submitted to the Department of Mines, Industry Regulation and Safety (DMIRS) for activities planned for State waters/lands. The EPs are being written to allow the activity to occur at any time of year as schedules are subject to change and to allow our business flexibility.

BHP has identified that AHO and AMSA are relevant to activities planned to be managed under the NOPSEMA and DMIRS EPs. Details on opportunities to provide feedback are outlined below.

**Activity Overview**

<b>NOPSEMA EP activities:</b>	<p>Remove residual mercury contamination within the GEP (Commonwealth waters).</p> <p>Abandon the GEP in situ following verification of successful mercury removal and surveying (Commonwealth waters).</p> <p>Abandon in situ selected equipment in the Griffin Field (Commonwealth waters).</p>
<b>DMIRS EP activities:</b>	<p>Construct, operate and rehabilitate a temporary pumping and liquid storage area (onshore Western Australia).</p> <p>Remove residual mercury contamination within the GEP (State waters)</p> <p>Abandon the GEP in situ following verification of successful mercury removal and surveying (State waters and onshore).</p>
<b>Activity location:</b>	<p>Griffin Field centre point - approximately 41 km north-west of Onslow and 85 km north-east of Exmouth, Western Australia.</p>
<b>Infrastructure proposed to be abandoned in situ:</b>	<p>1 x gas export pipeline (GEP) following removal of residual mercury contamination.</p> <p>6 x concrete gravity bases, most of which are buried and sitting flush with the seabed.</p> <p>1 x riser turret mooring (RTM) following placement of the mooring on the seabed and removal of the top sections containing foam.</p> <p>5 x piled foundations (1 x PLEM, 4 x distribution skirts) cut as close as practical to the mudline.</p>

	12 x RTM anchors cut as close as practical to the mudline.
<b>Infrastructure locations:</b>	See attached Stakeholder Information Fact Sheet.
<b>Approximate water depth of Griffin Field:</b>	Approximately 130 m
<b>Estimate start date:</b>	Earliest start is Q1 2023 calendar year, subject to approvals, vessel availability, and weather constraints.
<b>Approximate duration:</b>	90 - 120 days
<b>Vessels:</b>	Support vessels are planned to be used to support removal of mercury from the GEP. No more than 2 vessels will be used at any one time.
<b>Operational area:</b>	A 500 m petroleum safety zone (exclusion) around the wells and a temporary 1500 m operational area around the wells for the duration of the activity.

### Your Feedback

Your feedback on the proposed activity and our response will be provided to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA), as is required under the Commonwealth Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009.

As a relevant stakeholder you are invited to provide comments. The Environment Plan will contain a summary of all comments received. However, BHP will not use or disclose your personal information in the Environment Plan. Full transcripts of all correspondence will be included in a separate sensitive information part of the Environment Plan provided to NOPSEMA.

Please provide comment as soon as practicable. Comments can be made by email, letter or by phone (refer to attached Fact Sheet for contact details)

Feedback is sought on the **NOPSEMA EP** by close of business on **23 February 2022**. Feedback is sought on the **DMIRS EP** by close of business on **4 March 2022**.

Regards,

### 1.3 Email sent to Australian Fisheries Management Authority (AFMA) (1 February 2022)

Dear AFMA

BHP is planning for the next stage of its ongoing safe and sustainable closure of the Griffin Field in Commonwealth waters offshore Western Australia.

The Griffin Field ceased production in 2009, with decommissioning being undertaken in stages. Decommissioning activities to date include the plugging and abandonment of all wells in 2017 and removal of the mid-depth buoys.

In November 2021 BHP consulted on the removal of the majority of the remaining equipment in the Griffin Field. On 22 December 2021 the associated environment plan (EP) for these removal activities, the *Griffin Decommissioning and Field Management Environment Plan*, was submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for assessment.

BHP is now planning additional decommissioning activities at the Griffin Field and the associated gas export pipeline (GEP), which extends from the Field to the former onshore Griffin Gas Export Facility, south of Onslow. BHP is seeking stakeholder feedback to inform the development of the associated EPs for Regulator assessment, with an activity summary provided in the table below.

Separate EPs will be required for the proposed additional activities, with two EPs to be submitted to NOPSEMA for activities planned for Commonwealth waters and an EP to be submitted to the Department of Mines, Industry Regulation and Safety (DMIRS) for activities planned for State waters/lands. The EPs are being written to allow the activity to occur at any time of year as schedules are subject to change and to allow our business flexibility.

BHP has identified that AFMA is relevant to activities planned to be managed under the NOPSEMA and DMIRS EPs. Details on opportunities to provide feedback are outlined below.

### Activity Overview

<b>NOPSEMA EP activities:</b>	<ul style="list-style-type: none"> <li>Remove residual mercury contamination within the GEP (Commonwealth waters).</li> <li>Abandon the GEP in situ following verification of successful mercury removal and surveying (Commonwealth waters).</li> <li>Abandon in situ selected equipment in the Griffin Field (Commonwealth waters).</li> </ul>
<b>DMIRS EP activities:</b>	<ul style="list-style-type: none"> <li>Construct, operate and rehabilitate a temporary pumping and liquid storage area (onshore Western Australia).</li> <li>Remove residual mercury contamination within the GEP (State waters)</li> <li>Abandon the GEP in situ following verification of successful mercury removal and surveying (State waters and onshore).</li> </ul>
<b>Activity location:</b>	<ul style="list-style-type: none"> <li>Griffin Field centre point - approximately 41 km north-west of Onslow and 85 km north-east of Exmouth, Western Australia.</li> </ul>



<b>Infrastructure proposed to be abandoned in situ:</b>	<ul style="list-style-type: none"> <li>• 1 x gas export pipeline (GEP) following removal of residual mercury contamination.</li> <li>• 6 x concrete gravity bases, most of which are buried and sitting flush with the seabed.</li> <li>• 1 x riser turret mooring (RTM) following placement of the mooring on the seabed and removal of the top sections containing foam.</li> <li>• 5 x piled foundations (1 x PLEM, 4 x distribution skids) cut as close as practical to the mudline.</li> <li>• 12 x RTM anchors cut as close as practical to the mudline.</li> </ul>
<b>Infrastructure locations:</b>	See attached Stakeholder Information Fact Sheet.
<b>Approximate water depth of Griffin Field:</b>	Approximately 130 m
<b>Estimate start date:</b>	Earliest start is Q1 2023 calendar year, subject to approvals, vessel availability, and weather constraints.
<b>Approximate duration:</b>	90 - 120 days
<b>Vessels:</b>	Support vessels are planned to be used to support removal of mercury from the GEP. No more than 2 vessels will be used at any one time.
<b>Operational area:</b>	A 500 m petroleum safety zone (exclusion) around the wells and a temporary 1500 m operational area around the wells for the duration of the activity.

### Commercial Fishing Overview

Commercial fisheries have been identified as being relevant to the proposed activities on the basis of fishing licence overlap with the proposed Operational (activity) Area, as well as consideration of fishing effort data, fishing methods and water depth.

### COMMONWEALTH FISHERIES

There are five overlapping Commonwealth fisheries, none of which have been identified as relevant based on the identification criteria. BHP will consult representative organisations on behalf of licence holders entitled to fish in the Operational Area.

### STATE FISHERIES

There are 13 overlapping State fisheries, of which the following fisheries have been identified as being relevant based on the identification criteria. Individual licence holders in these fisheries will be consulted.

- Onslow Prawn Managed Fishery
- Pilbara Line Fishery

- Pilbara Trap Managed Fishery
- Pilbara Fish Trawl (Interim) Managed Fishery

The following government departments and organisations (on behalf of licence holders entitled to fish in the Operational Area) will also be consulted:

Commonwealth Fisheries:

- Australian Fisheries Management Authority
- Australian Southern Bluefin Tuna Industry Association on behalf of licence holders in the Southern Bluefin Tuna Fishery
- Department of Agriculture, Water and the Environment
- Commonwealth Fisheries Association on behalf of licence holders in the North West Slope Trawl, Western Deepwater Trawl and Western Skipjack Tuna Fisheries
- Tuna Australia on behalf of licence holders in the Western Tuna and Billfish fishery

State Fisheries:

- Department of Primary Industry and Resources
- Western Australian Fishing Industry Council
- Pearl Producers Association
- Recfishwest

## YOUR FEEDBACK

Your feedback on the proposed activity and our response will be provided to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA), as is required under the Commonwealth Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009.

As a relevant stakeholder you are invited to provide comments. The Environment Plan will contain a summary of all comments received. However, BHP will not use or disclose your personal information in the Environment Plan. Full transcripts of all correspondence will be included in a separate sensitive information part of the Environment Plan provided to NOPSEMA.

Please provide comment as soon as practicable. Comments can be made by email, letter or by phone (refer to attached Fact Sheet for contact details)

Feedback is sought on the **NOPSEMA EP** by close of business on **23 February 2022**. Feedback is sought on the **DMIRS EP** by close of business on **4 March 2022**.

Regards

## 1.4 Email sent to Director of National Parks (DNP) (1 February 2022)

Dear DNP

BHP is planning for the next stage of its ongoing safe and sustainable closure of the Griffin Field in Commonwealth waters offshore Western Australia.

The Griffin Field ceased production in 2009, with decommissioning being undertaken in stages. Decommissioning activities to date include the plugging and abandonment of all wells in 2017 and removal of the mid-depth buoys.

In November 2021 BHP consulted on the removal of the majority of the remaining equipment in the Griffin Field. On 22 December 2021 the associated environment plan (EP) for these removal activities, the *Griffin Decommissioning and Field Management Environment Plan*, was submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for assessment.

BHP is now planning additional decommissioning activities at the Griffin Field and the associated gas export pipeline (GEP), which extends from the Field to the former onshore Griffin Gas Export Facility, south of Onslow. BHP is seeking stakeholder feedback to inform the development of the associated EPs for Regulator assessment, with an activity summary provided in the table below.

Separate EPs will be required for the proposed additional activities, with two EPs to be submitted to NOPSEMA for activities planned for Commonwealth waters and an EP to be submitted to the Department of Mines, Industry Regulation and Safety (DMIRS) for activities planned for State waters/lands. The EPs are being written to allow the activity to occur at any time of year as schedules are subject to change and to allow our business flexibility.

BHP has identified that AHO and AMSA are relevant to activities planned to be managed under the NOPSEMA and DMIRS EPs. Details on opportunities to provide feedback are outlined below.

### Activity Overview

<b>NOPSEMA EP activities:</b>	<p>Remove residual mercury contamination within the GEP (Commonwealth waters).</p> <p>Abandon the GEP in situ following verification of successful mercury removal and surveying (Commonwealth waters).</p> <p>Abandon in situ selected equipment in the Griffin Field (Commonwealth waters).</p>
<b>DMIRS EP activities:</b>	<p>Construct, operate and rehabilitate a temporary pumping and liquid storage area (onshore Western Australia).</p> <p>Remove residual mercury contamination within the GEP (State waters)</p> <p>Abandon the GEP in situ following verification of successful mercury removal and surveying (State waters)</p>

	and onshore).
<b>Activity location:</b>	Griffin Field centre point - approximately 41 km north-west of Onslow and 85 km north-east of Exmouth, Western Australia.
<b>Infrastructure proposed to be abandoned in situ:</b>	<p>1 x gas export pipeline (GEP) following removal of residual mercury contamination.</p> <p>6 x concrete gravity bases, most of which are buried and sitting flush with the seabed.</p> <p>1 x riser turret mooring (RTM) following placement of the mooring on the seabed and removal of the top sections containing foam.</p> <p>5 x piled foundations (1 x PLEM, 4 x distribution skirts) cut as close as practical to the mudline.</p> <p>12 x RTM anchors cut as close as practical to the mudline.</p>
<b>Infrastructure locations:</b>	See attached Stakeholder Information Fact Sheet.
<b>Approximate water depth of Griffin Field:</b>	Approximately 130 m
<b>Estimate start date:</b>	Earliest start is Q1 2023 calendar year, subject to approvals, vessel availability, and weather constraints.
<b>Approximate duration:</b>	90 - 120 days
<b>Vessels:</b>	Support vessels are planned to be used to support removal of mercury from the GEP. No more than 2 vessels will be used at any one time.
<b>Operational area:</b>	A 500 m petroleum safety zone (exclusion) around the wells and a temporary 1500 m operational area around the wells for the duration of the activity.

### Your Feedback

Your feedback on the proposed activity and our response will be provided to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA), as is required under the Commonwealth Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009.

As a relevant stakeholder you are invited to provide comments. The Environment Plan will contain a summary of all comments received. However, BHP will not use or disclose your personal information in the Environment Plan. Full transcripts of all correspondence will be included in a separate sensitive information part of the Environment Plan provided to NOPSEMA.

Please provide comment as soon as practicable. Comments can be made by email, letter or by phone (refer to attached Fact Sheet for contact details)

Feedback is sought on the **NOPSEMA EP** by close of business on **23 February 2022**. Feedback is sought on the **DMIRS EP** by close of business on **4 March 2022**.

Regards,

### 1.5 Email sent to Department of Biodiversity, Conservation and Attractions (DBCA) (31 January 2022)

Dear DBCA

BHP is planning for the next stage of its ongoing safe and sustainable closure of the Griffin Field in Commonwealth waters offshore Western Australia.

The Griffin Field ceased production in 2009, with decommissioning being undertaken in stages. Decommissioning activities to date include the plugging and abandonment of all wells in 2017 and removal of the mid-depth buoys.

In November 2021 BHP consulted on the removal of the majority of the remaining equipment in the Griffin Field. On 22 December 2021 the associated environment plan (EP) for these removal activities, the *Griffin Decommissioning and Field Management Environment Plan*, was submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for assessment.

BHP is now planning additional decommissioning activities at the Griffin Field and the associated gas export pipeline (GEP), which extends from the Field to the former onshore Griffin Gas Export Facility, south of Onslow. BHP is seeking stakeholder feedback to inform the development of the associated EPs for Regulator assessment, with an activity summary provided in the table below.

Separate EPs will be required for the proposed additional activities, with two EPs to be submitted to NOPSEMA for activities planned for Commonwealth waters and an EP to be submitted to the Department of Mines, Industry Regulation and Safety (DMIRS) for activities planned for State waters/lands. The EPs are being written to allow the activity to occur at any time of year as schedules are subject to change and to allow our business flexibility.

BHP has identified that AHO and AMSA are relevant to activities planned to be managed under the NOPSEMA and DMIRS EPs. Details on opportunities to provide feedback are outlined below.

#### Activity Overview

<b>NOPSEMA EP activities:</b>	<p>Remove residual mercury contamination within the GEP (Commonwealth waters).</p> <p>Abandon the GEP in situ following verification of successful mercury removal and surveying (Commonwealth waters).</p> <p>Abandon in situ selected equipment in the Griffin</p>
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	Field (Commonwealth waters).
<b>DMIRS EP activities:</b>	<p>Construct, operate and rehabilitate a temporary pumping and liquid storage area (onshore Western Australia).</p> <p>Remove residual mercury contamination within the GEP (State waters)</p> <p>Abandon the GEP in situ following verification of successful mercury removal and surveying (State waters and onshore).</p>
<b>Activity location:</b>	Griffin Field centre point - approximately 41 km north-west of Onslow and 85 km north-east of Exmouth, Western Australia.
<b>Infrastructure proposed to be abandoned in situ:</b>	<p>1 x gas export pipeline (GEP) following removal of residual mercury contamination.</p> <p>6 x concrete gravity bases, most of which are buried and sitting flush with the seabed.</p> <p>1 x riser turret mooring (RTM) following placement of the mooring on the seabed and removal of the top sections containing foam.</p> <p>5 x piled foundations (1 x PLEM, 4 x distribution skids) cut as close as practical to the mudline.</p> <p>12 x RTM anchors cut as close as practical to the mudline.</p>
<b>Infrastructure locations:</b>	See attached Stakeholder Information Fact Sheet.
<b>Approximate water depth of Griffin Field:</b>	Approximately 130 m
<b>Estimate start date:</b>	Earliest start is Q1 2023 calendar year, subject to approvals, vessel availability, and weather constraints.
<b>Approximate duration:</b>	90 - 120 days
<b>Vessels:</b>	Support vessels are planned to be used to support removal of mercury from the GEP. No more than 2 vessels will be used at any one time.
<b>Operational area:</b>	A 500 m petroleum safety zone (exclusion) around the wells and a temporary 1500 m operational area around the wells for the duration of the activity.

### Your Feedback

Your feedback on the proposed activity and our response will be provided to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA), as is required under the Commonwealth Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009.

As a relevant stakeholder you are invited to provide comments. The Environment Plan will contain a summary of all comments received. However, BHP will not use or disclose your personal information in the Environment Plan. Full transcripts of all correspondence will be included in a separate sensitive information part of the Environment Plan provided to NOPSEMA.

Please provide comment as soon as practicable. Comments can be made by email, letter or by phone (refer to attached Fact Sheet for contact details)

Feedback is sought on the **NOPSEMA EP** by close of business on **23 February 2022**. Feedback is sought on the **DMIRS EP** by close of business on **4 March 2022**.

Regards,

### 1.5.1 Email sent to DBCA (14 February 2022)

Dear DBCA

BHP is sending this reminder email to you as your interests are relevant to BHP's next phase of planning for the safe and sustainable closure of the Griffin Field in Commonwealth waters offshore Western Australia.

A summary of proposed activities is outlined below, including an overview of which remaining subsea infrastructure BHP plans to remove and which infrastructure it plans to leave in situ. Further detail is provided in the attached consultation information Fact Sheet.

We appreciate that DBCA may have provided feedback during the public comparative assessment process in 2021 to inform BHP's planning on potential end-state decommissioning options, or in November 2021 for the Griffin Decommissioning and Field Management Environment Plan (EP), where BHP sought feedback on removal of the majority of equipment in the Griffin Field.

However, providing your views on specific activities outlined below is important as BHP will in the coming weeks be submitting an EP to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for those activities planned for Commonwealth waters and an EP to be submitted to the Department of Mines, Industry Regulation and Safety (DMIRS) for those activities planned for State waters/lands.

#### Activity Overview

<b>NOPSEMA EP activities:</b>	Remove residual mercury contamination within the GEP (Commonwealth waters).  Abandon the GEP in situ following verification of successful mercury removal and surveying (Commonwealth waters).  Abandon in situ selected equipment in the Griffin Field (Commonwealth waters).
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<b>DMIRS EP activities:</b>	<p>Construct, operate and rehabilitate a temporary pumping and liquid storage area (onshore Western Australia).</p> <p>Remove residual mercury contamination within the GEP (State waters)</p> <p>Abandon the GEP in situ following verification of successful mercury removal and surveying (State waters and onshore).</p>
<b>Activity location:</b>	Griffin Field centre point - approximately 41 km north-west of Onslow and 85 km north-east of Exmouth, Western Australia.
<b>Infrastructure proposed to be abandoned in situ:</b>	<p>1 x gas export pipeline (GEP) following removal of residual mercury contamination.</p> <p>6 x concrete gravity bases, most of which are buried and sitting flush with the seabed.</p> <p>1 x riser turret mooring (RTM) following placement of the mooring on the seabed and removal of the top sections containing foam.</p> <p>5 x piled foundations (1 x PLEM, 4 x distribution skirts) cut as close as practical to the mudline.</p> <p>12 x RTM anchors cut as close as practical to the mudline.</p>
<b>Infrastructure locations:</b>	See attached Stakeholder Information Fact Sheet.
<b>Approximate water depth of Griffin Field:</b>	Approximately 130 m
<b>Estimate start date:</b>	Earliest start is Q1 2023 calendar year, subject to approvals, vessel availability, and weather constraints.
<b>Approximate duration:</b>	90 - 120 days
<b>Vessels:</b>	Support vessels are planned to be used to support removal of mercury from the GEP. No more than 2 vessels will be used at any one time.
<b>Operational area:</b>	A 500 m petroleum safety zone (exclusion) around the wells and a temporary 1500 m operational area around the wells for the duration of the activity.

### Your Feedback

Your feedback on the proposed activity and our response will be provided to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA), as is required under the Commonwealth Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009.

As a relevant stakeholder you are invited to provide comments. The Environment Plan will contain a summary of all comments received. However, BHP will not use or disclose your personal information in the Environment Plan. Full transcripts of all correspondence will be included in a separate sensitive information part of the Environment Plan provided to NOPSEMA.

Please provide comment as soon as practicable. Comments can be made by email, letter or by phone (refer to attached Fact Sheet for contact details)



Feedback is sought on the **NOPSEMA EP** by close of business on **23 February 2022**. Feedback is sought on the **DMIRS EP** by close of business on **4 March 2022**.

Regards,

#### **1.6 Email sent to Department of Mines, Industry Regulation and Safety (DMIRS) (31 January 2022)**

Dear DMIRS

BHP is planning for the next stage of its ongoing safe and sustainable closure of the Griffin Field in Commonwealth waters offshore Western Australia.

The Griffin Field ceased production in 2009, with decommissioning being undertaken in stages. Decommissioning activities to date include the plugging and abandonment of all wells in 2017 and removal of the mid-depth buoys.

In November 2021 BHP consulted on the removal of the majority of the remaining equipment in the Griffin Field. On 22 December 2021 the associated environment plan (EP) for these removal activities, the *Griffin Decommissioning and Field Management Environment Plan*, was submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for assessment.

BHP is now planning additional decommissioning activities at the Griffin Field and the associated gas export pipeline (GEP), which extends from the Field to the former onshore Griffin Gas Export Facility, south of Onslow. BHP is seeking stakeholder feedback to inform the development of the associated EPs for Regulator assessment, with an activity summary provided in the table below.

Separate EPs will be required for the proposed additional activities, with two EPs to be submitted to NOPSEMA for activities planned for Commonwealth waters and an EP to be submitted to the Department of Mines, Industry Regulation and Safety (DMIRS) for activities planned for State waters/lands. The EPs are being written to allow the activity to occur at any time of year as schedules are subject to change and to allow our business flexibility.

BHP has identified that AHO and AMSA are relevant to activities planned to be managed under the NOPSEMA and DMIRS EPs. Details on opportunities to provide feedback are outlined below.

#### **Activity Overview**

<p><b>NOPSEMA EP activities:</b></p>	<p>Remove residual mercury contamination within the GEP (Commonwealth waters).</p> <p>Abandon the GEP in situ following verification of successful mercury removal and surveying (Commonwealth waters).</p> <p>Abandon in situ selected equipment in the Griffin Field (Commonwealth waters).</p>
<p><b>DMIRS EP activities:</b></p>	<p>Construct, operate and rehabilitate a temporary pumping and liquid storage area (onshore Western Australia).</p> <p>Remove residual mercury contamination within the GEP (State waters)</p> <p>Abandon the GEP in situ following verification of successful mercury removal and surveying (State waters and onshore).</p>
<p><b>Activity location:</b></p>	<p>Griffin Field centre point - approximately 41 km north-west of Onslow and 85 km north-east of Exmouth, Western Australia.</p>
<p><b>Infrastructure proposed to be abandoned in situ:</b></p>	<p>1 x gas export pipeline (GEP) following removal of residual mercury contamination.</p> <p>6 x concrete gravity bases, most of which are buried and sitting flush with the seabed.</p> <p>1 x riser turret mooring (RTM) following placement of the mooring on the seabed and removal of the top sections containing foam.</p> <p>5 x piled foundations (1 x PLEM, 4 x distribution skirts) cut as close as practical to the mudline.</p> <p>12 x RTM anchors cut as close as practical to the mudline.</p>
<p><b>Infrastructure locations:</b></p>	<p>See attached Stakeholder Information Fact Sheet.</p>
<p><b>Approximate water depth of Griffin Field:</b></p>	<p>Approximately 130 m</p>
<p><b>Estimate start date:</b></p>	<p>Earliest start is Q1 2023 calendar year, subject to approvals, vessel availability, and weather constraints.</p>
<p><b>Approximate duration:</b></p>	<p>90 - 120 days</p>
<p><b>Vessels:</b></p>	<p>Support vessels are planned to be used to support removal of mercury from the GEP. No more than 2 vessels will be used at any one time.</p>
<p><b>Operational area:</b></p>	<p>A 500 m petroleum safety zone (exclusion) around the wells and a temporary 1500 m operational area around the wells for the duration of the activity.</p>

**Your Feedback**

Your feedback on the proposed activity and our response will be provided to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA), as is required under the Commonwealth Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009.

As a relevant stakeholder you are invited to provide comments. The Environment Plan will contain a summary of all comments received. However, BHP will not use or disclose your personal information in the Environment Plan. Full transcripts of all correspondence will be included in a separate sensitive information part of the Environment Plan provided to NOPSEMA.

Please provide comment as soon as practicable. Comments can be made by email, letter or by phone (refer to attached Fact Sheet for contact details)

Feedback is sought on the **NOPSEMA EP** by close of business on **23 February 2022**. Feedback is sought on the **DMIRS EP** by close of business on **4 March 2022**.

Regards,

## 1.7 Email sent to Department of Transport (DoT) (31 January 2022)

Dear DoT

BHP is planning for the next stage of its ongoing safe and sustainable closure of the Griffin Field in Commonwealth waters offshore Western Australia.

The Griffin Field ceased production in 2009, with decommissioning being undertaken in stages. Decommissioning activities to date include the plugging and abandonment of all wells in 2017 and removal of the mid-depth buoys.

In November 2021 BHP consulted on the removal of the majority of the remaining equipment in the Griffin Field. On 22 December 2021 the associated environment plan (EP) for these removal activities, the *Griffin Decommissioning and Field Management Environment Plan*, was submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for assessment.

BHP is now planning additional decommissioning activities at the Griffin Field and the associated gas export pipeline (GEP), which extends from the Field to the former onshore Griffin Gas Export Facility, south of Onslow. BHP is seeking stakeholder feedback to inform the development of the associated EPs for Regulator assessment, with an activity summary provided in the table below.

Separate EPs will be required for the proposed additional activities, with two EPs to be submitted to NOPSEMA for activities planned for Commonwealth waters and an EP to be submitted to the Department of Mines, Industry Regulation and Safety (DMIRS) for activities planned for State waters/lands. The EPs are being written to allow the activity to occur at any time of year as schedules are subject to change and to allow our business flexibility.

BHP has identified that AHO and AMSA are relevant to activities planned to be managed under the NOPSEMA and DMIRS EPs. Details on opportunities to provide feedback are outlined below.

## Activity Overview

<b>NOPSEMA EP activities:</b>	<p>Remove residual mercury contamination within the GEP (Commonwealth waters).</p> <p>Abandon the GEP in situ following verification of successful mercury removal and surveying (Commonwealth waters).</p> <p>Abandon in situ selected equipment in the Griffin Field (Commonwealth waters).</p>
<b>DMIRS EP activities:</b>	<p>Construct, operate and rehabilitate a temporary pumping and liquid storage area (onshore Western Australia).</p> <p>Remove residual mercury contamination within the GEP (State waters)</p> <p>Abandon the GEP in situ following verification of successful mercury removal and surveying (State waters and onshore).</p>
<b>Activity location:</b>	<p>Griffin Field centre point - approximately 41 km north-west of Onslow and 85 km north-east of Exmouth, Western Australia.</p>
<b>Infrastructure proposed to be abandoned in situ:</b>	<p>1 x gas export pipeline (GEP) following removal of residual mercury contamination.</p> <p>6 x concrete gravity bases, most of which are buried and sitting flush with the seabed.</p> <p>1 x riser turret mooring (RTM) following placement of the mooring on the seabed and removal of the top sections containing foam.</p> <p>5 x piled foundations (1 x PLEM, 4 x distribution skids) cut as close as practical to the mudline.</p> <p>12 x RTM anchors cut as close as practical to the mudline.</p>
<b>Infrastructure locations:</b>	<p>See attached Stakeholder Information Fact Sheet.</p>
<b>Approximate water depth of Griffin Field:</b>	<p>Approximately 130 m</p>
<b>Estimate start date:</b>	<p>Earliest start is Q1 2023 calendar year, subject to approvals, vessel availability, and weather constraints.</p>
<b>Approximate duration:</b>	<p>90 - 120 days</p>
<b>Vessels:</b>	<p>Support vessels are planned to be used to support removal of mercury from the GEP. No more than 2 vessels will be used at any one time.</p>
<b>Operational area:</b>	<p>A 500 m petroleum safety zone (exclusion) around the wells and a temporary 1500 m operational area around the wells for the duration of the activity.</p>

## Your Feedback

Your feedback on the proposed activity and our response will be provided to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA), as is required under the Commonwealth Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009.

As a relevant stakeholder you are invited to provide comments. The Environment Plan will contain a summary of all comments received. However, BHP will not use or disclose your personal information in the Environment Plan. Full transcripts of all correspondence will be included in a separate sensitive information part of the Environment Plan provided to NOPSEMA.

Please provide comment as soon as practicable. Comments can be made by email, letter or by phone (refer to attached Fact Sheet for contact details)

Feedback is sought on the **NOPSEMA EP** by close of business on **23 February 2022**. Feedback is sought on the **DMIRS EP** by close of business on **4 March 2022**.

Regards,

### 1.8 Email sent to Tuna Australia (31 January 2022)

Dear Tuna Australia

BHP is planning for the next stage of its ongoing safe and sustainable closure of the Griffin Field in Commonwealth waters offshore Western Australia.

The Griffin Field ceased production in 2009, with decommissioning being undertaken in stages. Decommissioning activities to date include the plugging and abandonment of all wells in 2017 and removal of the mid-depth buoys.

In November 2021 BHP consulted on the removal of the majority of the remaining equipment in the Griffin Field. On 22 December 2021 the associated environment plan (EP) for these removal activities, the *Griffin Decommissioning and Field Management Environment Plan*, was submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for assessment.

BHP is now planning additional decommissioning activities at the Griffin Field and the associated gas export pipeline (GEP), which extends from the Field to the former onshore Griffin Gas Export Facility, south of Onslow. BHP is seeking stakeholder feedback to inform the development of the associated EPs for Regulator assessment, with an activity summary provided in the table below.

Separate EPs will be required for the proposed additional activities, with two EPs to be submitted to NOPSEMA for activities planned for Commonwealth waters and an EP to be submitted to the Department of Mines, Industry Regulation and Safety (DMIRS) for activities planned for State waters/lands. The EPs are being written to allow the activity to occur at any time of year as schedules are subject to change and to allow our business flexibility.

BHP has identified that AHO and AMSA are relevant to activities planned to be managed under the NOPSEMA and DMIRS EPs. Details on opportunities to provide feedback are outlined below.

## Activity Overview

<p><b>NOPSEMA EP activities:</b></p>	<p>Remove residual mercury contamination within the GEP (Commonwealth waters).</p> <p>Abandon the GEP in situ following verification of successful mercury removal and surveying (Commonwealth waters).</p> <p>Abandon in situ selected equipment in the Griffin Field (Commonwealth waters).</p>
<p><b>DMIRS EP activities:</b></p>	<p>Construct, operate and rehabilitate a temporary pumping and liquid storage area (onshore Western Australia).</p> <p>Remove residual mercury contamination within the GEP (State waters)</p> <p>Abandon the GEP in situ following verification of successful mercury removal and surveying (State waters and onshore).</p>
<p><b>Activity location:</b></p>	<p>Griffin Field centre point - approximately 41 km north-west of Onslow and 85 km north-east of Exmouth, Western Australia.</p>
<p><b>Infrastructure proposed to be abandoned in situ:</b></p>	<p>1 x gas export pipeline (GEP) following removal of residual mercury contamination.</p> <p>6 x concrete gravity bases, most of which are buried and sitting flush with the seabed.</p> <p>1 x riser turret mooring (RTM) following placement of the mooring on the seabed and removal of the top sections containing foam.</p> <p>5 x piled foundations (1 x PLEM, 4 x distribution skids) cut as close as practical to the mudline.</p> <p>12 x RTM anchors cut as close as practical to the mudline.</p>
<p><b>Infrastructure locations:</b></p>	<p>See attached Stakeholder Information Fact Sheet.</p>
<p><b>Approximate water depth of Griffin Field:</b></p>	<p>Approximately 130 m</p>
<p><b>Estimate start date:</b></p>	<p>Earliest start is Q1 2023 calendar year, subject to approvals, vessel availability, and weather constraints.</p>
<p><b>Approximate duration:</b></p>	<p>90 - 120 days</p>
<p><b>Vessels:</b></p>	<p>Support vessels are planned to be used to support removal of mercury from the GEP. No more than 2 vessels will be used at any one time.</p>
<p><b>Operational area:</b></p>	<p>A 500 m petroleum safety zone (exclusion) around the wells and a temporary 1500 m operational area around the wells for the duration of the activity.</p>

## Commercial Fishing Overview

Commercial fisheries have been identified as being relevant to the proposed activities on the basis of fishing licence overlap with the proposed Operational (activity) Area, as well as consideration of fishing effort data, fishing methods and water depth.

### Commonwealth fisheries

There are five overlapping Commonwealth fisheries, none of which have been identified as relevant based on the identification criteria. BHP will consult representative organisations on behalf of licence holders entitled to fish in the Operational Area.

### State fisheries

There are 13 overlapping State fisheries, of which the following fisheries have been identified as being relevant based on the identification criteria. Individual licence holders in these fisheries will be consulted.

- Onslow Prawn Managed Fishery
- Pilbara Line Fishery
- Pilbara Trap Managed Fishery
- Pilbara Fish Trawl (Interim) Managed Fishery

The following government departments and organisations (on behalf of licence holders entitled to fish in the Operational Area) will also be consulted:

### Commonwealth Fisheries:

- Australian Fisheries Management Authority
- Australian Southern Bluefin Tuna Industry Association on behalf of licence holders in the Southern Bluefin Tuna Fishery
- Department of Agriculture, Water and the Environment
- Commonwealth Fisheries Association on behalf of licence holders in the North West Slope Trawl, Western Deepwater Trawl and Western Skipjack Tuna Fisheries
- Tuna Australia on behalf of licence holders in the Western Tuna and Billfish fishery

### State Fisheries:

- Department of Primary Industry and Resources
- Western Australian Fishing Industry Council
- Pearl Producers Association
- Recfishwest

## Your Feedback

Your feedback on the proposed activity and our response will be provided to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA), as is required under the Commonwealth Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009.

As a relevant stakeholder you are invited to provide comments. The Environment Plan will contain a summary of all comments received. However, BHP will not use or disclose your personal information in the Environment Plan. Full

transcripts of all correspondence will be included in a separate sensitive information part of the Environment Plan provided to NOPSEMA.

Please provide comment as soon as practicable. Comments can be made by email, letter or by phone (refer to attached Fact Sheet for contact details)

Feedback is sought on the **NOPSEMA EP** by close of business on **23 February 2022**. Feedback is sought on the **DMIRS EP** by close of business on **4 March 2022**.

Regards,

### 1.8.1 Email sent to Tuna Australia (14 February 2022)

Dear [REDACTED]

BHP is sending this reminder email to you as your interests in commercial fishing are relevant to BHP's next phase of planning for the safe and sustainable closure of the Griffin Field in Commonwealth waters offshore Western Australia.

A summary of proposed activities is outlined below, including an overview of which remaining subsea infrastructure BHP plans to remove and which infrastructure it plans to leave in situ. Further detail is provided in the attached consultation information Fact Sheet.

We appreciate that Tuna Australia may have provided feedback during the public comparative assessment process in 2021 to inform BHP's planning on potential end-state decommissioning options, or in November 2021 for the *Griffin Decommissioning and Field Management Environment Plan (EP)*, where BHP sought feedback on removal of the majority of equipment in the Griffin Field.

However, providing your views on specific activities outlined below is important as BHP will in the coming weeks be submitting an EP to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for those activities planned for Commonwealth waters and an EP to be submitted to the Department of Mines, Industry Regulation and Safety (DMIRS) for those activities planned for State waters/lands.

### Activity Overview

<b>NOPSEMA EP activities:</b>	<ul style="list-style-type: none"><li>• Remove residual mercury contamination within the GEP (Commonwealth waters).</li><li>• Abandon the GEP in situ following verification of successful mercury removal and surveying (Commonwealth waters).</li><li>• Abandon in situ selected equipment in the Griffin Field (Commonwealth waters).</li></ul>
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<b>DMIRS EP activities:</b>	<ul style="list-style-type: none"> <li>• Construct, operate and rehabilitate a temporary pumping and liquid storage area (onshore Western Australia).</li> <li>• Remove residual mercury contamination within the GEP (State waters)</li> <li>• Abandon the GEP in situ following verification of successful mercury removal and surveying (State waters and onshore).</li> </ul>
<b>Activity location:</b>	<ul style="list-style-type: none"> <li>• Griffin Field centre point - approximately 41 km north-west of Onslow and 85 km north-east of Exmouth, Western Australia.</li> </ul>
<b>Infrastructure proposed to be abandoned in situ:</b>	<ul style="list-style-type: none"> <li>• 1 x gas export pipeline (GEP) following removal of residual mercury contamination.</li> <li>• 6 x concrete gravity bases, most of which are buried and sitting flush with the seabed.</li> <li>• 1 x riser turret mooring (RTM) following placement of the mooring on the seabed and removal of the top sections containing foam.</li> <li>• 5 x piled foundations (1 x PLEM, 4 x distribution skirts) cut as close as practical to the mudline.</li> <li>• 12 x RTM anchors cut as close as practical to the mudline.</li> </ul>
<b>Infrastructure locations:</b>	See attached Stakeholder Information Fact Sheet.
<b>Approximate water depth of Griffin Field:</b>	Approximately 130 m
<b>Estimate start date:</b>	Earliest start is Q1 2023 calendar year, subject to approvals, vessel availability, and weather constraints.
<b>Approximate duration:</b>	90 - 120 days
<b>Vessels:</b>	Support vessels are planned to be used to support removal of mercury from the GEP. No more than 2 vessels will be used at any one time.
<b>Operational area:</b>	A 500 m petroleum safety zone (exclusion) around the wells and a temporary 1500 m operational area around the wells for the duration of the activity.

## Commercial Fishing Overview

Commercial fisheries have been identified as being relevant to the proposed activities on the basis of fishing licence overlap with the proposed Operational (activity) Area, as well as consideration of fishing effort data, fishing methods and water depth.

## Commonwealth fisheries

There are five overlapping Commonwealth fisheries, none of which have been identified as relevant based on the

identification criteria. BHP will consult representative organisations on behalf of licence holders entitled to fish in the Operational Area.

### **State fisheries**

There are 13 overlapping State fisheries, of which the following fisheries have been identified as being relevant based on the identification criteria. Individual licence holders in these fisheries will be consulted.

- Onslow Prawn Managed Fishery
- Pilbara Line Fishery
- Pilbara Trap Managed Fishery
- Pilbara Fish Trawl (Interim) Managed Fishery

The following government departments and organisations (on behalf of licence holders entitled to fish in the Operational Area) will also be consulted:

### **Commonwealth Fisheries:**

- Australian Fisheries Management Authority
- Australian Southern Bluefin Tuna Industry Association on behalf of licence holders in the Southern Bluefin Tuna Fishery
- Department of Agriculture, Water and the Environment
- Commonwealth Fisheries Association on behalf of licence holders in the North West Slope Trawl, Western Deepwater Trawl and Western Skipjack Tuna Fisheries
- Tuna Australia on behalf of licence holders in the Western Tuna and Billfish fishery

### **State Fisheries:**

- Department of Primary Industry and Resources
- Western Australian Fishing Industry Council
- Pearl Producers Association
- Recfishwest

### **Your Feedback**

As a relevant stakeholder you are invited to provide comments. Each of the Environment Plans will contain a summary of all comments received. However, BHP will not use or disclose your personal information in the Environment Plans. Full transcripts of all correspondence will be included in separate sensitive information parts of the Environment Plans provided to NOPSEMA or DMIRS.

Please provide comment as soon as practicable. Comments can be made by email, letter or by phone (refer to attached Fact Sheet for contact details).

Feedback is sought on the **NOPSEMA EP** by close of business on **23 February**

**2022.** Feedback is sought on the **DMIRS EP** by close of business on **4 March**

**2022.**

Regards,

**1.9 Email sent to Western Australian Fishing Industry Council (WAFIC) (31 January 2022)**

Dear [REDACTED]

BHP is planning for the next stage of its ongoing safe and sustainable closure of the Griffin Field in Commonwealth waters offshore Western Australia.

The Griffin Field ceased production in 2009, with decommissioning being undertaken in stages. Decommissioning activities to date include the plugging and abandonment of all wells in 2017 and removal of the mid-depth buoys.

In November 2021 BHP consulted on the removal of the majority of the remaining equipment in the Griffin Field. On 22 December 2021 the associated environment plan (EP) for these removal activities, the *Griffin Decommissioning and Field Management Environment Plan*, was submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for assessment.

BHP is now planning additional decommissioning activities at the Griffin Field and the associated gas export pipeline (GEP), which extends from the Field to the former onshore Griffin Gas Export Facility, south of Onslow. BHP is seeking stakeholder feedback to inform the development of the associated EPs for Regulator assessment, with an activity summary provided in the table below.

Separate EPs will be required for the proposed additional activities, with two EPs to be submitted to NOPSEMA for activities planned for Commonwealth waters and an EP to be submitted to the Department of Mines, Industry Regulation and Safety (DMIRS) for activities planned for State waters/lands. The EPs are being written to allow the activity to occur at any time of year as schedules are subject to change and to allow our business flexibility.

BHP has identified that AHO and AMSA are relevant to activities planned to be managed under the NOPSEMA and DMIRS EPs. Details on opportunities to provide feedback are outlined below.

**Activity Overview**

<b>NOPSEMA EP activities:</b>	<p>Remove residual mercury contamination within the GEP (Commonwealth waters).</p> <p>Abandon the GEP in situ following verification of successful mercury removal and surveying (Commonwealth waters).</p> <p>Abandon in situ selected equipment in the Griffin Field (Commonwealth waters).</p>
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<b>DMIRS EP activities:</b>	<p>Construct, operate and rehabilitate a temporary pumping and liquid storage area (onshore Western Australia).</p> <p>Remove residual mercury contamination within the GEP (State waters)</p> <p>Abandon the GEP in situ following verification of successful mercury removal and surveying (State waters and onshore).</p>
<b>Activity location:</b>	Griffin Field centre point - approximately 41 km north-west of Onslow and 85 km north-east of Exmouth, Western Australia.
<b>Infrastructure proposed to be abandoned in situ:</b>	<p>1 x gas export pipeline (GEP) following removal of residual mercury contamination.</p> <p>6 x concrete gravity bases, most of which are buried and sitting flush with the seabed.</p> <p>1 x riser turret mooring (RTM) following placement of the mooring on the seabed and removal of the top sections containing foam.</p> <p>5 x piled foundations (1 x PLEM, 4 x distribution skirts) cut as close as practical to the mudline.</p> <p>12 x RTM anchors cut as close as practical to the mudline.</p>
<b>Infrastructure locations:</b>	See attached Stakeholder Information Fact Sheet.
<b>Approximate water depth of Griffin Field:</b>	Approximately 130 m
<b>Estimate start date:</b>	Earliest start is Q1 2023 calendar year, subject to approvals, vessel availability, and weather constraints.
<b>Approximate duration:</b>	90 - 120 days
<b>Vessels:</b>	Support vessels are planned to be used to support removal of mercury from the GEP. No more than 2 vessels will be used at any one time.
<b>Operational area:</b>	A 500 m petroleum safety zone (exclusion) around the wells and a temporary 1500 m operational area around the wells for the duration of the activity.

### Commercial Fishing Overview

Commercial fisheries have been identified as being relevant to the proposed activities on the basis of fishing licence overlap with the proposed Operational (activity) Area, as well as consideration of fishing effort data, fishing methods and water depth.

### Commonwealth fisheries

There are five overlapping Commonwealth fisheries, none of which have been identified as relevant based on the identification criteria. BHP will consult representative organisations on behalf of licence holders entitled to fish in the Operational Area.

State fisheries

There are 13 overlapping State fisheries, of which the following fisheries have been identified as being relevant based on the identification criteria. Individual licence holders in these fisheries will be consulted.

- Onslow Prawn Managed Fishery
- Pilbara Line Fishery
- Pilbara Trap Managed Fishery
- Pilbara Fish Trawl (Interim) Managed Fishery

The following government departments and organisations (on behalf of licence holders entitled to fish in the Operational Area) will also be consulted:

**Commonwealth Fisheries:**

- Australian Fisheries Management Authority
- Australian Southern Bluefin Tuna Industry Association on behalf of licence holders in the Southern Bluefin Tuna Fishery
- Department of Agriculture, Water and the Environment
- Commonwealth Fisheries Association on behalf of licence holders in the North West Slope Trawl, Western Deepwater Trawl and Western Skipjack Tuna Fisheries
- Tuna Australia on behalf of licence holders in the Western Tuna and Billfish fishery

**State Fisheries:**

- Department of Primary Industry and Resources
- Western Australian Fishing Industry Council
- Pearl Producers Association
- Recfishwest

**Your Feedback**

Your feedback on the proposed activity and our response will be provided to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA), as is required under the Commonwealth Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009.

As a relevant stakeholder you are invited to provide comments. The Environment Plan will contain a summary of all comments received. However, BHP will not use or disclose your personal information in the Environment Plan. Full transcripts of all correspondence will be included in a separate sensitive information part of the Environment Plan provided to NOPSEMA.

Please provide comment as soon as practicable. Comments can be made by email, letter or by phone (refer to attached Fact Sheet for contact details)

Feedback is sought on the **NOPSEMA EP** by close of business on **23 February 2022**. Feedback is sought on the **DMIRS EP** by close of business on **4 March 2022**.

Regards,

# BHP

Griffin Decommissioning – Stakeholder Engagement with WAFIC



Griffin Decommissioning Update - TCM

24 August 2021

## Introduction

WAFIC responded on 10 February 2022 to our Stakeholder Engagement for the Griffin Decommissioning deviation EPs, requesting the following further information:

- Images of the proposed infrastructure that is expected to remain *in situ*;
- The estimated final footprint;
- Details of what navigational safety are expected following decommissioning activities; and
- Details on any plastic type materials proposed to be left in situ

The following slides address these queries.

## Gas Export Pipeline

### Gas Export pipeline details:

- ~60km long, 8 inch in diameter, runs though Commonwealth and State Waters to shore ~40km south of Onslow
- Water depth ranges from 0-130m (at PLEM)
- Carbon steel construction with a 0.4mm corrosion coating and a concrete weight coating
- ~40km to nearest Marine Management Area (Murion Islands)





## Gas Export Pipeline

The gas export pipeline is comprised of:

- 3507 tonnes of carbon steel
- 6131 tonnes of concrete
- 31 tonnes of plastic material (fusion bonded epoxy (FBE) corrosion coating and heat shrink sleeve (HSS) material on field joints)
- Mercury contamination will be removed to acceptable threshold limits



## RTM

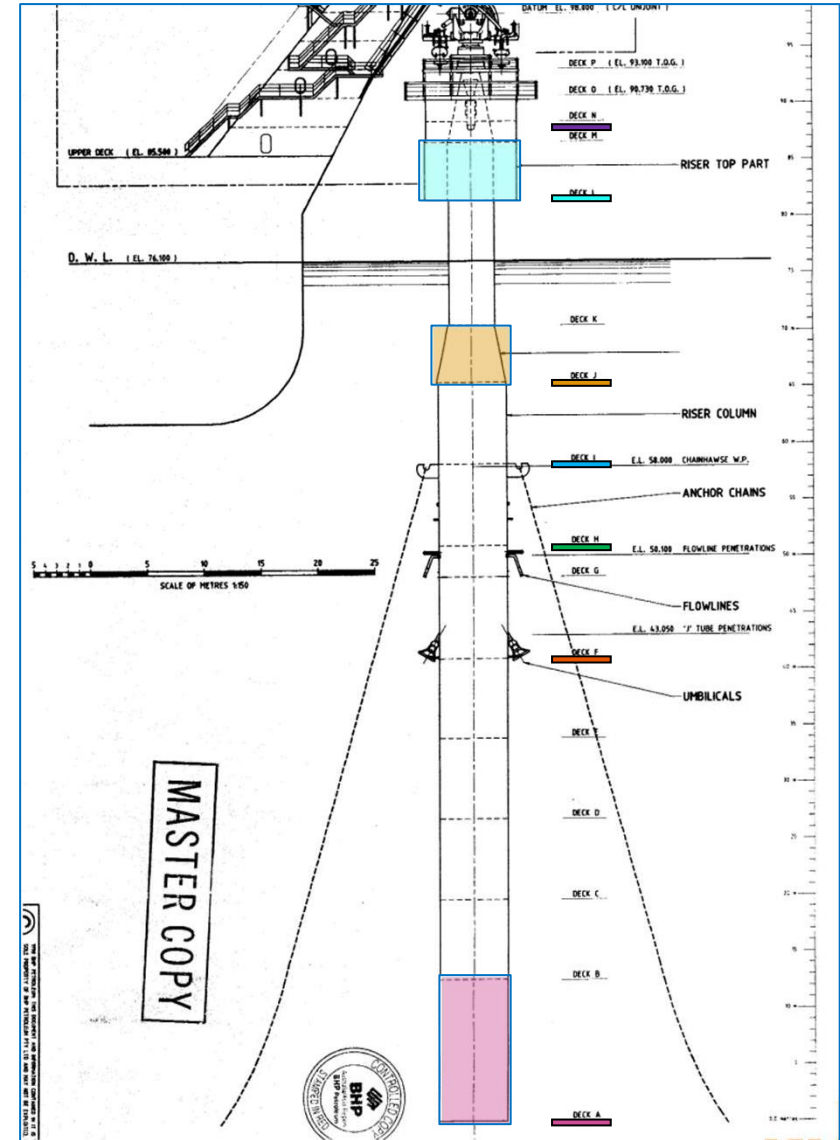
- RTM sank in 2013 and currently stands upright in 130m of water, ~35m below the surface
- It comprises:
  - 922 tonnes steel
  - 43 tonnes of concrete
  - 849 tonnes iron ore
  - 15 tonnes plastic (buoyancy foam)
  - All plastic and ~40 per cent of the steel is proposed to be removed



RTM

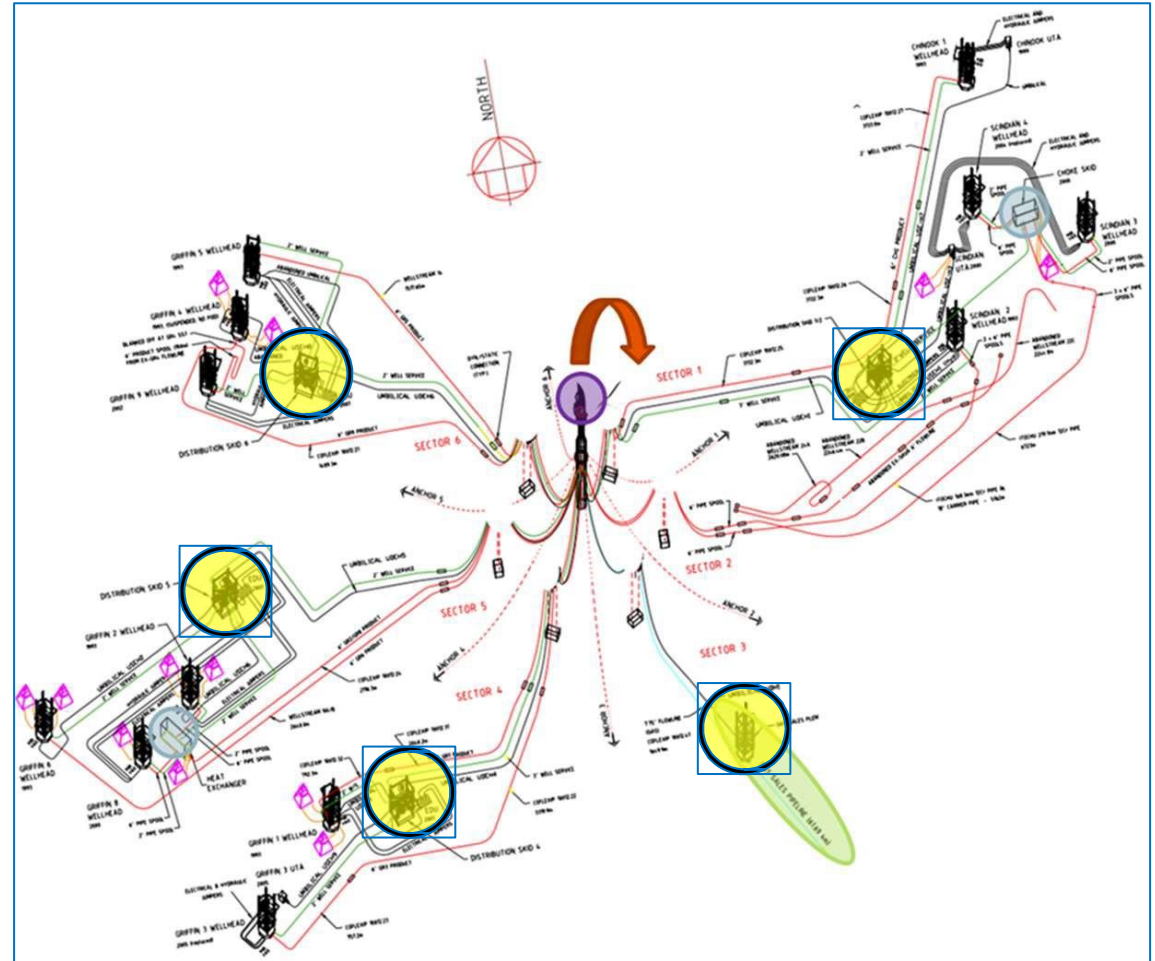
The following further detail on the RTM end state is provided:

- The low-density foam section is located in compartment number 13, between Decks L and M.
- The high-density foam section is located in compartment number 10, between Decks J and K.
- All Structure above Deck J is proposed to be removed, removing all plastics (foam) and the former above the water line section.
- The structure below Deck J would be toppled to lie on the seabed.
- The remaining structure is steel, with iron ore ballast in Compartment 1 (between Decks A and B)
- It will be 65m long and 6m in diameter.



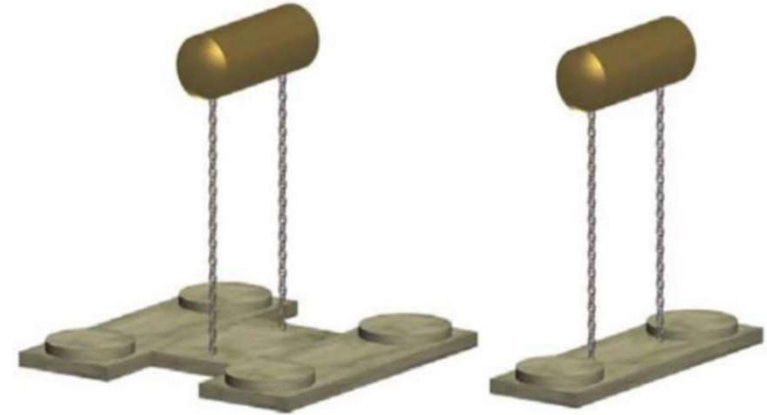
## Piles

- There are 5 piled structures amongst the field equipment;
  - Pipeline End Module (PLEM)
  - 4 x distribution skids
- They are 30 inch in diameter and extend 20 to 30m into the seabed
- Materials of construction are steel and cement
- It is proposed that they will be cut as close as practical to the mudline and left in situ.



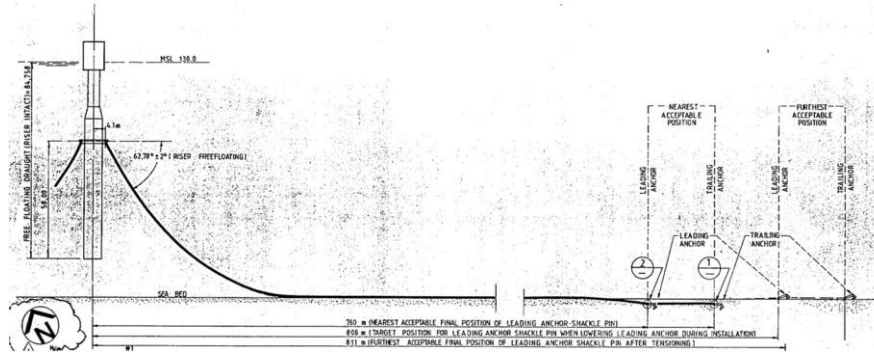
## Concrete Gravity Bases

- There are 6 concrete gravity bases, comprising part of the mid depth buoys, that are proposed to be left *in situ*
- The mid depth buoys have been removed.
- All chains are proposed to be disconnected and removed
- Three of the structures are rectangular, 18x4x4m; three are an H shape, 12x15x4
- Materials of construction are concrete and steel reinforcing, estimated at 1700 tonnes of concrete total
- They are partially buried and sitting flush with the seabed.



## Anchors

- There are 12 x 17 tonne Vryhof Stevshark anchors for the RTM that comprise part of the mooring leg, 2 anchors per mooring leg
- Attempts will be made to remove them, but if they can't safely be removed, they are proposed to be cut at or below the mudline and left in situ.
- They are of steel construction and are buried.
- Chains will be disconnected and removed



**1.10 Email sent to Gascoyne Recreational Marine Users and Karratha Recreational Marine Users (formerly Dampier-based fishing clubs and charter boat / marine tourism operators) (31 January 2022)**

Dear Stakeholder

BHP is planning for the next stage of its ongoing safe and sustainable closure of the Griffin Field in Commonwealth waters offshore Western Australia.

The Griffin Field ceased production in 2009, with decommissioning being undertaken in stages. Decommissioning activities to date include the plugging and abandonment of all wells in 2017 and removal of the mid-depth buoys.

In November 2021 BHP consulted on the removal of the majority of the remaining equipment in the Griffin Field. On 22 December 2021 the associated environment plan (EP) for these removal activities, the *Griffin Decommissioning and Field Management Environment Plan*, was submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for assessment.

BHP is now planning additional decommissioning activities at the Griffin Field and the associated gas export pipeline (GEP), which extends from the Field to the former onshore Griffin Gas Export Facility, south of Onslow. BHP is seeking stakeholder feedback to inform the development of the associated EPs for Regulator assessment, with an activity summary provided in the table below.

Separate EPs will be required for the proposed additional activities, with two EPs to be submitted to NOPSEMA for activities planned for Commonwealth waters and an EP to be submitted to the Department of Mines, Industry Regulation and Safety (DMIRS) for activities planned for State waters/lands. The EPs are being written to allow the activity to occur at any time of year as schedules are subject to change and to allow our business flexibility.

BHP has identified that AHO and AMSA are relevant to activities planned to be managed under the NOPSEMA and DMIRS EPs. Details on opportunities to provide feedback are outlined below.

**Activity Overview**

<b>NOPSEMA EP activities:</b>	<p>Remove residual mercury contamination within the GEP (Commonwealth waters).</p> <p>Abandon the GEP in situ following verification of successful mercury removal and surveying (Commonwealth waters).</p> <p>Abandon in situ selected equipment in the Griffin Field (Commonwealth waters).</p>
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<b>DMIRS EP activities:</b>	<p>Construct, operate and rehabilitate a temporary pumping and liquid storage area (onshore Western Australia).</p> <p>Remove residual mercury contamination within the GEP (State waters)</p> <p>Abandon the GEP in situ following verification of successful mercury removal and surveying (State waters and onshore).</p>
<b>Activity location:</b>	Griffin Field centre point - approximately 41 km north-west of Onslow and 85 km north-east of Exmouth, Western Australia.
<b>Infrastructure proposed to be abandoned in situ:</b>	<p>1 x gas export pipeline (GEP) following removal of residual mercury contamination.</p> <p>6 x concrete gravity bases, most of which are buried and sitting flush with the seabed.</p> <p>1 x riser turret mooring (RTM) following placement of the mooring on the seabed and removal of the top sections containing foam.</p> <p>5 x piled foundations (1 x PLEM, 4 x distribution skirts) cut as close as practical to the mudline.</p> <p>12 x RTM anchors cut as close as practical to the mudline.</p>
<b>Infrastructure locations:</b>	See attached Stakeholder Information Fact Sheet.
<b>Approximate water depth of Griffin Field:</b>	Approximately 130 m
<b>Estimate start date:</b>	Earliest start is Q1 2023 calendar year, subject to approvals, vessel availability, and weather constraints.
<b>Approximate duration:</b>	90 - 120 days
<b>Vessels:</b>	Support vessels are planned to be used to support removal of mercury from the GEP. No more than 2 vessels will be used at any one time.
<b>Operational area:</b>	A 500 m petroleum safety zone (exclusion) around the wells and a temporary 1500 m operational area around the wells for the duration of the activity.

### Commercial Fishing Overview

Commercial fisheries have been identified as being relevant to the proposed activities on the basis of fishing licence overlap with the proposed Operational (activity) Area, as well as consideration of fishing effort data, fishing methods and water depth.

### Commonwealth fisheries

There are five overlapping Commonwealth fisheries, none of which have been identified as relevant based on the identification criteria. BHP will consult representative organisations on behalf of licence holders entitled to fish in the Operational Area.



## State fisheries

There are 13 overlapping State fisheries, of which the following fisheries have been identified as being relevant based on the identification criteria. Individual licence holders in these fisheries will be consulted.

- Onslow Prawn Managed Fishery
- Pilbara Line Fishery
- Pilbara Trap Managed Fishery
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The following government departments and organisations (on behalf of licence holders entitled to fish in the Operational Area) will also be consulted:

### Commonwealth Fisheries:

- Australian Fisheries Management Authority
- Australian Southern Bluefin Tuna Industry Association on behalf of licence holders in the Southern Bluefin Tuna Fishery
- Department of Agriculture, Water and the Environment
- Commonwealth Fisheries Association on behalf of licence holders in the North West Slope Trawl, Western Deepwater Trawl and Western Skipjack Tuna Fisheries
- Tuna Australia on behalf of licence holders in the Western Tuna and Billfish fishery

### State Fisheries:

- Department of Primary Industry and Resources
- Western Australian Fishing Industry Council
- Pearl Producers Association
- Recfishwest

## Your Feedback

Your feedback on the proposed activity and our response will be provided to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA), as is required under the Commonwealth Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009.

As a relevant stakeholder you are invited to provide comments. The Environment Plan will contain a summary of all comments received. However, BHP will not use or disclose your personal information in the Environment Plan. Full transcripts of all correspondence will be included in a separate sensitive information part of the Environment Plan provided to NOPSEMA.

Please provide comment as soon as practicable. Comments can be made by email, letter or by phone (refer to attached Fact Sheet for contact details)

Feedback is sought on the **NOPSEMA EP** by close of business on **23 February 2022**. Feedback is sought on the **DMIRS EP** by close of business on **4 March 2022**.

Regards,

**1.10.1 Email sent to Gascoyne Recreational Marine Users and Karratha Recreational Marine Users – fishing clubs (14 February 2022)**

Dear Stakeholder

BHP is sending this reminder email to you as your interests in commercial fishing are relevant to BHP's next phase of planning for the safe and sustainable closure of the Griffin Field in Commonwealth waters offshore Western Australia.

A summary of proposed activities is outlined below, including an overview of which remaining subsea infrastructure BHP plans to remove and which infrastructure it plans to leave in situ. Further detail is provided in the attached consultation information Fact Sheet.

We appreciate that Tuna Australia may have provided feedback during the public comparative assessment process in 2021 to inform BHP's planning on potential end-state decommissioning options, or in November 2021 for the *Griffin Decommissioning and Field Management Environment Plan (EP)*, where BHP sought feedback on removal of the majority of equipment in the Griffin Field.

However, providing your views on specific activities outlined below is important as BHP will in the coming weeks be submitting an EP to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for those activities planned for Commonwealth waters and an EP to be submitted to the Department of Mines, Industry Regulation and Safety (DMIRS) for those activities planned for State waters/lands.

**Activity Overview**

<b>NOPSEMA EP activities:</b>	<ul style="list-style-type: none"> <li>Remove residual mercury contamination within the GEP (Commonwealth waters).</li> <li>Abandon the GEP in situ following verification of successful mercury removal and surveying (Commonwealth waters).</li> <li>Abandon in situ selected equipment in the Griffin Field (Commonwealth waters).</li> </ul>
<b>DMIRS EP activities:</b>	<ul style="list-style-type: none"> <li>Construct, operate and rehabilitate a temporary pumping and liquid storage area (onshore Western Australia).</li> <li>Remove residual mercury contamination within the GEP (State waters)</li> <li>Abandon the GEP in situ following verification of successful mercury removal and surveying (State waters and onshore).</li> </ul>
<b>Activity location:</b>	<ul style="list-style-type: none"> <li>Griffin Field centre point - approximately 41 km north-west of Onslow and 85 km north-east of Exmouth, Western Australia.</li> </ul>

<p><b>Infrastructure proposed to be abandoned in situ:</b></p>	<ul style="list-style-type: none"> <li>• 1 x gas export pipeline (GEP) following removal of residual mercury contamination.</li> <li>• 6 x concrete gravity bases, most of which are buried and sitting flush with the seabed.</li> <li>• 1 x riser turret mooring (RTM) following placement of the mooring on the seabed and removal of the top sections containing foam.</li> <li>• 5 x piled foundations (1 x PLEM, 4 x distribution skids) cut as close as practical to the mudline.</li> <li>• 12 x RTM anchors cut as close as practical to the mudline.</li> </ul>
<p><b>Infrastructure locations:</b></p>	<p>See attached Stakeholder Information Fact Sheet.</p>
<p><b>Approximate water depth of Griffin Field:</b></p>	<p>Approximately 130 m</p>
<p><b>Estimate start date:</b></p>	<p>Earliest start is Q1 2023 calendar year, subject to approvals, vessel availability, and weather constraints.</p>
<p><b>Approximate duration:</b></p>	<p>90 - 120 days</p>
<p><b>Vessels:</b></p>	<p>Support vessels are planned to be used to support removal of mercury from the GEP. No more than 2 vessels will be used at any one time.</p>
<p><b>Operational area:</b></p>	<p>A 500 m petroleum safety zone (exclusion) around the wells and a temporary 1500 m operational area around the wells for the duration of the activity.</p>

## Commercial Fishing Overview

Commercial fisheries have been identified as being relevant to the proposed activities on the basis of fishing licence overlap with the proposed Operational (activity) Area, as well as consideration of fishing effort data, fishing methods and water depth.

### Commonwealth fisheries

There are five overlapping Commonwealth fisheries, none of which have been identified as relevant based on the identification criteria. BHP will consult representative organisations on behalf of licence holders entitled to fish in the Operational Area.

#### State fisheries

There are 13 overlapping State fisheries, of which the following fisheries have been identified as being relevant based on the identification criteria. Individual licence holders in these fisheries will be consulted.

- Onslow Prawn Managed Fishery
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- Pilbara Fish Trawl (Interim) Managed Fishery

The following government departments and organisations (on behalf of licence holders entitled to fish in the Operational Area) will also be consulted:

### Commonwealth Fisheries:

- Australian Fisheries Management Authority
- Australian Southern Bluefin Tuna Industry Association on behalf of licence holders in the Southern Bluefin Tuna Fishery
- Department of Agriculture, Water and the Environment
- Commonwealth Fisheries Association on behalf of licence holders in the North West Slope Trawl, Western Deepwater Trawl and Western Skipjack Tuna Fisheries
- Tuna Australia on behalf of licence holders in the Western Tuna and Billfish fishery

### State Fisheries:

- Department of Primary Industry and Resources
- Western Australian Fishing Industry Council
- Pearl Producers Association
- Recfishwest

## Your Feedback

As a relevant stakeholder you are invited to provide comments. Each of the Environment Plans will contain a summary of all comments received. However, BHP will not use or disclose your personal information in the Environment Plans. Full transcripts of all correspondence will be included in separate sensitive information parts of the Environment Plans provided to NOPSEMA or DMIRS.

Please provide comment as soon as practicable. Comments can be made by email, letter or by phone (refer to attached Fact Sheet for contact details).

Feedback is sought on the **NOPSEMA EP** by close of business on **23 February 2022**.

### **1.10.2 Email sent to Gascoyne Recreational Marine Users and Karratha Recreational Marine Users – marine tourism (14 February 2022)**

Dear Stakeholder

BHP is sending this reminder email to you as your interests in marine tourism are relevant to BHP's next phase of planning for the safe and sustainable closure of the Griffin Field in Commonwealth waters offshore Western Australia.

A summary of proposed activities is outlined below, including an overview of which remaining subsea infrastructure BHP plans to remove and which infrastructure it plans to leave in situ. Further detail is provided in the attached consultation information Fact Sheet.

We appreciate that Tuna Australia may have provided feedback during the public comparative assessment process in 2021 to inform BHP's planning on potential end-state decommissioning options, or in November 2021 for the *Griffin Decommissioning and Field Management Environment Plan (EP)*, where BHP sought feedback on removal of the majority of equipment in the Griffin Field.

However, providing your views on specific activities outlined below is important as BHP will in the coming weeks be submitting an EP to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for those activities planned for Commonwealth waters and an EP to be submitted to the Department of Mines, Industry Regulation and Safety (DMIRS) for those activities planned for State waters/lands.

#### **Activity Overview**

<b>NOPSEMA EP activities:</b>	<ul style="list-style-type: none"><li>• Remove residual mercury contamination within the GEP (Commonwealth waters).</li><li>• Abandon the GEP in situ following verification of successful mercury removal and surveying (Commonwealth waters).</li><li>• Abandon in situ selected equipment in the Griffin Field (Commonwealth waters).</li></ul>
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<b>DMIRS EP activities:</b>	<ul style="list-style-type: none"> <li>• Construct, operate and rehabilitate a temporary pumping and liquid storage area (onshore Western Australia).</li> <li>• Remove residual mercury contamination within the GEP (State waters)</li> <li>• Abandon the GEP in situ following verification of successful mercury removal and surveying (State waters and onshore).</li> </ul>
<b>Activity location:</b>	<ul style="list-style-type: none"> <li>• Griffin Field centre point - approximately 41 km north-west of Onslow and 85 km north-east of Exmouth, Western Australia.</li> </ul>
<b>Infrastructure proposed to be abandoned in situ:</b>	<ul style="list-style-type: none"> <li>• 1 x gas export pipeline (GEP) following removal of residual mercury contamination.</li> <li>• 6 x concrete gravity bases, most of which are buried and sitting flush with the seabed.</li> <li>• 1 x riser turret mooring (RTM) following placement of the mooring on the seabed and removal of the top sections containing foam.</li> <li>• 5 x piled foundations (1 x PLEM, 4 x distribution skirts) cut as close as practical to the mudline.</li> <li>• 12 x RTM anchors cut as close as practical to the mudline.</li> </ul>
<b>Infrastructure locations:</b>	See attached Stakeholder Information Fact Sheet.
<b>Approximate water depth of Griffin Field:</b>	Approximately 130 m
<b>Estimate start date:</b>	Earliest start is Q1 2023 calendar year, subject to approvals, vessel availability, and weather constraints.
<b>Approximate duration:</b>	90 - 120 days
<b>Vessels:</b>	Support vessels are planned to be used to support removal of mercury from the GEP. No more than 2 vessels will be used at any one time.
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## Commercial Fishing Overview

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### State Fisheries:

- Department of Primary Industry and Resources
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## Your Feedback

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Feedback is sought on the **NOPSEMA EP** by close of business on **23 February 2022**.

### 1.11 Email sent to Shire of Ashburton (31 January 2022)

Dear [REDACTED]

BHP is planning for the next stage of its ongoing safe and sustainable closure of the Griffin Field in Commonwealth waters offshore Western Australia.

The Griffin Field ceased production in 2009, with decommissioning being undertaken in stages. Decommissioning activities to date include the plugging and abandonment of all wells in 2017 and removal of the mid-depth buoys.

In November 2021 BHP consulted on the removal of the majority of the remaining equipment in the Griffin Field. On 22 December 2021 the associated environment plan (EP) for these removal activities, the *Griffin Decommissioning and Field Management Environment Plan*, was submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for assessment.

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BHP has identified that AHO and AMSA are relevant to activities planned to be managed under the NOPSEMA and DMIRS EPs. Details on opportunities to provide feedback are outlined below.

### Activity Overview



<b>NOPSEMA EP activities:</b>	<p>Remove residual mercury contamination within the GEP (Commonwealth waters).</p> <p>Abandon the GEP in situ following verification of successful mercury removal and surveying (Commonwealth waters).</p> <p>Abandon in situ selected equipment in the Griffin Field (Commonwealth waters).</p>
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<b>Activity location:</b>	<p>Griffin Field centre point - approximately 41 km north-west of Onslow and 85 km north-east of Exmouth, Western Australia.</p>
<b>Infrastructure proposed to be abandoned in situ:</b>	<p>1 x gas export pipeline (GEP) following removal of residual mercury contamination.</p> <p>6 x concrete gravity bases, most of which are buried and sitting flush with the seabed.</p> <p>1 x riser turret mooring (RTM) following placement of the mooring on the seabed and removal of the top sections containing foam.</p> <p>5 x piled foundations (1 x PLEM, 4 x distribution skirts) cut as close as practical to the mudline.</p> <p>12 x RTM anchors cut as close as practical to the mudline.</p>
<b>Infrastructure locations:</b>	<p>See attached Stakeholder Information Fact Sheet.</p>
<b>Approximate water depth of Griffin Field:</b>	<p>Approximately 130 m</p>
<b>Estimate start date:</b>	<p>Earliest start is Q1 2023 calendar year, subject to approvals, vessel availability, and weather constraints.</p>
<b>Approximate duration:</b>	<p>90 - 120 days</p>
<b>Vessels:</b>	<p>Support vessels are planned to be used to support removal of mercury from the GEP. No more than 2 vessels will be used at any one time.</p>
<b>Operational area:</b>	<p>A 500 m petroleum safety zone (exclusion) around the wells and a temporary 1500 m operational area around the wells for the duration of the activity.</p>

### Commercial Fishing Overview

Commercial fisheries have been identified as being relevant to the proposed activities on the basis of fishing licence overlap with the proposed Operational (activity) Area, as well as consideration of fishing effort data, fishing methods

and water depth.

### **Commonwealth fisheries**

There are five overlapping Commonwealth fisheries, none of which have been identified as relevant based on the identification criteria. BHP will consult representative organisations on behalf of licence holders entitled to fish in the Operational Area.

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- Australian Southern Bluefin Tuna Industry Association on behalf of licence holders in the Southern Bluefin Tuna Fishery
- Department of Agriculture, Water and the Environment
- Commonwealth Fisheries Association on behalf of licence holders in the North West Slope Trawl, Western Deepwater Trawl and Western Skipjack Tuna Fisheries
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### **State Fisheries:**

- Department of Primary Industry and Resources
- Western Australian Fishing Industry Council
- Pearl Producers Association
- Recfishwest

### **Your Feedback**

Your feedback on the proposed activity and our response will be provided to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA), as is required under the Commonwealth Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009.

As a relevant stakeholder you are invited to provide comments. The Environment Plan will contain a summary of all comments received. However, BHP will not use or disclose your personal information in the Environment Plan. Full transcripts of all correspondence will be included in a separate sensitive information part of the Environment Plan provided to NOPSEMA.

Please provide comment as soon as practicable. Comments can be made by email, letter or by phone (refer to attached Fact Sheet for contact details)

Feedback is sought on the **NOPSEMA EP** by close of business on **23 February 2022**. Feedback is sought on the **DMIRS EP** by close of business on **4 March 2022**.

Regards,

#### **1.12 Email sent to Department of Agriculture, Water and the Environment (DAWE) (31 January 2022)**

Dear DAWE

BHP is planning for the next stage of its ongoing safe and sustainable closure of the Griffin Field in Commonwealth waters offshore Western Australia.

The Griffin Field ceased production in 2009, with decommissioning being undertaken in stages. Decommissioning activities to date include the plugging and abandonment of all wells in 2017 and removal of the mid-depth buoys.

In November 2021 BHP consulted on the removal of the majority of the remaining equipment in the Griffin Field. On 22 December 2021 the associated environment plan (EP) for these removal activities, the *Griffin Decommissioning and Field Management Environment Plan*, was submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for assessment.

BHP is now planning additional decommissioning activities at the Griffin Field and the associated gas export pipeline (GEP), which extends from the Field to the former onshore Griffin Gas Export Facility, south of Onslow. BHP is seeking stakeholder feedback to inform the development of the associated EPs for Regulator assessment, with an activity summary provided in the table below.

Separate EPs will be required for the proposed additional activities, with two EPs to be submitted to NOPSEMA for activities planned for Commonwealth waters and an EP to be submitted to the Department of Mines, Industry Regulation and Safety (DMIRS) for activities planned for State waters/lands. The EPs are being written to allow the activity to occur at any time of year as schedules are subject to change and to allow our business flexibility.

BHP has identified that DAWE is relevant to activities planned to be managed under the NOPSEMA and DMIRS EPs. Details on opportunities to provide feedback are outlined below.

#### **Activity Overview**

<b>NOPSEMA EP activities:</b>	<p>Remove residual mercury contamination within the GEP (Commonwealth waters).</p> <p>Abandon the GEP in situ following verification of successful mercury removal and surveying (Commonwealth waters).</p> <p>Abandon in situ selected equipment in the Griffin Field (Commonwealth waters).</p>
<b>DMIRS EP activities:</b>	<p>Construct, operate and rehabilitate a temporary pumping and liquid storage area (onshore Western Australia).</p> <p>Remove residual mercury contamination within the GEP (State waters)</p> <p>Abandon the GEP in situ following verification of successful mercury removal and surveying (State waters and onshore).</p>
<b>Activity location:</b>	<p>Griffin Field centre point - approximately 41 km north-west of Onslow and 85 km north-east of Exmouth, Western Australia.</p>
<b>Infrastructure proposed to be abandoned in situ:</b>	<p>1 x gas export pipeline (GEP) following removal of residual mercury contamination.</p> <p>6 x concrete gravity bases, most of which are buried and sitting flush with the seabed.</p> <p>1 x riser turret mooring (RTM) following placement of the mooring on the seabed and removal of the top sections containing foam.</p> <p>5 x piled foundations (1 x PLEM, 4 x distribution skirts) cut as close as practical to the mudline.</p> <p>12 x RTM anchors cut as close as practical to the mudline.</p>
<b>Infrastructure locations:</b>	<p>See attached Stakeholder Information Fact Sheet.</p>
<b>Approximate water depth of Griffin Field:</b>	<p>Approximately 130 m</p>
<b>Estimate start date:</b>	<p>Earliest start is Q1 2023 calendar year, subject to approvals, vessel availability, and weather constraints.</p>
<b>Approximate duration:</b>	<p>90 - 120 days</p>
<b>Vessels:</b>	<p>Support vessels are planned to be used to support removal of mercury from the GEP. No more than 2 vessels will be used at any one time.</p>
<b>Operational area:</b>	<p>A 500 m petroleum safety zone (exclusion) around the wells and a temporary 1500 m operational area around the wells for the duration of the activity.</p>

### Commercial Fishing Overview

Commercial fisheries have been identified as being relevant to the proposed activities on the basis of fishing licence overlap with the proposed Operational (activity) Area, as well as consideration of fishing effort data, fishing methods

and water depth.

### **Commonwealth fisheries**

There are five overlapping Commonwealth fisheries, none of which have been identified as relevant based on the identification criteria. BHP will consult representative organisations on behalf of licence holders entitled to fish in the Operational Area.

### **State fisheries**

There are 13 overlapping State fisheries, of which the following fisheries have been identified as being relevant based on the identification criteria. Individual licence holders in these fisheries will be consulted.

- Onslow Prawn Managed Fishery
- Pilbara Line Fishery
- Pilbara Trap Managed Fishery
- Pilbara Fish Trawl (Interim) Managed Fishery

The following government departments and organisations (on behalf of licence holders entitled to fish in the Operational Area) will also be consulted:

### **Commonwealth Fisheries:**

- Australian Fisheries Management Authority
- Australian Southern Bluefin Tuna Industry Association on behalf of licence holders in the Southern Bluefin Tuna Fishery
- Department of Agriculture, Water and the Environment
- Commonwealth Fisheries Association on behalf of licence holders in the North West Slope Trawl, Western Deepwater Trawl and Western Skipjack Tuna Fisheries
- Tuna Australia on behalf of licence holders in the Western Tuna and Billfish fishery

### **State Fisheries:**

- Department of Primary Industry and Resources
- Western Australian Fishing Industry Council
- Pearl Producers Association
- Recfishwest

### **Your Feedback**

Your feedback on the proposed activity and our response will be provided to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA), as is required under the Commonwealth Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009.

As a relevant stakeholder you are invited to provide comments. The Environment Plan will contain a summary of all comments received. However, BHP will not use or disclose your personal information in the Environment Plan. Full transcripts of all correspondence will be included in a separate sensitive information part of the Environment Plan provided to NOPSEMA.

Please provide comment as soon as practicable. Comments can be made by email, letter or by phone (refer to attached Fact Sheet for contact details)

Feedback is sought on the **NOPSEMA EP** by close of business on **23 February 2022**. Feedback is sought on the **DMIRS EP** by close of business on **4 March 2022**.

Regards,

#### 1.13 Email sent to Department of Defence (DoD) (31 January 2022)

Dear Defence

BHP is planning for the next stage of its ongoing safe and sustainable closure of the Griffin Field in Commonwealth waters offshore Western Australia.

The Griffin Field ceased production in 2009, with decommissioning being undertaken in stages. Decommissioning activities to date include the plugging and abandonment of all wells in 2017 and removal of the mid-depth buoys.

In November 2021 BHP consulted on the removal of the majority of the remaining equipment in the Griffin Field. On 22 December 2021 the associated environment plan (EP) for these removal activities, the *Griffin Decommissioning and Field Management Environment Plan*, was submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for assessment.

BHP is now planning additional decommissioning activities at the Griffin Field and the associated gas export pipeline (GEP), which extends from the Field to the former onshore Griffin Gas Export Facility, south of Onslow. BHP is seeking stakeholder feedback to inform the development of the associated EPs for Regulator assessment, with an activity summary provided in the table below.

Separate EPs will be required for the proposed additional activities, with two EPs to be submitted to NOPSEMA for activities planned for Commonwealth waters and an EP to be submitted to the Department of Mines, Industry Regulation and Safety (DMIRS) for activities planned for State waters/lands. The EPs are being written to allow the activity to occur at any time of year as schedules are subject to change and to allow our business flexibility.

BHP has identified that Defence is relevant to activities planned to be managed under the NOPSEMA and DMIRS EPs. Details on opportunities to provide feedback are outlined below.

## Activity Overview

<p><b>NOPSEMA EP activities:</b></p>	<p>Remove residual mercury contamination within the GEP (Commonwealth waters).</p> <p>Abandon the GEP in situ following verification of successful mercury removal and surveying (Commonwealth waters).</p> <p>Abandon in situ selected equipment in the Griffin Field (Commonwealth waters).</p>
<p><b>DMIRS EP activities:</b></p>	<p>Construct, operate and rehabilitate a temporary pumping and liquid storage area (onshore Western Australia).</p> <p>Remove residual mercury contamination within the GEP (State waters)</p> <p>Abandon the GEP in situ following verification of successful mercury removal and surveying (State waters and onshore).</p>
<p><b>Activity location:</b></p>	<p>Griffin Field centre point - approximately 41 km north-west of Onslow and 85 km north-east of Exmouth, Western Australia.</p>
<p><b>Infrastructure proposed to be abandoned in situ:</b></p>	<p>1 x gas export pipeline (GEP) following removal of residual mercury contamination.</p> <p>6 x concrete gravity bases, most of which are buried and sitting flush with the seabed.</p> <p>1 x riser turret mooring (RTM) following placement of the mooring on the seabed and removal of the top sections containing foam.</p> <p>5 x piled foundations (1 x PLEM, 4 x distribution skirts) cut as close as practical to the mudline.</p> <p>12 x RTM anchors cut as close as practical to the mudline.</p>
<p><b>Infrastructure locations:</b></p>	<p>See attached Stakeholder Information Fact Sheet.</p>
<p><b>Approximate water depth of Griffin Field:</b></p>	<p>Approximately 130 m</p>
<p><b>Estimate start date:</b></p>	<p>Earliest start is Q1 2023 calendar year, subject to approvals, vessel availability, and weather constraints.</p>
<p><b>Approximate duration:</b></p>	<p>90 - 120 days</p>
<p><b>Vessels:</b></p>	<p>Support vessels are planned to be used to support removal of mercury from the GEP. No more than 2 vessels will be used at any one time.</p>
<p><b>Operational area:</b></p>	<p>A 500 m petroleum safety zone (exclusion) around the wells and a temporary 1500 m operational area around the wells for the duration of the activity.</p>

## Your Feedback

Your feedback on the proposed activity and our response will be provided to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA), as is required under the Commonwealth Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009.

As a relevant stakeholder you are invited to provide comments. The Environment Plan will contain a summary of all comments received. However, BHP will not use or disclose your personal information in the Environment Plan. Full transcripts of all correspondence will be included in a separate sensitive information part of the Environment Plan provided to NOPSEMA.

Please provide comment as soon as practicable. Comments can be made by email, letter or by phone (refer to attached Fact Sheet for contact details)

Feedback is sought on the **NOPSEMA EP** by close of business on **23 February 2022**. Feedback is sought on the **DMIRS EP** by close of business on **4 March 2022**.

Regards,

### 1.14 Email sent to Department of Primary Industries and Regional Development (DPIRD) (31 January 2022)

Dear [REDACTED]

BHP is planning for the next stage of its ongoing safe and sustainable closure of the Griffin Field in Commonwealth waters offshore Western Australia.

The Griffin Field ceased production in 2009, with decommissioning being undertaken in stages. Decommissioning activities to date include the plugging and abandonment of all wells in 2017 and removal of the mid-depth buoys.

In November 2021 BHP consulted on the removal of the majority of the remaining equipment in the Griffin Field. On 22 December 2021 the associated environment plan (EP) for these removal activities, the *Griffin Decommissioning and Field Management Environment Plan*, was submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for assessment.

BHP is now planning additional decommissioning activities at the Griffin Field and the associated gas export pipeline (GEP), which extends from the Field to the former onshore Griffin Gas Export Facility, south of Onslow. BHP is seeking stakeholder feedback to inform the development of the associated EPs for Regulator assessment, with an activity summary provided in the table below.

Separate EPs will be required for the proposed additional activities, with two EPs to be submitted to NOPSEMA for activities planned for Commonwealth waters and an EP to be submitted to the Department of Mines, Industry Regulation



and Safety (DMIRS) for activities planned for State waters/lands. The EPs are being written to allow the activity to occur at any time of year as schedules are subject to change and to allow our business flexibility.

BHP has identified that DPIRD is relevant to activities planned to be managed under the NOPSEMA and DMIRS EPs. Details on opportunities to provide feedback are outlined below.

## Activity Overview

<b>NOPSEMA EP activities:</b>	<p>Remove residual mercury contamination within the GEP (Commonwealth waters).</p> <p>Abandon the GEP in situ following verification of successful mercury removal and surveying (Commonwealth waters).</p> <p>Abandon in situ selected equipment in the Griffin Field (Commonwealth waters).</p>
<b>DMIRS EP activities:</b>	<p>Construct, operate and rehabilitate a temporary pumping and liquid storage area (onshore Western Australia).</p> <p>Remove residual mercury contamination within the GEP (State waters)</p> <p>Abandon the GEP in situ following verification of successful mercury removal and surveying (State waters and onshore).</p>
<b>Activity location:</b>	<p>Griffin Field centre point - approximately 41 km north-west of Onslow and 85 km north-east of Exmouth, Western Australia.</p>
<b>Infrastructure proposed to be abandoned in situ:</b>	<p>1 x gas export pipeline (GEP) following removal of residual mercury contamination.</p> <p>6 x concrete gravity bases, most of which are buried and sitting flush with the seabed.</p> <p>1 x riser turret mooring (RTM) following placement of the mooring on the seabed and removal of the top sections containing foam.</p> <p>5 x piled foundations (1 x PLEM, 4 x distribution skids) cut as close as practical to the mudline.</p> <p>12 x RTM anchors cut as close as practical to the mudline.</p>
<b>Infrastructure locations:</b>	<p>See attached Stakeholder Information Fact Sheet.</p>
<b>Approximate water depth of Griffin Field:</b>	<p>Approximately 130 m</p>
<b>Estimate start date:</b>	<p>Earliest start is Q1 2023 calendar year, subject to approvals, vessel availability, and weather constraints.</p>

<b>Approximate duration:</b>	90 - 120 days
<b>Vessels:</b>	Support vessels are planned to be used to support removal of mercury from the GEP. No more than 2 vessels will be used at any one time.
<b>Operational area:</b>	A 500 m petroleum safety zone (exclusion) around the wells and a temporary 1500 m operational area around the wells for the duration of the activity.

### Commercial Fishing Overview

Commercial fisheries have been identified as being relevant to the proposed activities on the basis of fishing licence overlap with the proposed Operational (activity) Area, as well as consideration of fishing effort data, fishing methods and water depth.

### Commonwealth fisheries

There are five overlapping Commonwealth fisheries, none of which have been identified as relevant based on the identification criteria. BHP will consult representative organisations on behalf of licence holders entitled to fish in the Operational Area.

### State fisheries

There are 13 overlapping State fisheries, of which the following fisheries have been identified as being relevant based on the identification criteria. Individual licence holders in these fisheries will be consulted.

- Onslow Prawn Managed Fishery
- Pilbara Line Fishery
- Pilbara Trap Managed Fishery
- Pilbara Fish Trawl (Interim) Managed Fishery

The following government departments and organisations (on behalf of licence holders entitled to fish in the Operational Area) will also be consulted:

### Commonwealth Fisheries:

- Australian Fisheries Management Authority
- Australian Southern Bluefin Tuna Industry Association on behalf of licence holders in the Southern Bluefin Tuna Fishery
- Department of Agriculture, Water and the Environment
- Commonwealth Fisheries Association on behalf of licence holders in the North West Slope Trawl, Western Deepwater Trawl and Western Skipjack Tuna Fisheries
- Tuna Australia on behalf of licence holders in the Western Tuna and Billfish fishery

**State Fisheries:**

- Department of Primary Industry and Resources
- Western Australian Fishing Industry Council
- Pearl Producers Association
- Recfishwest

**Your Feedback**

Your feedback on the proposed activity and our response will be provided to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA), as is required under the Commonwealth Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009.

As a relevant stakeholder you are invited to provide comments. The Environment Plan will contain a summary of all comments received. However, BHP will not use or disclose your personal information in the Environment Plan. Full transcripts of all correspondence will be included in a separate sensitive information part of the Environment Plan provided to NOPSEMA.

Please provide comment as soon as practicable. Comments can be made by email, letter or by phone (refer to attached Fact Sheet for contact details)

Feedback is sought on the **NOPSEMA EP** by close of business on **23 February 2022**. Feedback is sought on the **DMIRS EP** by close of business on **4 March 2022**.

Regards,

**1.15 Email sent to Department of Industry, Science, Energy and Resources (DISER) (31 January 2022)**

Dear DISER

BHP is planning for the next stage of its ongoing safe and sustainable closure of the Griffin Field in Commonwealth waters offshore Western Australia.

The Griffin Field ceased production in 2009, with decommissioning being undertaken in stages. Decommissioning activities to date include the plugging and abandonment of all wells in 2017 and removal of the mid-depth buoys.

In November 2021 BHP consulted on the removal of the majority of the remaining equipment in the Griffin Field. On 22 December 2021 the associated environment plan (EP) for these removal activities, the *Griffin Decommissioning and Field Management Environment Plan*, was submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for assessment.

BHP is now planning additional decommissioning activities at the Griffin Field and the associated gas export pipeline (GEP), which extends from the Field to the former onshore Griffin Gas Export Facility, south of Onslow. BHP is seeking stakeholder feedback to inform the development of the associated EPs for Regulator assessment, with an activity summary provided in the table below.

Separate EPs will be required for the proposed additional activities, with two EPs to be submitted to NOPSEMA for activities planned for Commonwealth waters and an EP to be submitted to the Department of Mines, Industry Regulation and Safety (DMIRS) for activities planned for State waters/lands. The EPs are being written to allow the activity to occur at any time of year as schedules are subject to change and to allow our business flexibility.

BHP has identified that DISER is relevant to activities planned to be managed under the NOPSEMA and DMIRS EPs. Details on opportunities to provide feedback are outlined below.

### Activity Overview

<b>NOPSEMA EP activities:</b>	<p>Remove residual mercury contamination within the GEP (Commonwealth waters).</p> <p>Abandon the GEP in situ following verification of successful mercury removal and surveying (Commonwealth waters).</p> <p>Abandon in situ selected equipment in the Griffin Field (Commonwealth waters).</p>
<b>DMIRS EP activities:</b>	<p>Construct, operate and rehabilitate a temporary pumping and liquid storage area (onshore Western Australia).</p> <p>Remove residual mercury contamination within the GEP (State waters)</p> <p>Abandon the GEP in situ following verification of successful mercury removal and surveying (State waters and onshore).</p>
<b>Activity location:</b>	<p>Griffin Field centre point - approximately 41 km north-west of Onslow and 85 km north-east of Exmouth, Western Australia.</p>
<b>Infrastructure proposed to be abandoned in situ:</b>	<p>1 x gas export pipeline (GEP) following removal of residual mercury contamination.</p> <p>6 x concrete gravity bases, most of which are buried and sitting flush with the seabed.</p> <p>1 x riser turret mooring (RTM) following placement of the mooring on the seabed and removal of the top sections containing foam.</p> <p>5 x piled foundations (1 x PLEM, 4 x distribution skids) cut as close as practical to the mudline.</p> <p>12 x RTM anchors cut as close as practical to the mudline.</p>

<b>Infrastructure locations:</b>	See attached Stakeholder Information Fact Sheet.
<b>Approximate water depth of Griffin Field:</b>	Approximately 130 m
<b>Estimate start date:</b>	Earliest start is Q1 2023 calendar year, subject to approvals, vessel availability, and weather constraints.
<b>Approximate duration:</b>	90 - 120 days
<b>Vessels:</b>	Support vessels are planned to be used to support removal of mercury from the GEP. No more than 2 vessels will be used at any one time.
<b>Operational area:</b>	A 500 m petroleum safety zone (exclusion) around the wells and a temporary 1500 m operational area around the wells for the duration of the activity.

**Your Feedback**

Your feedback on the proposed activity and our response will be provided to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA), as is required under the Commonwealth Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009.

As a relevant stakeholder you are invited to provide comments. The Environment Plan will contain a summary of all comments received. However, BHP will not use or disclose your personal information in the Environment Plan. Full transcripts of all correspondence will be included in a separate sensitive information part of the Environment Plan provided to NOPSEMA.

Please provide comment as soon as practicable. Comments can be made by email, letter or by phone (refer to attached Fact Sheet for contact details)

Feedback is sought on the **NOPSEMA EP** by close of business on **23 February 2022**. Feedback is sought on the **DMIRS EP** by close of business on **4 March 2022**.

Regards,

**1.16 Line not required**

**1.17 Email sent to Recfishwest (31 January 2022)**

Dear [REDACTED]

BHP is planning for the next stage of its ongoing safe and sustainable closure of the Griffin Field in Commonwealth waters offshore Western Australia.

The Griffin Field ceased production in 2009, with decommissioning being undertaken in stages. Decommissioning activities to date include the plugging and abandonment of all wells in 2017 and removal of the mid-depth buoys.

In November 2021 BHP consulted on the removal of the majority of the remaining equipment in the Griffin Field. On 22 December 2021 the associated environment plan (EP) for these removal activities, the *Griffin Decommissioning and Field Management Environment Plan*, was submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for assessment.

BHP is now planning additional decommissioning activities at the Griffin Field and the associated gas export pipeline (GEP), which extends from the Field to the former onshore Griffin Gas Export Facility, south of Onslow. BHP is seeking stakeholder feedback to inform the development of the associated EPs for Regulator assessment, with an activity summary provided in the table below.

Separate EPs will be required for the proposed additional activities, with two EPs to be submitted to NOPSEMA for activities planned for Commonwealth waters and an EP to be submitted to the Department of Mines, Industry Regulation and Safety (DMIRS) for activities planned for State waters/lands. The EPs are being written to allow the activity to occur at any time of year as schedules are subject to change and to allow our business flexibility.

BHP has identified that your member interests may be relevant to activities planned to be managed under the NOPSEMA and DMIRS EPs. Details on opportunities to provide feedback are outlined below.

**Activity Overview**

<b>NOPSEMA EP activities:</b>	<p>Remove residual mercury contamination within the GEP (Commonwealth waters).</p> <p>Abandon the GEP in situ following verification of successful mercury removal and surveying (Commonwealth waters).</p> <p>Abandon in situ selected equipment in the Griffin Field (Commonwealth waters).</p>
<b>DMIRS EP activities:</b>	<p>Construct, operate and rehabilitate a temporary pumping and liquid storage area (onshore Western Australia).</p> <p>Remove residual mercury contamination within the GEP (State waters)</p> <p>Abandon the GEP in situ following verification of successful mercury removal and surveying (State waters and onshore).</p>
<b>Activity location:</b>	<p>Griffin Field centre point - approximately 41 km north-west of Onslow and 85 km north-east of Exmouth, Western</p>

	Australia.
<b>Infrastructure proposed to be abandoned in situ:</b>	<p>1 x gas export pipeline (GEP) following removal of residual mercury contamination.</p> <p>6 x concrete gravity bases, most of which are buried and sitting flush with the seabed.</p> <p>1 x riser turret mooring (RTM) following placement of the mooring on the seabed and removal of the top sections containing foam.</p> <p>5 x piled foundations (1 x PLEM, 4 x distribution skids) cut as close as practical to the mudline.</p> <p>12 x RTM anchors cut as close as practical to the mudline.</p>
<b>Infrastructure locations:</b>	See attached Stakeholder Information Fact Sheet.
<b>Approximate water depth of Griffin Field:</b>	Approximately 130 m
<b>Estimate start date:</b>	Earliest start is Q1 2023 calendar year, subject to approvals, vessel availability, and weather constraints.
<b>Approximate duration:</b>	90 - 120 days
<b>Vessels:</b>	Support vessels are planned to be used to support removal of mercury from the GEP. No more than 2 vessels will be used at any one time.
<b>Operational area:</b>	A 500 m petroleum safety zone (exclusion) around the wells and a temporary 1500 m operational area around the wells for the duration of the activity.

### Commercial Fishing Overview

Commercial fisheries have been identified as being relevant to the proposed activities on the basis of fishing licence overlap with the proposed Operational (activity) Area, as well as consideration of fishing effort data, fishing methods and water depth.

### Commonwealth fisheries

There are five overlapping Commonwealth fisheries, none of which have been identified as relevant based on the identification criteria. BHP will consult representative organisations on behalf of licence holders entitled to fish in the Operational Area.

### State fisheries

There are 13 overlapping State fisheries, of which the following fisheries have been identified as being relevant based on the identification criteria. Individual licence holders in these fisheries will be consulted.

- Onslow Prawn Managed Fishery

- Pilbara Line Fishery
- Pilbara Trap Managed Fishery
- Pilbara Fish Trawl (Interim) Managed Fishery

The following government departments and organisations (on behalf of licence holders entitled to fish in the Operational Area) will also be consulted:

**Commonwealth Fisheries:**

- Australian Fisheries Management Authority
- Australian Southern Bluefin Tuna Industry Association on behalf of licence holders in the Southern Bluefin Tuna Fishery
- Department of Agriculture, Water and the Environment
- Commonwealth Fisheries Association on behalf of licence holders in the North West Slope Trawl, Western Deepwater Trawl and Western Skipjack Tuna Fisheries
- Tuna Australia on behalf of licence holders in the Western Tuna and Billfish fishery

**State Fisheries:**

- Department of Primary Industry and Resources
- Western Australian Fishing Industry Council
- Pearl Producers Association
- Recfishwest

**Your Feedback**

Your feedback on the proposed activity and our response will be provided to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA), as is required under the Commonwealth Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009.

As a relevant stakeholder you are invited to provide comments. The Environment Plan will contain a summary of all comments received. However, BHP will not use or disclose your personal information in the Environment Plan. Full transcripts of all correspondence will be included in a separate sensitive information part of the Environment Plan provided to NOPSEMA.

Please provide comment as soon as practicable. Comments can be made by email, letter or by phone (refer to attached Fact Sheet for contact details)

Feedback is sought on the **NOPSEMA EP** by close of business on **23 February 2022**. Feedback is sought on the **DMIRS EP** by close of business on **4 March 2022**.

Regards,



### 1.18 Email sent to Marine Tourism WA (31 January 2022)

Dear Marine Tourism WA

BHP is planning for the next stage of its ongoing safe and sustainable closure of the Griffin Field in Commonwealth waters offshore Western Australia.

The Griffin Field ceased production in 2009, with decommissioning being undertaken in stages. Decommissioning activities to date include the plugging and abandonment of all wells in 2017 and removal of the mid-depth buoys.

In November 2021 BHP consulted on the removal of the majority of the remaining equipment in the Griffin Field. On 22 December 2021 the associated environment plan (EP) for these removal activities, the *Griffin Decommissioning and Field Management Environment Plan*, was submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for assessment.

BHP is now planning additional decommissioning activities at the Griffin Field and the associated gas export pipeline (GEP), which extends from the Field to the former onshore Griffin Gas Export Facility, south of Onslow. BHP is seeking stakeholder feedback to inform the development of the associated EPs for Regulator assessment, with an activity summary provided in the table below.

Separate EPs will be required for the proposed additional activities, with two EPs to be submitted to NOPSEMA for activities planned for Commonwealth waters and an EP to be submitted to the Department of Mines, Industry Regulation and Safety (DMIRS) for activities planned for State waters/lands. The EPs are being written to allow the activity to occur at any time of year as schedules are subject to change and to allow our business flexibility.

BHP has identified that your member interests may be relevant to activities planned to be managed under the NOPSEMA and DMIRS EPs. Details on opportunities to provide feedback are outlined below.

#### Activity Overview

<b>NOPSEMA EP activities:</b>	Remove residual mercury contamination within the GEP (Commonwealth waters).  Abandon the GEP in situ following verification of successful mercury removal and surveying (Commonwealth waters).  Abandon in situ selected equipment in the Griffin Field (Commonwealth waters).
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<b>DMIRS EP activities:</b>	<p>Construct, operate and rehabilitate a temporary pumping and liquid storage area (onshore Western Australia).</p> <p>Remove residual mercury contamination within the GEP (State waters)</p> <p>Abandon the GEP in situ following verification of successful mercury removal and surveying (State waters and onshore).</p>
<b>Activity location:</b>	Griffin Field centre point - approximately 41 km north-west of Onslow and 85 km north-east of Exmouth, Western Australia.
<b>Infrastructure proposed to be abandoned in situ:</b>	<p>1 x gas export pipeline (GEP) following removal of residual mercury contamination.</p> <p>6 x concrete gravity bases, most of which are buried and sitting flush with the seabed.</p> <p>1 x riser turret mooring (RTM) following placement of the mooring on the seabed and removal of the top sections containing foam.</p> <p>5 x piled foundations (1 x PLEM, 4 x distribution skirts) cut as close as practical to the mudline.</p> <p>12 x RTM anchors cut as close as practical to the mudline.</p>
<b>Infrastructure locations:</b>	See attached Stakeholder Information Fact Sheet.
<b>Approximate water depth of Griffin Field:</b>	Approximately 130 m
<b>Estimate start date:</b>	Earliest start is Q1 2023 calendar year, subject to approvals, vessel availability, and weather constraints.
<b>Approximate duration:</b>	90 - 120 days
<b>Vessels:</b>	Support vessels are planned to be used to support removal of mercury from the GEP. No more than 2 vessels will be used at any one time.
<b>Operational area:</b>	A 500 m petroleum safety zone (exclusion) around the wells and a temporary 1500 m operational area around the wells for the duration of the activity.

### Commercial Fishing Overview

Commercial fisheries have been identified as being relevant to the proposed activities on the basis of fishing licence overlap with the proposed Operational (activity) Area, as well as consideration of fishing effort data, fishing methods and water depth.

### Commonwealth fisheries

There are five overlapping Commonwealth fisheries, none of which have been identified as relevant based on the identification criteria. BHP will consult representative organisations on behalf of licence holders entitled to fish in the Operational Area.

### **State fisheries**

There are 13 overlapping State fisheries, of which the following fisheries have been identified as being relevant based on the identification criteria. Individual licence holders in these fisheries will be consulted.

- Onslow Prawn Managed Fishery
- Pilbara Line Fishery
- Pilbara Trap Managed Fishery
- Pilbara Fish Trawl (Interim) Managed Fishery

The following government departments and organisations (on behalf of licence holders entitled to fish in the Operational Area) will also be consulted:

### **Commonwealth Fisheries:**

- Australian Fisheries Management Authority
- Australian Southern Bluefin Tuna Industry Association on behalf of licence holders in the Southern Bluefin Tuna Fishery
- Department of Agriculture, Water and the Environment
- Commonwealth Fisheries Association on behalf of licence holders in the North West Slope Trawl, Western Deepwater Trawl and Western Skipjack Tuna Fisheries
- Tuna Australia on behalf of licence holders in the Western Tuna and Billfish fishery

### **State Fisheries:**

- Department of Primary Industry and Resources
- Western Australian Fishing Industry Council
- Pearl Producers Association
- Recfishwest

### **Your Feedback**

Your feedback on the proposed activity and our response will be provided to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA), as is required under the Commonwealth Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009.

As a relevant stakeholder you are invited to provide comments. The Environment Plan will contain a summary of all comments received. However, BHP will not use or disclose your personal information in the Environment Plan. Full transcripts of all correspondence will be included in a separate sensitive information part of the Environment Plan provided to NOPSEMA.

Please provide comment as soon as practicable. Comments can be made by email, letter or by phone (refer to attached Fact Sheet for contact details)

Feedback is sought on the **NOPSEMA EP** by close of business on **23 February 2022**. Feedback is sought on the **DMIRS EP** by close of business on **4 March 2022**.

Regards,

#### **1.19 Email sent to APPEA (31 January 2022)**

Dear APPEA

BHP is planning for the next stage of its ongoing safe and sustainable closure of the Griffin Field in Commonwealth waters offshore Western Australia.

The Griffin Field ceased production in 2009, with decommissioning being undertaken in stages. Decommissioning activities to date include the plugging and abandonment of all wells in 2017 and removal of the mid-depth buoys.

In November 2021 BHP consulted on the removal of the majority of the remaining equipment in the Griffin Field. On 22 December 2021 the associated environment plan (EP) for these removal activities, the *Griffin Decommissioning and Field Management Environment Plan*, was submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for assessment.

BHP is now planning additional decommissioning activities at the Griffin Field and the associated gas export pipeline (GEP), which extends from the Field to the former onshore Griffin Gas Export Facility, south of Onslow. BHP is seeking stakeholder feedback to inform the development of the associated EPs for Regulator assessment, with an activity summary provided in the table below.

Separate EPs will be required for the proposed additional activities, with two EPs to be submitted to NOPSEMA for activities planned for Commonwealth waters and an EP to be submitted to the Department of Mines, Industry Regulation and Safety (DMIRS) for activities planned for State waters/lands. The EPs are being written to allow the activity to occur at any time of year as schedules are subject to change and to allow our business flexibility.

BHP has identified that APPEA is relevant to activities planned to be managed under the NOPSEMA and DMIRS EPs. Details on opportunities to provide feedback are outlined below.

#### **Activity Overview**

<b>NOPSEMA EP activities:</b>	<p>Remove residual mercury contamination within the GEP (Commonwealth waters).</p> <p>Abandon the GEP in situ following verification of successful mercury removal and surveying (Commonwealth waters).</p> <p>Abandon in situ selected equipment in the Griffin Field (Commonwealth waters).</p>
<b>DMIRS EP activities:</b>	<p>Construct, operate and rehabilitate a temporary pumping and liquid storage area (onshore Western Australia).</p> <p>Remove residual mercury contamination within the GEP (State waters)</p> <p>Abandon the GEP in situ following verification of successful mercury removal and surveying (State waters and onshore).</p>
<b>Activity location:</b>	<p>Griffin Field centre point - approximately 41 km north-west of Onslow and 85 km north-east of Exmouth, Western Australia.</p>
<b>Infrastructure proposed to be abandoned in situ:</b>	<p>1 x gas export pipeline (GEP) following removal of residual mercury contamination.</p> <p>6 x concrete gravity bases, most of which are buried and sitting flush with the seabed.</p> <p>1 x riser turret mooring (RTM) following placement of the mooring on the seabed and removal of the top sections containing foam.</p> <p>5 x piled foundations (1 x PLEM, 4 x distribution skirts) cut as close as practical to the mudline.</p> <p>12 x RTM anchors cut as close as practical to the mudline.</p>
<b>Infrastructure locations:</b>	<p>See attached Stakeholder Information Fact Sheet.</p>
<b>Approximate water depth of Griffin Field:</b>	<p>Approximately 130 m</p>
<b>Estimate start date:</b>	<p>Earliest start is Q1 2023 calendar year, subject to approvals, vessel availability, and weather constraints.</p>
<b>Approximate duration:</b>	<p>90 - 120 days</p>
<b>Vessels:</b>	<p>Support vessels are planned to be used to support removal of mercury from the GEP. No more than 2 vessels will be used at any one time.</p>
<b>Operational area:</b>	<p>A 500 m petroleum safety zone (exclusion) around the wells and a temporary 1500 m operational area around the wells for the duration of the activity.</p>

**Your Feedback**

Your feedback on the proposed activity and our response will be provided to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA), as is required under the Commonwealth Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009.

As a relevant stakeholder you are invited to provide comments. The Environment Plan will contain a summary of all comments received. However, BHP will not use or disclose your personal information in the Environment Plan. Full transcripts of all correspondence will be included in a separate sensitive information part of the Environment Plan provided to NOPSEMA.

Please provide comment as soon as practicable. Comments can be made by email, letter or by phone (refer to attached Fact Sheet for contact details)

Feedback is sought on the **NOPSEMA EP** by close of business on **23 February 2022**. Feedback is sought on the **DMIRS EP** by close of business on **4 March 2022**.

Regards,

**1.20 Line not required**

**1.21 Email sent to Australian Border Force (31 January 2022)**

Dear Stakeholder

BHP is planning for the next stage of its ongoing safe and sustainable closure of the Griffin Field in Commonwealth waters offshore Western Australia.

The Griffin Field ceased production in 2009, with decommissioning being undertaken in stages. Decommissioning activities to date include the plugging and abandonment of all wells in 2017 and removal of the mid-depth buoys.

In November 2021 BHP consulted on the removal of the majority of the remaining equipment in the Griffin Field. On 22 December 2021 the associated environment plan (EP) for these removal activities, the *Griffin Decommissioning and Field Management Environment Plan*, was submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for assessment.

BHP is now planning additional decommissioning activities at the Griffin Field and the associated gas export pipeline (GEP), which extends from the Field to the former onshore Griffin Gas Export Facility, south of Onslow. BHP is seeking stakeholder feedback to inform the development of the associated EPs for Regulator assessment, with an activity summary provided in the table below.

Separate EPs will be required for the proposed additional activities, with two EPs to be submitted to NOPSEMA for activities planned for Commonwealth waters and an EP to be submitted to the Department of Mines, Industry Regulation

and Safety (DMIRS) for activities planned for State waters/lands. The EPs are being written to allow the activity to occur at any time of year as schedules are subject to change and to allow our business flexibility.

BHP has identified that Australian Border Force is relevant to activities planned to be managed under the NOPSEMA and DMIRS EPs. Details on opportunities to provide feedback are outlined below.

### Activity Overview

<b>NOPSEMA EP activities:</b>	<p>Remove residual mercury contamination within the GEP (Commonwealth waters).</p> <p>Abandon the GEP in situ following verification of successful mercury removal and surveying (Commonwealth waters).</p> <p>Abandon in situ selected equipment in the Griffin Field (Commonwealth waters).</p>
<b>DMIRS EP activities:</b>	<p>Construct, operate and rehabilitate a temporary pumping and liquid storage area (onshore Western Australia).</p> <p>Remove residual mercury contamination within the GEP (State waters)</p> <p>Abandon the GEP in situ following verification of successful mercury removal and surveying (State waters and onshore).</p>
<b>Activity location:</b>	<p>Griffin Field centre point - approximately 41 km north-west of Onslow and 85 km north-east of Exmouth, Western Australia.</p>
<b>Infrastructure proposed to be abandoned in situ:</b>	<p>1 x gas export pipeline (GEP) following removal of residual mercury contamination.</p> <p>6 x concrete gravity bases, most of which are buried and sitting flush with the seabed.</p> <p>1 x riser turret mooring (RTM) following placement of the mooring on the seabed and removal of the top sections containing foam.</p> <p>5 x piled foundations (1 x PLEM, 4 x distribution skids) cut as close as practical to the mudline.</p> <p>12 x RTM anchors cut as close as practical to the mudline.</p>
<b>Infrastructure locations:</b>	<p>See attached Stakeholder Information Fact Sheet.</p>
<b>Approximate water depth of Griffin Field:</b>	<p>Approximately 130 m</p>
<b>Estimate start date:</b>	<p>Earliest start is Q1 2023 calendar year, subject to approvals, vessel availability, and weather constraints.</p>

<b>Approximate duration:</b>	90 - 120 days
<b>Vessels:</b>	Support vessels are planned to be used to support removal of mercury from the GEP. No more than 2 vessels will be used at any one time.
<b>Operational area:</b>	A 500 m petroleum safety zone (exclusion) around the wells and a temporary 1500 m operational area around the wells for the duration of the activity.

**Your Feedback**

Your feedback on the proposed activity and our response will be provided to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA), as is required under the Commonwealth Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009.

As a relevant stakeholder you are invited to provide comments. The Environment Plan will contain a summary of all comments received. However, BHP will not use or disclose your personal information in the Environment Plan. Full transcripts of all correspondence will be included in a separate sensitive information part of the Environment Plan provided to NOPSEMA.

Please provide comment as soon as practicable. Comments can be made by email, letter or by phone (refer to attached Fact Sheet for contact details)

Feedback is sought on the **NOPSEMA EP** by close of business on **23 February 2022**. Feedback is sought on the **DMIRS EP** by close of business on **4 March 2022**.

Regards,

**1.22 Email sent to Commonwealth Fisheries Association (CFA) (31 January 2022)**

Dear Commonwealth Fisheries Association

BHP is planning for the next stage of its ongoing safe and sustainable closure of the Griffin Field in Commonwealth waters offshore Western Australia.

The Griffin Field ceased production in 2009, with decommissioning being undertaken in stages. Decommissioning activities to date include the plugging and abandonment of all wells in 2017 and removal of the mid-depth buoys.

In November 2021 BHP consulted on the removal of the majority of the remaining equipment in the Griffin Field. On 22 December 2021 the associated environment plan (EP) for these removal activities, the *Griffin Decommissioning and Field Management Environment Plan*, was submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for assessment.



BHP is now planning additional decommissioning activities at the Griffin Field and the associated gas export pipeline (GEP), which extends from the Field to the former onshore Griffin Gas Export Facility, south of Onslow. BHP is seeking stakeholder feedback to inform the development of the associated EPs for Regulator assessment, with an activity summary provided in the table below.

Separate EPs will be required for the proposed additional activities, with two EPs to be submitted to NOPSEMA for activities planned for Commonwealth waters and an EP to be submitted to the Department of Mines, Industry Regulation and Safety (DMIRS) for activities planned for State waters/lands. The EPs are being written to allow the activity to occur at any time of year as schedules are subject to change and to allow our business flexibility.

BHP has identified that your member interests may be relevant to activities planned to be managed under the NOPSEMA and DMIRS EPs. Details on opportunities to provide feedback are outlined below.

**Activity Overview**

<b>NOPSEMA EP activities:</b>	<p>Remove residual mercury contamination within the GEP (Commonwealth waters).</p> <p>Abandon the GEP in situ following verification of successful mercury removal and surveying (Commonwealth waters).</p> <p>Abandon in situ selected equipment in the Griffin Field (Commonwealth waters).</p>
<b>DMIRS EP activities:</b>	<p>Construct, operate and rehabilitate a temporary pumping and liquid storage area (onshore Western Australia).</p> <p>Remove residual mercury contamination within the GEP (State waters)</p> <p>Abandon the GEP in situ following verification of successful mercury removal and surveying (State waters and onshore).</p>
<b>Activity location:</b>	<p>Griffin Field centre point - approximately 41 km north-west of Onslow and 85 km north-east of Exmouth, Western Australia.</p>
<b>Infrastructure proposed to be abandoned in situ:</b>	<p>1 x gas export pipeline (GEP) following removal of residual mercury contamination.</p> <p>6 x concrete gravity bases, most of which are buried and sitting flush with the seabed.</p> <p>1 x riser turret mooring (RTM) following placement of the mooring on the seabed and removal of the top sections containing foam.</p> <p>5 x piled foundations (1 x PLEM, 4 x distribution skids) cut as close as practical to the mudline.</p>

	12 x RTM anchors cut as close as practical to the mudline.
<b>Infrastructure locations:</b>	See attached Stakeholder Information Fact Sheet.
<b>Approximate water depth of Griffin Field:</b>	Approximately 130 m
<b>Estimate start date:</b>	Earliest start is Q1 2023 calendar year, subject to approvals, vessel availability, and weather constraints.
<b>Approximate duration:</b>	90 - 120 days
<b>Vessels:</b>	Support vessels are planned to be used to support removal of mercury from the GEP. No more than 2 vessels will be used at any one time.
<b>Operational area:</b>	A 500 m petroleum safety zone (exclusion) around the wells and a temporary 1500 m operational area around the wells for the duration of the activity.

### Commercial Fishing Overview

Commercial fisheries have been identified as being relevant to the proposed activities on the basis of fishing licence overlap with the proposed Operational (activity) Area, as well as consideration of fishing effort data, fishing methods and water depth.

### Commonwealth fisheries

There are five overlapping Commonwealth fisheries, none of which have been identified as relevant based on the identification criteria. BHP will consult representative organisations on behalf of licence holders entitled to fish in the Operational Area.

### State fisheries

There are 13 overlapping State fisheries, of which the following fisheries have been identified as being relevant based on the identification criteria. Individual licence holders in these fisheries will be consulted.

- Onslow Prawn Managed Fishery
- Pilbara Line Fishery
- Pilbara Trap Managed Fishery
- Pilbara Fish Trawl (Interim) Managed Fishery

The following government departments and organisations (on behalf of licence holders entitled to fish in the Operational Area) will also be consulted:

**Commonwealth Fisheries:**

- Australian Fisheries Management Authority
- Australian Southern Bluefin Tuna Industry Association on behalf of licence holders in the Southern Bluefin Tuna Fishery
- Department of Agriculture, Water and the Environment
- Commonwealth Fisheries Association on behalf of licence holders in the North West Slope Trawl, Western Deepwater Trawl and Western Skipjack Tuna Fisheries
- Tuna Australia on behalf of licence holders in the Western Tuna and Billfish fishery

**State Fisheries:**

- Department of Primary Industry and Resources
- Western Australian Fishing Industry Council
- Pearl Producers Association
- Recfishwest

**Your Feedback**

Your feedback on the proposed activity and our response will be provided to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA), as is required under the Commonwealth Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009.

As a relevant stakeholder you are invited to provide comments. The Environment Plan will contain a summary of all comments received. However, BHP will not use or disclose your personal information in the Environment Plan. Full transcripts of all correspondence will be included in a separate sensitive information part of the Environment Plan provided to NOPSEMA.

Please provide comment as soon as practicable. Comments can be made by email, letter or by phone (refer to attached Fact Sheet for contact details)

Feedback is sought on the **NOPSEMA EP** by close of business on **23 February 2022**. Feedback is sought on the **DMIRS EP** by close of business on **4 March 2022**.

Regards,

**1.23 Email sent to Australian Southern Bluefin Tuna Industry Association (ASBTIA) (31 January 2022)**

Dear Southern Bluefin Tuna Industry Association

BHP is planning for the next stage of its ongoing safe and sustainable closure of the Griffin Field in Commonwealth waters offshore Western Australia.

The Griffin Field ceased production in 2009, with decommissioning being undertaken in stages. Decommissioning activities to date include the plugging and abandonment of all wells in 2017 and removal of the mid-depth buoys.

In November 2021 BHP consulted on the removal of the majority of the remaining equipment in the Griffin Field. On 22 December 2021 the associated environment plan (EP) for these removal activities, the *Griffin Decommissioning and Field Management Environment Plan*, was submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for assessment.

BHP is now planning additional decommissioning activities at the Griffin Field and the associated gas export pipeline (GEP), which extends from the Field to the former onshore Griffin Gas Export Facility, south of Onslow. BHP is seeking stakeholder feedback to inform the development of the associated EPs for Regulator assessment, with an activity summary provided in the table below.

Separate EPs will be required for the proposed additional activities, with two EPs to be submitted to NOPSEMA for activities planned for Commonwealth waters and an EP to be submitted to the Department of Mines, Industry Regulation and Safety (DMIRS) for activities planned for State waters/lands. The EPs are being written to allow the activity to occur at any time of year as schedules are subject to change and to allow our business flexibility.

BHP has identified that your member interests may be relevant to activities planned to be managed under the NOPSEMA and DMIRS EPs. Details on opportunities to provide feedback are outlined below.

### Activity Overview

<b>NOPSEMA EP activities:</b>	<p>Remove residual mercury contamination within the GEP (Commonwealth waters).</p> <p>Abandon the GEP in situ following verification of successful mercury removal and surveying (Commonwealth waters).</p> <p>Abandon in situ selected equipment in the Griffin Field (Commonwealth waters).</p>
<b>DMIRS EP activities:</b>	<p>Construct, operate and rehabilitate a temporary pumping and liquid storage area (onshore Western Australia).</p> <p>Remove residual mercury contamination within the GEP (State waters)</p> <p>Abandon the GEP in situ following verification of successful mercury removal and surveying (State waters and onshore).</p>

<b>Activity location:</b>	Griffin Field centre point - approximately 41 km north-west of Onslow and 85 km north-east of Exmouth, Western Australia.
<b>Infrastructure proposed to be abandoned in situ:</b>	<p>1 x gas export pipeline (GEP) following removal of residual mercury contamination.</p> <p>6 x concrete gravity bases, most of which are buried and sitting flush with the seabed.</p> <p>1 x riser turret mooring (RTM) following placement of the mooring on the seabed and removal of the top sections containing foam.</p> <p>5 x piled foundations (1 x PLEM, 4 x distribution skids) cut as close as practical to the mudline.</p> <p>12 x RTM anchors cut as close as practical to the mudline.</p>
<b>Infrastructure locations:</b>	See attached Stakeholder Information Fact Sheet.
<b>Approximate water depth of Griffin Field:</b>	Approximately 130 m
<b>Estimate start date:</b>	Earliest start is Q1 2023 calendar year, subject to approvals, vessel availability, and weather constraints.
<b>Approximate duration:</b>	90 - 120 days
<b>Vessels:</b>	Support vessels are planned to be used to support removal of mercury from the GEP. No more than 2 vessels will be used at any one time.
<b>Operational area:</b>	A 500 m petroleum safety zone (exclusion) around the wells and a temporary 1500 m operational area around the wells for the duration of the activity.

### Commercial Fishing Overview

Commercial fisheries have been identified as being relevant to the proposed activities on the basis of fishing licence overlap with the proposed Operational (activity) Area, as well as consideration of fishing effort data, fishing methods and water depth.

### Commonwealth fisheries

There are five overlapping Commonwealth fisheries, none of which have been identified as relevant based on the identification criteria. BHP will consult representative organisations on behalf of licence holders entitled to fish in the Operational Area.

### State fisheries

There are 13 overlapping State fisheries, of which the following fisheries have been identified as being relevant based on the identification criteria. Individual licence holders in these fisheries will be consulted.

- Onslow Prawn Managed Fishery

- Pilbara Line Fishery
- Pilbara Trap Managed Fishery
- Pilbara Fish Trawl (Interim) Managed Fishery

The following government departments and organisations (on behalf of licence holders entitled to fish in the Operational Area) will also be consulted:

**Commonwealth Fisheries:**

- Australian Fisheries Management Authority
- Australian Southern Bluefin Tuna Industry Association on behalf of licence holders in the Southern Bluefin Tuna Fishery
- Department of Agriculture, Water and the Environment
- Commonwealth Fisheries Association on behalf of licence holders in the North West Slope Trawl, Western Deepwater Trawl and Western Skipjack Tuna Fisheries
- Tuna Australia on behalf of licence holders in the Western Tuna and Billfish fishery

**State Fisheries:**

- Department of Primary Industry and Resources
- Western Australian Fishing Industry Council
- Pearl Producers Association
- Recfishwest

**Your Feedback**

Your feedback on the proposed activity and our response will be provided to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA), as is required under the Commonwealth Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009.

As a relevant stakeholder you are invited to provide comments. The Environment Plan will contain a summary of all comments received. However, BHP will not use or disclose your personal information in the Environment Plan. Full transcripts of all correspondence will be included in a separate sensitive information part of the Environment Plan provided to NOPSEMA.

Please provide comment as soon as practicable. Comments can be made by email, letter or by phone (refer to attached Fact Sheet for contact details)

Feedback is sought on the **NOPSEMA EP** by close of business on **23 February 2022**. Feedback is sought on the **DMIRS EP** by close of business on **4 March 2022**.

Regards,

1.24 Presentation to Exmouth Community Liaison Group ((ECLG) 4 October 2021)

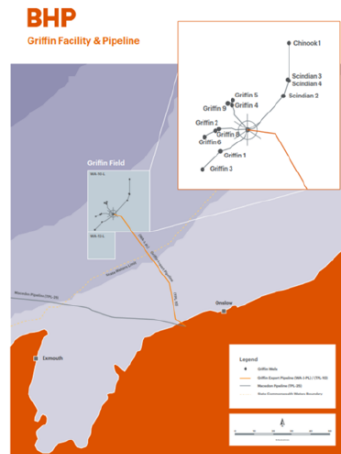
AUSTRALIAN PRODUCTION UNIT GRIFFIN FIELD MANAGEMENT AND EQUIPMENT REMOVAL ENVIRONMENT PLAN  
 Consultation (Exmouth Community Reference Group Presentation, 4 November 2021)



AUSTRALIAN PRODUCTION UNIT GRIFFIN FIELD MANAGEMENT AND EQUIPMENT REMOVAL ENVIRONMENT PLAN

### Griffin Decommissioning

- EP Regulation requires all equipment to be removed unless an equal or better environmental outcome be achieved
- Decommissioning activities will be covered by four Environment Plans
  - Remove Scope – Commonwealth
  - Deviation Scope for the field – Commonwealth
  - Deviation Scope (Gas Export Pipeline) – Commonwealth
  - Deviation Scope (Gas Export Pipeline) – State
- Consultation on the remove scope has commenced. BHP proposes to remove items in the field that are
  - Easily recoverable and present a snag risk
  - Are predominantly plastic
  - Contain contaminants above the acceptable threshold
- Removal scope includes elements in upper section of the RTM that were originally above the waterline
  - Buoyancy foam and other miscellaneous plastics
  - Potential contaminants, such as batteries.



**1.25 Email sent to Marine Tourism WA (14 February 2022)**

Dear Marine Tourism WA

BHP is sending this reminder email to you as your interests in marine tourism are relevant to BHP’s next phase of planning for the safe and sustainable closure of the Griffin Field in Commonwealth waters offshore Western Australia.

A summary of proposed activities is outlined below, including an overview of which remaining subsea infrastructure BHP plans to remove and which infrastructure it plans to leave in situ. Further detail is provided in the attached consultation information Fact Sheet.

We appreciate that Marine Tourism WA may have provided feedback during the public comparative assessment process in 2021 to inform BHP’s planning on potential end-state decommissioning options, or in November 2021 for the Griffin

Decommissioning and Field Management Environment Plan (EP), where BHP sought feedback on removal of the majority of equipment in the Griffin Field.

However, providing your views on specific activities outlined below is important as BHP will in the coming weeks be submitting an EP to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for those activities planned for Commonwealth waters and an EP to be submitted to the Department of Mines, Industry Regulation and Safety (DMIRS) for those activities planned for State waters/lands.

**Activity Overview**

<b>NOPSEMA EP activities:</b>	<p>Remove residual mercury contamination within the GEP (Commonwealth waters).</p> <p>Abandon the GEP in situ following verification of successful mercury removal and surveying (Commonwealth waters).</p> <p>Abandon in situ selected equipment in the Griffin Field (Commonwealth waters).</p>
<b>DMIRS EP activities:</b>	<p>Construct, operate and rehabilitate a temporary pumping and liquid storage area (onshore Western Australia).</p> <p>Remove residual mercury contamination within the GEP (State waters)</p> <p>Abandon the GEP in situ following verification of successful mercury removal and surveying (State waters and onshore).</p>
<b>Activity location:</b>	<p>Griffin Field centre point - approximately 41 km north-west of Onslow and 85 km north-east of Exmouth, Western</p>



	Australia.
<b>Infrastructure proposed to be abandoned in situ:</b>	<p>1 x gas export pipeline (GEP) following removal of residual mercury contamination.</p> <p>6 x concrete gravity bases, most of which are buried and sitting flush with the seabed.</p> <p>1 x riser turret mooring (RTM) following placement of the mooring on the seabed and removal of the top sections containing foam.</p> <p>5 x piled foundations (1 x PLEM, 4 x distribution skids) cut as close as practical to the mudline.</p> <p>12 x RTM anchors cut as close as practical to the mudline.</p>
<b>Infrastructure locations:</b>	See attached Stakeholder Information Fact Sheet.
<b>Approximate water depth of Griffin Field:</b>	Approximately 130 m
<b>Estimate start date:</b>	Earliest start is Q1 2023 calendar year, subject to approvals, vessel availability, and weather constraints.
<b>Approximate duration:</b>	90 - 120 days
<b>Vessels:</b>	Support vessels are planned to be used to support removal of mercury from the GEP. No more than 2 vessels will be used at any one time.
<b>Operational area:</b>	A 500 m petroleum safety zone (exclusion) around the wells and a temporary 1500 m operational area around the wells for the duration of the activity.

### Commercial Fishing Overview

Commercial fisheries have been identified as being relevant to the proposed activities on the basis of fishing licence overlap with the proposed Operational (activity) Area, as well as consideration of fishing effort data, fishing methods and water depth.

### COMMONWEALTH FISHERIES

There are five overlapping Commonwealth fisheries, none of which have been identified as relevant based on the identification criteria. BHP will consult representative organisations on behalf of licence holders entitled to fish in the Operational Area.

### STATE FISHERIES

There are 13 overlapping State fisheries, of which the following fisheries have been identified as being relevant based on the identification criteria. Individual licence holders in these fisheries will be consulted.

- Onslow Prawn Managed Fishery
- Pilbara Line Fishery
- Pilbara Trap Managed Fishery
- Pilbara Fish Trawl (Interim) Managed Fishery

The following government departments and organisations (on behalf of licence holders entitled to fish in the Operational Area) will also be consulted:

Commonwealth Fisheries:

- Australian Fisheries Management Authority
- Australian Southern Bluefin Tuna Industry Association on behalf of licence holders in the Southern Bluefin Tuna Fishery
- Department of Agriculture, Water and the Environment
- Commonwealth Fisheries Association on behalf of licence holders in the North West Slope Trawl, Western Deepwater Trawl and Western Skipjack Tuna Fisheries
- Tuna Australia on behalf of licence holders in the Western Tuna and Billfish fishery

State Fisheries:

- Department of Primary Industry and Resources
- Western Australian Fishing Industry Council
- Pearl Producers Association
- Recfishwest

## YOUR FEEDBACK

Your feedback on the proposed activity and our response will be provided to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA), as is required under the Commonwealth Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009.

As a relevant stakeholder you are invited to provide comments. The Environment Plan will contain a summary of all comments received. However, BHP will not use or disclose your personal information in the Environment Plan. Full transcripts of all correspondence will be included in a separate sensitive information part of the Environment Plan provided to NOPSEMA.

Please provide comment as soon as practicable. Comments can be made by email, letter or by phone (refer to attached Fact Sheet for contact details)

Feedback is sought on the **NOPSEMA EP** by close of business on **23 February 2022**. Feedback is sought on the **DMIRS EP** by close of business on **4 March 2022**. Regards,

**1.26 Email sent to Commonwealth Fisheries Association (14 February 2022)**

Dear Commonwealth Fisheries Association

BHP is sending this reminder email to you as your interests in commercial fishing are relevant to BHP’s next phase of planning for the safe and sustainable closure of the Griffin Field in Commonwealth waters offshore Western Australia.

A summary of proposed activities is outlined below, including an overview of which remaining subsea infrastructure BHP plans to remove and which infrastructure it plans to leave in situ. Further detail is provided in the attached consultation information Fact Sheet.

We appreciate that CFA may have provided feedback during the public comparative assessment process in 2021 to inform BHP’s planning on potential end-state decommissioning options, or in November 2021 for the Griffin

Decommissioning and Field Management Environment Plan (EP), where BHP sought feedback on removal of the majority of equipment in the Griffin Field.

However, providing your views on specific activities outlined below is important as BHP will in the coming weeks be submitting an EP to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for those activities planned for Commonwealth waters and an EP to be submitted to the Department of Mines, Industry Regulation and Safety (DMIRS) for those activities planned for State waters/lands.

**Activity Overview**

<b>NOPSEMA EP activities:</b>	<p>Remove residual mercury contamination within the GEP (Commonwealth waters).</p> <p>Abandon the GEP in situ following verification of successful mercury removal and surveying (Commonwealth waters).</p> <p>Abandon in situ selected equipment in the Griffin Field (Commonwealth waters).</p>
<b>DMIRS EP activities:</b>	<p>Construct, operate and rehabilitate a temporary pumping and liquid storage area (onshore Western Australia).</p> <p>Remove residual mercury contamination within the GEP (State waters)</p> <p>Abandon the GEP in situ following verification of successful mercury removal and surveying (State waters and onshore).</p>
<b>Activity location:</b>	<p>Griffin Field centre point - approximately 41 km north-west of Onslow and 85 km north-east of Exmouth, Western Australia.</p>

<b>Infrastructure proposed to be abandoned in situ:</b>	<p>1 x gas export pipeline (GEP) following removal of residual mercury contamination.</p> <p>6 x concrete gravity bases, most of which are buried and sitting flush with the seabed.</p> <p>1 x riser turret mooring (RTM) following placement of the mooring on the seabed and removal of the top sections containing foam.</p> <p>5 x piled foundations (1 x PLEM, 4 x distribution skids) cut as close as practical to the mudline.</p> <p>12 x RTM anchors cut as close as practical to the mudline.</p>
<b>Infrastructure locations:</b>	See attached Stakeholder Information Fact Sheet.
<b>Approximate water depth of Griffin Field:</b>	Approximately 130 m
<b>Estimate start date:</b>	Earliest start is Q1 2023 calendar year, subject to approvals, vessel availability, and weather constraints.
<b>Approximate duration:</b>	90 - 120 days
<b>Vessels:</b>	Support vessels are planned to be used to support removal of mercury from the GEP. No more than 2 vessels will be used at any one time.
<b>Operational area:</b>	A 500 m petroleum safety zone (exclusion) around the wells and a temporary 1500 m operational area around the wells for the duration of the activity.

### Commercial Fishing Overview

Commercial fisheries have been identified as being relevant to the proposed activities on the basis of fishing licence overlap with the proposed Operational (activity) Area, as well as consideration of fishing effort data, fishing methods and water depth.

### COMMONWEALTH FISHERIES

There are five overlapping Commonwealth fisheries, none of which have been identified as relevant based on the identification criteria. BHP will consult representative organisations on behalf of licence holders entitled to fish in the Operational Area.

### STATE FISHERIES

There are 13 overlapping State fisheries, of which the following fisheries have been identified as being relevant based on the identification criteria. Individual licence holders in these fisheries will be consulted.

- Onslow Prawn Managed Fishery
- Pilbara Line Fishery

- Pilbara Trap Managed Fishery
- Pilbara Fish Trawl (Interim) Managed Fishery

The following government departments and organisations (on behalf of licence holders entitled to fish in the Operational Area) will also be consulted:

Commonwealth Fisheries:

- Australian Fisheries Management Authority
- Australian Southern Bluefin Tuna Industry Association on behalf of licence holders in the Southern Bluefin Tuna Fishery
- Department of Agriculture, Water and the Environment
- Commonwealth Fisheries Association on behalf of licence holders in the North West Slope Trawl, Western Deepwater Trawl and Western Skipjack Tuna Fisheries
- Tuna Australia on behalf of licence holders in the Western Tuna and Billfish fishery

State Fisheries:

- Department of Primary Industry and Resources
- Western Australian Fishing Industry Council
- Pearl Producers Association
- Recfishwest

## YOUR FEEDBACK

Your feedback on the proposed activity and our response will be provided to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA), as is required under the Commonwealth Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009.

As a relevant stakeholder you are invited to provide comments. The Environment Plan will contain a summary of all comments received. However, BHP will not use or disclose your personal information in the Environment Plan. Full transcripts of all correspondence will be included in a separate sensitive information part of the Environment Plan provided to NOPSEMA.

Please provide comment as soon as practicable. Comments can be made by email, letter or by phone (refer to attached Fact Sheet for contact details)

Feedback is sought on the **NOPSEMA EP** by close of business on **23 February 2022**. Feedback is sought on the **DMIRS EP** by close of business on **4 March 2022**.

Regards,

**1.27 Email sent to Australian Bluefin Tuna Industry Association (14 February 2022)**

Dear Australian Bluefin Tuna Industry Association

BHP is sending this reminder email to you as your interests in commercial fishing are relevant to BHP’s next phase of planning for the safe and sustainable closure of the Griffin Field in Commonwealth waters offshore Western Australia.

A summary of proposed activities is outlined below, including an overview of which remaining subsea infrastructure BHP plans to remove and which infrastructure it plans to leave in situ. Further detail is provided in the attached consultation information Fact Sheet.

We appreciate that ASBTIA may have provided feedback during the public comparative assessment process in 2021 to inform BHP’s planning on potential end-state decommissioning options, or in November 2021 for the Griffin

Decommissioning and Field Management Environment Plan (EP), where BHP sought feedback on removal of the majority of equipment in the Griffin Field.

However, providing your views on specific activities outlined below is important as BHP will in the coming weeks be submitting an EP to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for those activities planned for Commonwealth waters and an EP to be submitted to the Department of Mines, Industry Regulation and Safety (DMIRS) for those activities planned for State waters/lands.

**Activity Overview**

<b>NOPSEMA EP activities:</b>	<p>Remove residual mercury contamination within the GEP (Commonwealth waters).</p> <p>Abandon the GEP in situ following verification of successful mercury removal and surveying (Commonwealth waters).</p> <p>Abandon in situ selected equipment in the Griffin Field (Commonwealth waters).</p>
<b>DMIRS EP activities:</b>	<p>Construct, operate and rehabilitate a temporary pumping and liquid storage area (onshore Western Australia).</p> <p>Remove residual mercury contamination within the GEP (State waters)</p> <p>Abandon the GEP in situ following verification of successful mercury removal and surveying (State waters and onshore).</p>

<b>Activity location:</b>	Griffin Field centre point - approximately 41 km north-west of Onslow and 85 km north-east of Exmouth, Western Australia.
<b>Infrastructure proposed to be abandoned in situ:</b>	<p>1 x gas export pipeline (GEP) following removal of residual mercury contamination.</p> <p>6 x concrete gravity bases, most of which are buried and sitting flush with the seabed.</p> <p>1 x riser turret mooring (RTM) following placement of the mooring on the seabed and removal of the top sections containing foam.</p> <p>5 x piled foundations (1 x PLEM, 4 x distribution skids) cut as close as practical to the mudline.</p> <p>12 x RTM anchors cut as close as practical to the mudline.</p>
<b>Infrastructure locations:</b>	See attached Stakeholder Information Fact Sheet.
<b>Approximate water depth of Griffin Field:</b>	Approximately 130 m
<b>Estimate start date:</b>	Earliest start is Q1 2023 calendar year, subject to approvals, vessel availability, and weather constraints.
<b>Approximate duration:</b>	90 - 120 days
<b>Vessels:</b>	Support vessels are planned to be used to support removal of mercury from the GEP. No more than 2 vessels will be used at any one time.
<b>Operational area:</b>	A 500 m petroleum safety zone (exclusion) around the wells and a temporary 1500 m operational area around the wells for the duration of the activity.

## Commercial Fishing Overview

Commercial fisheries have been identified as being relevant to the proposed activities on the basis of fishing licence overlap with the proposed Operational (activity) Area, as well as consideration of fishing effort data, fishing methods and water depth.

## COMMONWEALTH FISHERIES

There are five overlapping Commonwealth fisheries, none of which have been identified as relevant based on the identification criteria. BHP will consult representative organisations on behalf of licence holders entitled to fish in the Operational Area.

## STATE FISHERIES

There are 13 overlapping State fisheries, of which the following fisheries have been identified as being relevant based on the identification criteria. Individual licence holders in these fisheries will be consulted.

- Onslow Prawn Managed Fishery
- Pilbara Line Fishery
- Pilbara Trap Managed Fishery
- Pilbara Fish Trawl (Interim) Managed Fishery

The following government departments and organisations (on behalf of licence holders entitled to fish in the Operational Area) will also be consulted:

Commonwealth Fisheries:

- Australian Fisheries Management Authority
- Australian Southern Bluefin Tuna Industry Association on behalf of licence holders in the Southern Bluefin Tuna Fishery
- Department of Agriculture, Water and the Environment
- Commonwealth Fisheries Association on behalf of licence holders in the North West Slope Trawl, Western Deepwater Trawl and Western Skipjack Tuna Fisheries
- Tuna Australia on behalf of licence holders in the Western Tuna and Billfish fishery

State Fisheries:

- Department of Primary Industry and Resources
- Western Australian Fishing Industry Council
- Pearl Producers Association
- Recfishwest

## **YOUR FEEDBACK**

Your feedback on the proposed activity and our response will be provided to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA), as is required under the Commonwealth Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009.

As a relevant stakeholder you are invited to provide comments. The Environment Plan will contain a summary of all comments received. However, BHP will not use or disclose your personal information in the Environment Plan. Full transcripts of all correspondence will be included in a separate sensitive information part of the Environment Plan provided to NOPSEMA.

Please provide comment as soon as practicable. Comments can be made by email, letter or by phone (refer to attached Fact Sheet for contact details)

Feedback is sought on the **NOPSEMA EP** by close of business on **23 February 2022**. Feedback is sought on the **DMIRS EP** by close of business on **4 March 2022**. Regards,



**1.28 Email sent to Pilbara Trawl Fishery, Pilbara Trap Fishery and Pilbara Line Fishery (14 February 2022)**

Dear stakeholder

BHP is sending this reminder email to you as your interests in commercial fishing are relevant to BHP's next phase of planning for the safe and sustainable closure of the Griffin Field in Commonwealth waters offshore Western Australia.

A summary of proposed activities is outlined below, including an overview of which remaining subsea infrastructure BHP plans to remove and which infrastructure it plans to leave in situ. Further detail is provided in the attached consultation information Fact Sheet.

We appreciate that you may have provided feedback during the public comparative assessment process in 2021 to inform BHP's planning on potential end-state decommissioning options, or in November 2021 for the Griffin

Decommissioning and Field Management Environment Plan (EP), where BHP sought feedback on removal of the majority of equipment in the Griffin Field.

However, providing your views on specific activities outlined below is important as BHP will in the coming weeks be submitting an EP to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for those activities planned for Commonwealth waters and an EP to be submitted to the Department of Mines, Industry Regulation and Safety (DMIRS) for those activities planned for State waters/lands.

**Activity Overview**

<b>NOPSEMA EP activities:</b>	<p>Remove residual mercury contamination within the GEP (Commonwealth waters).</p> <p>Abandon the GEP in situ following verification of successful mercury removal and surveying (Commonwealth waters).</p> <p>Abandon in situ selected equipment in the Griffin Field (Commonwealth waters).</p>
<b>DMIRS EP activities:</b>	<p>Construct, operate and rehabilitate a temporary pumping and liquid storage area (onshore Western Australia).</p> <p>Remove residual mercury contamination within the GEP (State waters)</p> <p>Abandon the GEP in situ following verification of successful mercury removal and surveying (State waters and onshore).</p>
<b>Activity location:</b>	<p>Griffin Field centre point - approximately 41 km north-west of Onslow and 85 km north-east of Exmouth, Western Australia.</p>

<b>Infrastructure proposed to be abandoned in situ:</b>	<p>1 x gas export pipeline (GEP) following removal of residual mercury contamination.</p> <p>6 x concrete gravity bases, most of which are buried and sitting flush with the seabed.</p> <p>1 x riser turret mooring (RTM) following placement of the mooring on the seabed and removal of the top sections containing foam.</p> <p>5 x piled foundations (1 x PLEM, 4 x distribution skids) cut as close as practical to the mudline.</p> <p>12 x RTM anchors cut as close as practical to the mudline.</p>
<b>Infrastructure locations:</b>	See attached Stakeholder Information Fact Sheet.
<b>Approximate water depth of Griffin Field:</b>	Approximately 130 m
<b>Estimate start date:</b>	Earliest start is Q1 2023 calendar year, subject to approvals, vessel availability, and weather constraints.
<b>Approximate duration:</b>	90 - 120 days
<b>Vessels:</b>	Support vessels are planned to be used to support removal of mercury from the GEP. No more than 2 vessels will be used at any one time.
<b>Operational area:</b>	A 500 m petroleum safety zone (exclusion) around the wells and a temporary 1500 m operational area around the wells for the duration of the activity.

## Commercial Fishing Overview

Commercial fisheries have been identified as being relevant to the proposed activities on the basis of fishing licence overlap with the proposed Operational (activity) Area, as well as consideration of fishing effort data, fishing methods and water depth.

## COMMONWEALTH FISHERIES

There are five overlapping Commonwealth fisheries, none of which have been identified as relevant based on the identification criteria. BHP will consult representative organisations on behalf of licence holders entitled to fish in the Operational Area.

## STATE FISHERIES

There are 13 overlapping State fisheries, of which the following fisheries have been identified as being relevant based on the identification criteria. Individual licence holders in these fisheries will be consulted.

- Onslow Prawn Managed Fishery

- Pilbara Line Fishery
- Pilbara Trap Managed Fishery
- Pilbara Fish Trawl (Interim) Managed Fishery

The following government departments and organisations (on behalf of licence holders entitled to fish in the Operational Area) will also be consulted:

Commonwealth Fisheries:

- Australian Fisheries Management Authority
- Australian Southern Bluefin Tuna Industry Association on behalf of licence holders in the Southern Bluefin Tuna Fishery
- Department of Agriculture, Water and the Environment
- Commonwealth Fisheries Association on behalf of licence holders in the North West Slope Trawl, Western Deepwater Trawl and Western Skipjack Tuna Fisheries
- Tuna Australia on behalf of licence holders in the Western Tuna and Billfish fishery

State Fisheries:

- Department of Primary Industry and Resources
- Western Australian Fishing Industry Council
- Pearl Producers Association
- Recfishwest

## **YOUR FEEDBACK**

Your feedback on the proposed activity and our response will be provided to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA), as is required under the Commonwealth Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009.

As a relevant stakeholder you are invited to provide comments. The Environment Plan will contain a summary of all comments received. However, BHP will not use or disclose your personal information in the Environment Plan. Full transcripts of all correspondence will be included in a separate sensitive information part of the Environment Plan provided to NOPSEMA.

Please provide comment as soon as practicable. Comments can be made by email, letter or by phone (refer to attached Fact Sheet for contact details)

Feedback is sought on the **NOPSEMA EP** by close of business on **23 February 2022**. Feedback is sought on the **DMIRS EP** by close of business on **4 March 2022**.

Regards,

## 2. Consultation Update (September 2022)

### 2.1 Consultation Information Sheet sent to relevant persons (September 2022)



# GRIFFIN DECOMMISSIONING ENVIRONMENT PLANS

## NORTHERN CARNARVON BASIN, NORTH-WEST AUSTRALIA

### Proposed Activity

This factsheet provides an update on previously consulted activities by BHP Petroleum Pty Ltd (Woodside Energy (Australia) Pty Ltd) (Woodside) for the decommissioning of the Griffin field. This update covers three separate Environment Plans (EP) summarised below.

Environment Plan	Summary	Title area
Griffin Field Decommissioning (Commonwealth)	Proposal to leave in situ concrete gravity bases, piled foundations and anchors at or below the mudline.	WA-10-L
Griffin Gas Export Pipeline Decommissioning (Commonwealth)	Removal of mercury contamination within the Gas Export Pipeline (GEP). Proposal to leave in situ the part of the steel GEP that extends between the Griffin field and the former Griffin onshore gas plant that is in Commonwealth waters following verification of successful mercury removal.	WA-3-PL, TPL/10, and PL 20
Griffin Gas Export Pipeline Decommissioning (State)	Removal of mercury contamination within the GEP. Proposal to leave in situ the part of the steel GEP that extends between the Griffin field and the former Griffin onshore gas plant that is in State waters following verification of successful mercury removal.	WA-3-PL, TPL/10, and PL 20

The balance of the equipment within the field is proposed to be removed under the Griffin Decommissioning and Field Management EP. The decommissioning activities described in this information update are planned to commence in H2 2023, pending approvals, vessel availability and weather constraints.

Woodside is providing additional information about proposed leave in situ activities so that stakeholders are informed about potential risks and impacts of proposed activities. The additional information is outlined in Table 2.

### Environmental Impact Assessment

For the equipment that is proposed to be left in situ, the assessment concludes that the leave in situ option delivers equal or better environmental outcomes compared to full removal.

BHP (now Woodside) undertook an environmental impact assessment of the feasible decommissioning options for the equipment groups and Gas Export Pipeline (GEP) being left in situ. This assessment concluded that leaving these items in situ was a better environmental outcome due to:

- The environmental damage caused by their removal. The items listed in Table 2 are either buried, very heavy (i.e. the concrete gravity bases are up to 360 tonnes each) or deeply embedded in the seabed.
- The very low environmental impact from the degradation of equipment. Once mercury has been removed from the GEP, the remaining equipment consists almost entirely of steel and concrete. The degradation products of steel and concrete are not considered toxic and these materials are routinely used in the construction of marinas, breakwaters etc.
- The low volumes of plastics within the gas export pipeline, approximately 0.4% by weight, are not toxic and pose minimal impact to the environment, especially given the burial status of the pipeline.
- The marine communities associated with the equipment, particularly the GEP through shallower State waters. Studies of the fish assemblages along the GEP noted a higher diversity and abundance of fishes, including substantially greater biomass of commercially and recreationally important fish species.

The risk assessment also concluded there would be minimal impacts to marine users given the small operational footprint and the Operational Area being within Schedule 2 (Zone 1) of the Pilbara Trawl Managed Fishery, which has been closed to fish trawling since 1998.

The decommissioning activities will not take place within any marine conservation areas. Marine conservation areas and their distances from the decommissioning activities operational area are listed in Table 1.

### Consultation and regulatory approvals

From 2021 BHP consulted stakeholders on the progressive decommissioning of the Griffin Field and associated infrastructure.

This included a comparative impact assessment (CA) in 2021 to determine on balance a preferred end state. The CA included input from a range of government, industry and community stakeholders with an interest in the proposed end state of the Griffin infrastructure. A summary of the CA outcomes is included in this activity update.

EPs have been submitted to National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) and the Department of Mines, Industry Regulation and Safety (DMIRS) for assessment for activities in respective Commonwealth and State jurisdictions. These EPs included activities for the proposed removal of equipment at the Griffin Field and leave in situ of selected equipment (the focus of this update).

<sup>1</sup> Griffin Decommissioning Environment Plans

**Assessment**

The potential risks to the marine environment and relevant persons have been assessed, considering timing, duration, location and potential impacts arising from all planned activities.

In preparing the EPs, our intent has been to minimise environmental and social impacts associated with the proposed activities, and we are seeking any interest or comments you may have to inform our decision making.

**Joint Venture**

Woodside is the designated operator of the Griffin Field and GEP on behalf of Woodside Energy (Australia) Pty Ltd (formerly BHP Petroleum (Australia) Pty Ltd), INPEX Alpha Ltd and Mobil Exploration and Producing Australia Pty Ltd.

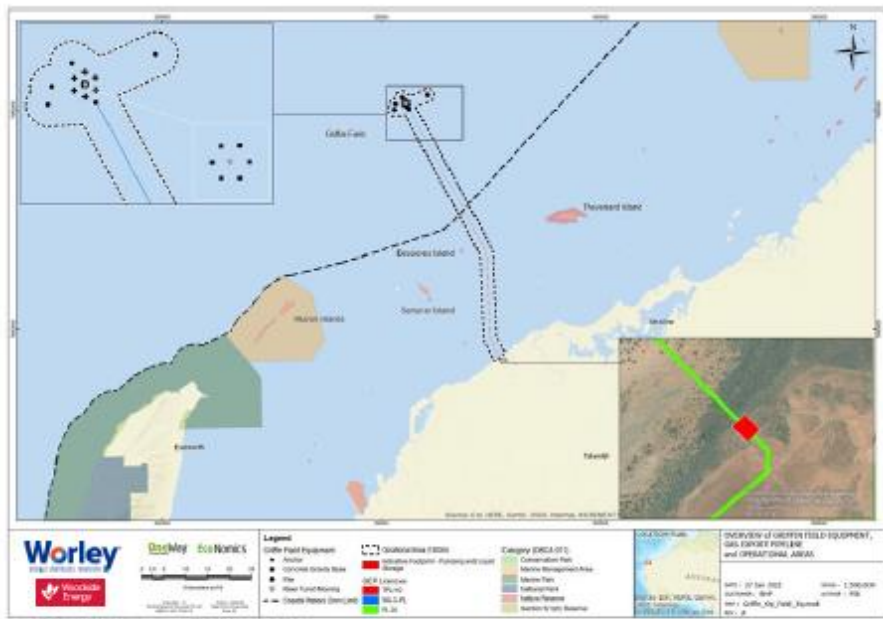


Figure 1. Overview of decommissioning activities Areas

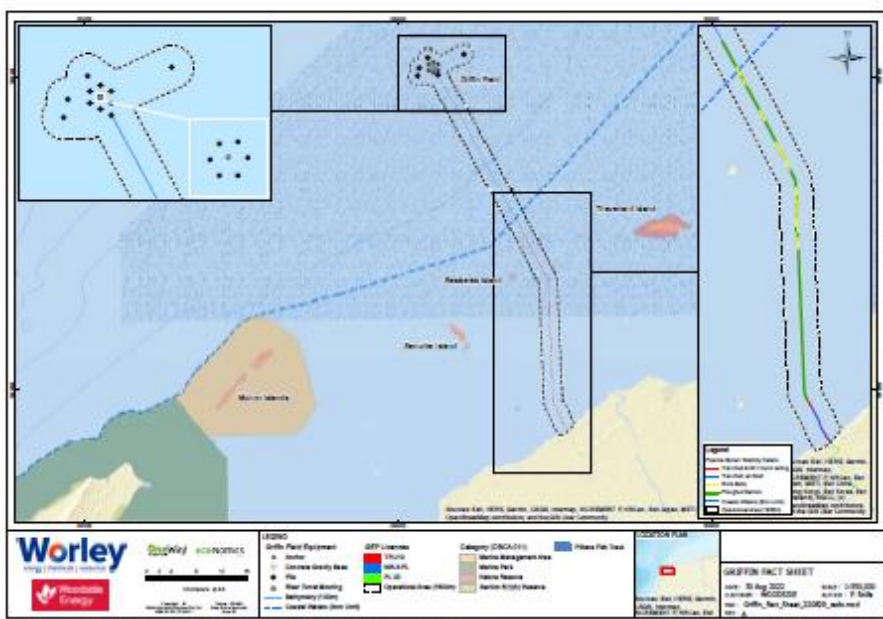


Figure 2. The gas export pipeline showing sections that are buried or exposed

**Table 1. Activity summary – additional information**

<b>Griffin Decommissioning Environment Plans</b>	
<b>Activity Area</b>	<b>Activity description</b>
<b>Griffin Field</b>	<ul style="list-style-type: none"> <li>Six concrete gravity bases for the mid depth buoys are proposed to be left in situ. These are large concrete structures with steel reinforcing. They are mostly buried, sitting flush with the seabed.</li> <li>Piled foundations for the pipeline end manifold (PLEM) are proposed to be left in situ. They will be cut either below or as close as practical to the mudline. They are of steel construction and are grouted into place with cement. They are 30" in diameter and approximately 20m long.</li> <li>Piled foundations for the four distribution skirts are proposed to be left in situ. They are planned to be cut either below or as close as practical to the mudline. They are of steel construction and are grouted into place with cement. They are 30" in diameter and approximately 20m long.</li> <li>The anchors used to moor the riser turret mooring (RTM) are proposed to remain in situ. There are 12 anchors, 2 per mooring leg. They are of steel construction and are fully buried. Any Protrusions will be cut as close as practical to the mudline.</li> <li>Contaminant assessments have been conducted and materials proposed to remain in situ under this EP pose no short or long-term risk to the environment.</li> <li>Previous consultation information provided to stakeholders included a leave in situ proposal for the RTM base. The RTM base is now proposed to be fully removed. As previously consulted in July 2022 for the Griffin Decommissioning and Field Activities EP, the RTM is proposed to be cut into sections and two larger sections will be towed to shallower waters for retrieval.</li> </ul>
<b>Gas Export Pipeline (GEP) – Commonwealth and State waters</b>	<ul style="list-style-type: none"> <li>A concrete-coated, approximately 219 mm diameter mild steel pipeline that extends between the Griffin field and the former Griffin onshore gas plant is proposed to be left in situ. It is approximately 61.6 km long and traverses through Commonwealth and State waters.</li> <li>The GEP has a thin (0.4mm) fusion bonded epoxy corrosion coating and the field joints contain a polyethylene heat shrink sleeve with bitumen mastic backfill.</li> <li>Within Commonwealth waters, the pipeline was laid directly on the seabed as no additional stabilisation was required). It has become approximately 30% sediment buried over time (see Figure 2 and Image 1).</li> <li>Within State waters, the pipeline is largely buried due to trenching during installation (see Figure 2).</li> <li>Some sections of the GEP weren't able to be trenched and have been secured to the seabed using rock bolts (see Image 2). Many of these sections have become sediment buried over time (see Image 3). The pipeline is stable on the seabed, with little evidence of any lateral displacement over time.</li> <li>Small quantities of mercury from the Griffin reservoir have over time created contamination within the GEP. The contamination is stable and will be removed to below acceptable thresholds for mercury in sediment through a chemical cleaning process. This will be verified through sampling post cleaning activities. Following verification of mercury removal, the pipeline is proposed to be left in situ.</li> </ul>

**Table 2. Proximity to marine conservation areas**

<b>Marine Conservation Area</b>	<b>Approx. Distance from the Operational Area</b>
Mulron Islands Marine Management Area (State)	38 km
Ningaloo Marine Park (State)	52 km
Ningaloo Marine Park (Commonwealth)	59 km
Barrow Island Marine Management Area (State)	66 km
Montebello Marine Park (Commonwealth)	69 km
Gascoyne Marine Park (Commonwealth)	78 km
Mulron Islands Marine Management Area (State)	38 km



Image 1. Partially buried section of the GEP



Image 2. Rock bolts secure the GEP in some sections to increase pipeline stability



Image 3. Partially buried section of the GEP with rock bolts

### 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 via:

E: [Feedback@woodside.com.au](mailto: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.au](http://www.woodside.com.au).

Please note that stakeholder feedback will be communicated to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) as required under legislation. Woodside will communicate any material changes to the proposed activity to affected stakeholders as they arise.

Your feedback and our response will be included in our Environment Plan for the proposed activity, which will be submitted to the NOPSEMA for acceptance in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth).

Your feedback and our response will be included in our Environment Plan for the proposed activity, which will be submitted to DMIRS for acceptance in accordance with the Petroleum (Submerged Lands) (Environment) Regulations 2012.

Any feedback provided may be used by Woodside for future approvals if required.

## **2.2 Email sent to Australian Border Force (ABF) – 19 July 2022**

Dear ABF

Woodside Energy provides an activity update further to information previously provided by BHP for the decommissioning of its Griffin Field in Commonwealth waters offshore Western Australia. This information is being provided by Woodside following the merger with BHP Petroleum on 1 June 2022.

The Griffin Field ceased production in 2009, with decommissioning being undertaken in stages. Decommissioning activities to date include the plugging and abandonment of all wells in 2017 and removal of the mid-depth buoys.

BHP consulted stakeholders in November 2021 on the removal of the majority of the remaining equipment in the Griffin Field. On 22 December 2021 the associated Environment Plan (EP) for these removal activities, the Griffin Decommissioning and Field Management Environment Plan, was submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for assessment.

Woodside advises that the activity scope for removal activities now includes full recovery of the Riser Turret Mooring (RTM) from the Title Area and the submerged tow and recovery of two of the RTM top sections outside the title area for recovery. An activity update information sheet is attached for reference.

Woodside would be happy to accept any additional feedback from stakeholders by close of business on **2 August 2022** further to that provided for the Griffin Decommissioning and Field Management Environment Plan.

Regards

■

Woodside Feedback

### **2.2.1 Email sent to Australian Border Force (ABF) – 5 September 2022**

Dear Stakeholder



Woodside Energy (formerly BHP Petroleum Pty Ltd) (BHP) is providing additional information to stakeholders further to that provided previously by BHP about planned decommissioning activities related to equipment in the Griffin Field and the Gas Export Pipeline.

Woodside is providing additional information about proposed leave in situ activities so that stakeholders are informed about potential risks and impacts of proposed activities. Planned in situ activities are summarised in the table below and a fact sheet is attached providing more information.

Proposed in situ activities

Environment Plan	Summary	Title Area
Griffin Field Decommissioning (Commonwealth)	Proposal to leave in situ concrete gravity bases, piled foundations and anchors at or below the mudline.	WA-10-L
Griffin Gas Export Pipeline Decommissioning (Commonwealth)	Removal of mercury contamination within the Gas Export Pipeline (GEP).  Proposal to leave in situ the part of the steel GEP that extends between the Griffin Field and the former Griffin onshore gas plant that is in Commonwealth waters following verification of successful mercury removal.	WA-3-PL, TPL/10, and PL 20
Griffin Gas Export Pipeline Decommissioning (State)	Removal of mercury contamination within the GEP.  Proposal to leave in situ the part of the steel GEP that extends between the Griffin Field and the former Griffin onshore gas plant that is in State waters following verification of successful mercury removal.	WA-3-PL, TPL/10, and PL 20

The balance of the equipment within the Griffin Field, including the Riser Turret Mooring, is proposed to be removed under the Griffin Field Decommissioning Environment Plan. A fact sheet previously provided to stakeholders about these activities is attached for reference.

Providing feedback

Woodside would be happy to accept any additional feedback from stakeholders by close of business on 19 September 2022.

Comments provided previously will be carried forward in the respective Commonwealth and State Environment Plans for proposed activities.

Please get back to us at the earliest opportunity if you need any additional information.

Regards

■

Woodside Feedback

### **2.3 Email sent to Australian Fisheries Management Authority (AFMA) – 19 July 2022**

Dear AFMA

Woodside Energy provides an activity update further to information previously provided by BHP for the decommissioning of its Griffin Field in Commonwealth waters offshore Western Australia. This information is being provided by Woodside following the merger with BHP Petroleum on 1 June 2022.

The Griffin Field ceased production in 2009, with decommissioning being undertaken in stages. Decommissioning activities to date include the plugging and abandonment of all wells in 2017 and removal of the mid-depth buoys.

BHP consulted stakeholders in November 2021 on the removal of the majority of the remaining equipment in the Griffin Field. On 22 December 2021 the associated Environment Plan (EP) for these removal activities, the Griffin Decommissioning and Field Management Environment Plan, was submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for assessment.

Woodside advises that the activity scope for removal activities now includes full recovery of the Riser Turret Mooring (RTM) from the Title Area and the submerged tow and recovery of two of the RTM top sections outside the title area for recovery. An activity update information sheet is attached for reference.

#### **Fisheries assessment**

The day-to-day activities of licence holders in Commonwealth-managed fisheries overlapping the area relevant to the change in activity scope are not expected to be impacted. Representative organisations for these fisheries are being provided this activity update for information purposes.

The day-to-day activities of licence holders in State-managed fisheries overlapping the area relevant to the change in activity scope that may be impacted are:

- Onslow Prawn Managed Fishery
- Pilbara Line Fishery
- Pilbara Trap Managed Fishery
- Pilbara Fish Trawl (Interim) Managed Fishery

Licence holders in these fisheries and representative organisations have been provided this activity update for comment.

### **Providing feedback**

Woodside would be happy to accept any additional feedback from stakeholders by close of business on **2 August 2022** further to that provided for the Griffin Decommissioning and Field Management Environment Plan.

Regards

■

### **Woodside Feedback**

#### **2.3.1 Email sent to Australian Fisheries Management Authority (AFMA) – 5 September 2022**

Dear AFMA

Woodside Energy (formerly BHP Petroleum Pty Ltd) (BHP) is providing additional information to stakeholders further to that provided previously by BHP about planned decommissioning activities related to equipment in the Griffin Field and the Gas Export Pipeline.

Woodside is providing additional information about proposed leave *in situ* activities so that stakeholders are informed about potential risks and impacts of proposed activities. Planned *in situ* activities are summarised in the table below and a fact sheet is attached providing more information.

### **Proposed *in situ* activities**

Environment Plan	Summary	Title Area
Griffin Field Decommissioning (Commonwealth)	Proposal to leave <i>in situ</i> concrete gravity bases, piled foundations and anchors at or below the mudline.	WA-10-L
Griffin Gas Export Pipeline Decommissioning (Commonwealth)	Removal of mercury contamination within the Gas Export Pipeline (GEP).  Proposal to leave <i>in situ</i> the part of the steel GEP that extends between the Griffin Field and the former Griffin onshore gas plant that is in Commonwealth waters following verification of successful mercury removal.	WA-3-PL, TPL/10, and PL 20
Griffin Gas Export Pipeline Decommissioning (State)	Removal of mercury contamination within the GEP.  Proposal to leave <i>in situ</i> the part of the steel GEP that extends between the Griffin Field and the former Griffin onshore gas plant that is in State waters following verification of successful mercury removal.	WA-3-PL, TPL/10, and PL 20

The balance of the equipment within the Griffin Field, including the Riser Turret Mooring, is proposed to be removed under the Griffin Field Decommissioning Environment Plan. A fact sheet previously provided to stakeholders about these activities is attached for reference.

#### **Fisheries assessment - Commonwealth**

The day-to-day activities of licence holders in Commonwealth-managed fisheries overlapping the area relevant to the change in activity scope are not expected to be impacted. These fisheries are:

- Western Tuna and Billfish
- Western Skipjack Tuna
- Southern Bluefin Tuna Fishery

Representative organisations for these fisheries are being provided this activity update for information purposes.

### **Fisheries assessment - State**

The day-to-day activities of licence holders in State-managed fisheries overlapping the area relevant to the change in activity scope that may be impacted are:

- Mackerel Managed Fishery (Area 2)
- Onslow Prawn Managed Fishery
- Pilbara Line Fishery
- Pilbara Trap Managed Fishery
- Pilbara Fish Trawl (Interim) Managed Fishery (closed)

Licence holders in these fisheries and representative organisations have been provided this activity update for comment.

### **Providing feedback**

Woodside would be happy to accept any additional feedback from stakeholders by close of business on **26 September 2022**.

Comments provided previously will be carried forward in the respective Commonwealth and State Environment Plans for proposed activities.

Please get back to us at the earliest opportunity if you need any additional information.

Regards

■

### **Woodside Feedback**

#### **2.4 Email sent to AMSA – Marine Safety and AHO – 19 July 2022**

Dear AMSA and AHO

Woodside Energy provides an activity update further to information previously provided by BHP for the decommissioning of its Griffin Field in Commonwealth waters offshore Western Australia. This information is being provided by Woodside following the merger with BHP Petroleum on 1 June 2022.

The Griffin Field ceased production in 2009, with decommissioning being undertaken in stages. Decommissioning activities to date include the plugging and abandonment of all wells in 2017 and removal of the mid-depth buoys.

BHP consulted stakeholders in November 2021 on the removal of the majority of the remaining equipment in the Griffin Field. On 22 December 2021 the associated Environment Plan (EP) for these removal activities, the Griffin Decommissioning and Field Management Environment Plan, was submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for assessment.

Woodside advises that the activity scope for removal activities now includes full recovery of the Riser Turret Mooring (RTM) from the Title Area and the submerged tow and recovery of two of the RTM top sections outside the title area for recovery. An activity update information sheet is attached for reference.

Woodside would be happy to accept any additional feedback from stakeholders by close of business on 2 August 2022 further to that provided for the Griffin Decommissioning and Field Management Environment Plan.

Regards

■

Woodside Feedback

#### **2.4.1 Email sent to AMSA – Marine Safety and AHO – 5 September 2022**

Dear AHO and AMSA

Woodside Energy (formerly BHP Petroleum Pty Ltd) (BHP) is providing additional information to stakeholders further to that provided previously by BHP about planned decommissioning activities related to equipment in the Griffin Field and the Gas Export Pipeline.

Woodside is providing additional information about proposed leave *in situ* activities so that stakeholders are informed about potential risks and impacts of proposed activities. Planned *in situ* activities are summarised in the table below and a fact sheet is attached providing more information.

**Proposed *in situ* activities**

<b>Environment Plan</b>	<b>Summary</b>	<b>Title Area</b>
Griffin Field Decommissioning (Commonwealth)	Proposal to leave <i>in situ</i> concrete gravity bases, piled foundations and anchors at or below the mudline.	WA-10-L
Griffin Gas Export Pipeline Decommissioning (Commonwealth)	Removal of mercury contamination within the Gas Export Pipeline (GEP).  Proposal to leave <i>in situ</i> the part of the steel GEP that extends between the Griffin Field and the former Griffin onshore gas plant that is in Commonwealth waters following verification of successful mercury removal.	WA-3-PL, TPL/10, and PL 20
Griffin Gas Export Pipeline Decommissioning (State)	Removal of mercury contamination within the GEP.  Proposal to leave <i>in situ</i> the part of the steel GEP that extends between the Griffin Field and the former Griffin onshore gas plant that is in State waters following verification of successful mercury removal.	WA-3-PL, TPL/10, and PL 20

The balance of the equipment within the Griffin Field, including the Riser Turret Mooring, is proposed to be removed under the Griffin Field Decommissioning Environment Plan. A fact sheet previously provided to stakeholders about these activities is attached for reference.

**Providing feedback**

Woodside would be happy to accept any additional feedback from stakeholders by close of business on **19 September 2022**.

Comments provided previously will be carried forward in the respective Commonwealth and State Environment Plans for proposed activities.

Please get back to us at the earliest opportunity if you need any additional information.

Regards

■

## Woodside Feedback

### 2.5 Email sent to Department of Climate Change, Energy, the Environment and Water (DCCEEW) and the Department of Agriculture, Fisheries and Forestry (DAFF) – 19 July 2022

Dear DAFF

Woodside Energy provides an activity update further to information previously provided by BHP for the decommissioning of its Griffin Field in Commonwealth waters offshore Western Australia. This information is being provided by Woodside following the merger with BHP Petroleum on 1 June 2022.

The Griffin Field ceased production in 2009, with decommissioning being undertaken in stages. Decommissioning activities to date include the plugging and abandonment of all wells in 2017 and removal of the mid-depth buoys.

BHP consulted stakeholders in November 2021 on the removal of the majority of the remaining equipment in the Griffin Field. On 22 December 2021 the associated Environment Plan (EP) for these removal activities, the Griffin Decommissioning and Field Management Environment Plan, was submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for assessment.

Woodside advises that the activity scope for removal activities now includes full recovery of the Riser Turret Mooring (RTM) from the Title Area and the submerged tow and recovery of two of the RTM top sections outside the title area for recovery. An activity update information sheet is attached for reference.

#### Fisheries assessment

The day-to-day activities of licence holders in Commonwealth-managed fisheries overlapping the area relevant to the change in activity scope are not expected to be impacted. Representative organisations for these fisheries are being provided this activity update for information purposes.

The day-to-day activities of licence holders in State-managed fisheries overlapping the area relevant to the change in activity scope that may be impacted are:

- Onslow Prawn Managed Fishery
- Pilbara Line Fishery



- Pilbara Trap Managed Fishery
- Pilbara Fish Trawl (Interim) Managed Fishery

Licence holders in these fisheries and representative organisations have been provided this activity update for comment.

### Providing feedback

Woodside would be happy to accept any additional feedback from stakeholders by close of business on **2 August 2022** further to that provided for the Griffin Decommissioning and Field Management Environment Plan.

Regards

■

Woodside Feedback

#### 2.5.1 Email sent to DAFF and DCCEEW – 5 September 2022

Dear DAFF

Woodside Energy (formerly BHP Petroleum Pty Ltd) (BHP) is providing additional information to stakeholders further to that provided previously by BHP about planned decommissioning activities related to equipment in the Griffin Field and the Gas Export Pipeline.

Woodside is providing additional information about proposed leave *in situ* activities so that stakeholders are informed about potential risks and impacts of proposed activities. Planned *in situ* activities are summarised in the table below and a fact sheet is attached providing more information.

#### Proposed *in situ* activities

Environment Plan	Summary	Title Area
Griffin Field Decommissioning (Commonwealth)	Proposal to leave <i>in situ</i> concrete gravity bases, piled foundations and anchors at or below the mudline.	WA-10-L

Griffin Gas Export Pipeline Decommissioning (Commonwealth)	<p>Removal of mercury contamination within the Gas Export Pipeline (GEP).</p> <p>Proposal to leave <i>in situ</i> the part of the steel GEP that extends between the Griffin Field and the former Griffin onshore gas plant that is in Commonwealth waters following verification of successful mercury removal.</p>	WA-3-PL, TPL/10, and PL 20
Griffin Gas Export Pipeline Decommissioning (State)	<p>Removal of mercury contamination within the GEP.</p> <p>Proposal to leave <i>in situ</i> the part of the steel GEP that extends between the Griffin Field and the former Griffin onshore gas plant that is in State waters following verification of successful mercury removal.</p>	WA-3-PL, TPL/10, and PL 20

The balance of the equipment within the Griffin Field, including the Riser Turret Mooring, is proposed to be removed under the Griffin Field Decommissioning Environment Plan. A fact sheet previously provided to stakeholders about these activities is attached for reference.

#### **Fisheries assessment - Commonwealth**

The day-to-day activities of licence holders in Commonwealth-managed fisheries overlapping the area relevant to the change in activity scope are not expected to be impacted. These fisheries are:

- Western Tuna and Billfish
- Western Skipjack Tuna
- Southern Bluefin Tuna Fishery

Representative organisations for these fisheries are being provided this activity update for information purposes.

#### **Fisheries assessment - State**

The day-to-day activities of licence holders in State-managed fisheries overlapping the area relevant to the change in activity scope that may be impacted are:

- Mackerel Managed Fishery (Area 2)

- Onslow Prawn Managed Fishery
- Pilbara Line Fishery
- Pilbara Trap Managed Fishery
- Pilbara Fish Trawl (Interim) Managed Fishery (closed)

Licence holders in these fisheries and representative organisations have been provided this activity update for comment.

### **Providing feedback**

Woodside would be happy to accept any additional feedback from stakeholders by close of business on **26 September 2022**.

Comments provided previously will be carried forward in the respective Commonwealth and State Environment Plans for proposed activities.

Please get back to us at the earliest opportunity if you need any additional information.

Regards



### **Woodside Feedback**

#### **2.6 Email sent to DoD – 19 July 2022**

Dear Defence

Woodside Energy provides an activity update further to information previously provided by BHP for the decommissioning of its Griffin Field in Commonwealth waters offshore Western Australia. This information is being provided by Woodside following the merger with BHP Petroleum on 1 June 2022.

The Griffin Field ceased production in 2009, with decommissioning being undertaken in stages. Decommissioning activities to date include the plugging and abandonment of all wells in 2017 and removal of the mid-depth buoys.

BHP consulted stakeholders in November 2021 on the removal of the majority of the remaining equipment in the Griffin Field. On 22 December 2021 the associated Environment Plan (EP) for these removal activities, the Griffin Decommissioning and Field Management Environment Plan, was submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for assessment.

Woodside advises that the activity scope for removal activities now includes full recovery of the Riser Turret Mooring (RTM) from the Title Area and the submerged tow and recovery of two of the RTM top sections outside the title area for recovery. An activity update information sheet is attached for reference.

Woodside would be happy to accept any additional feedback from stakeholders by close of business on **2 August 2022** further to that provided for the Griffin Decommissioning and Field Management Environment Plan.

Regards

■

Woodside Feedback

### **2.6.1 Email sent to DoD – 5 September 2022**

Dear Department of Defence

Woodside Energy (formerly BHP Petroleum Pty Ltd) (BHP) is providing additional information to stakeholders further to that provided previously by BHP about planned decommissioning activities related to equipment in the Griffin Field and the Gas Export Pipeline.

Woodside is providing additional information about proposed leave *in situ* activities so that stakeholders are informed about potential risks and impacts of proposed activities. Planned *in situ* activities are summarised in the table below and a fact sheet is attached providing more information.

#### **Proposed *in situ* activities**

<b>Environment Plan</b>	<b>Summary</b>	<b>Title Area</b>
Griffin Field Decommissioning (Commonwealth)	Proposal to leave <i>in situ</i> concrete gravity bases, piled foundations and anchors at or	WA-10-L

	below the mudline.	
Griffin Gas Export Pipeline Decommissioning (Commonwealth)	Removal of mercury contamination within the Gas Export Pipeline (GEP).  Proposal to leave <i>in situ</i> the part of the steel GEP that extends between the Griffin Field and the former Griffin onshore gas plant that is in Commonwealth waters following verification of successful mercury removal.	WA-3-PL, TPL/10, and PL 20
Griffin Gas Export Pipeline Decommissioning (State)	Removal of mercury contamination within the GEP.  Proposal to leave <i>in situ</i> the part of the steel GEP that extends between the Griffin Field and the former Griffin onshore gas plant that is in State waters following verification of successful mercury removal.	WA-3-PL, TPL/10, and PL 20

The balance of the equipment within the Griffin Field, including the Riser Turret Mooring, is proposed to be removed under the Griffin Field Decommissioning Environment Plan. A fact sheet previously provided to stakeholders about these activities is attached for reference.

**Providing feedback**

Woodside would be happy to accept any additional feedback from stakeholders by close of business on **19 September 2022**.

Comments provided previously will be carried forward in the respective Commonwealth and State Environment Plans for proposed activities.

Please get back to us at the earliest opportunity if you need any additional information.

Regards



**Woodside Feedback**

## 2.7 Email sent to DISR (formerly DISER) – 19 July 2022

Dear DISER

Woodside Energy provides an activity update further to information previously provided by BHP for the decommissioning of its Griffin Field in Commonwealth waters offshore Western Australia. This information is being provided by Woodside following the merger with BHP Petroleum on 1 June 2022.

The Griffin Field ceased production in 2009, with decommissioning being undertaken in stages. Decommissioning activities to date include the plugging and abandonment of all wells in 2017 and removal of the mid-depth buoys.

BHP consulted stakeholders in November 2021 on the removal of the majority of the remaining equipment in the Griffin Field. On 22 December 2021 the associated Environment Plan (EP) for these removal activities, the Griffin Decommissioning and Field Management Environment Plan, was submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for assessment.

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Woodside would be happy to accept any additional feedback from stakeholders by close of business on **2 August 2022** further to that provided for the Griffin Decommissioning and Field Management Environment Plan.

Regards

■

Woodside Feedback

### 2.7.1 Email sent to DISR (formerly DISER) – 5 September 2022

Dear DISER

Woodside Energy (formerly BHP Petroleum Pty Ltd) (BHP) is providing additional information to stakeholders further to that provided previously by BHP about planned decommissioning activities related to equipment in the Griffin Field and the Gas Export Pipeline.

Woodside is providing additional information about proposed leave *in situ* activities so that stakeholders are informed about potential risks and impacts of proposed activities. Planned *in situ* activities are summarised in the table below and a fact sheet is attached providing more information.

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The balance of the equipment within the Griffin Field, including the Riser Turret Mooring, is proposed to be removed under the Griffin Field Decommissioning Environment Plan. A fact sheet previously provided to stakeholders about these activities is attached for reference.

### Providing feedback

Woodside would be happy to accept any additional feedback from stakeholders by close of business on **19 September 2022**.

Comments provided previously will be carried forward in the respective Commonwealth and State Environment Plans for proposed activities.

Please get back to us at the earliest opportunity if you need any additional information.

Regards

■

### **Woodside Feedback**

#### **2.8 Email sent to DNP – 19 July 2022**

Dear DNP

Woodside Energy provides an activity update further to information previously provided by BHP for the decommissioning of its Griffin Field in Commonwealth waters offshore Western Australia. This information is being provided by Woodside following the merger with BHP Petroleum on 1 June 2022.

The Griffin Field ceased production in 2009, with decommissioning being undertaken in stages. Decommissioning activities to date include the plugging and abandonment of all wells in 2017 and removal of the mid-depth buoys.

BHP consulted stakeholders in November 2021 on the removal of the majority of the remaining equipment in the Griffin Field. On 22 December 2021 the associated Environment Plan (EP) for these removal activities, the Griffin Decommissioning and Field Management Environment Plan, was submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for assessment.

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Woodside would be happy to accept any additional feedback from stakeholders by close of business on **2 August 2022** further to that provided for the Griffin Decommissioning and Field Management Environment Plan.



Regards



Woodside Feedback

**2.8.1 Email sent to DNP – 5 September 2022**

Dear DNP

Woodside Energy (formerly BHP Petroleum Pty Ltd) (BHP) is providing additional information to stakeholders further to that provided previously by BHP about planned decommissioning activities related to equipment in the Griffin Field and the Gas Export Pipeline.

Woodside is providing additional information about proposed leave *in situ* activities so that stakeholders are informed about potential risks and impacts of proposed activities. Planned *in situ* activities are summarised in the table below and a fact sheet is attached providing more information.

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Environment Plan	Summary	Title Area
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Griffin Gas Export Pipeline Decommissioning (State)	Removal of mercury contamination within the GEP.	WA-3-PL, TPL/10, and PL 20

	Proposal to leave <i>in situ</i> the part of the steel GEP that extends between the Griffin Field and the former Griffin onshore gas plant that is in State waters following verification of successful mercury removal.	
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### Providing feedback

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Comments provided previously will be carried forward in the respective Commonwealth and State Environment Plans for proposed activities.

Please get back to us at the earliest opportunity if you need any additional information.

Regards

■

### Woodside Feedback

#### 2.9 Email sent to DBCA – 19 July 2022

Dear DBCA

Woodside Energy provides an activity update further to information previously provided by BHP for the decommissioning of its Griffin Field in Commonwealth waters offshore Western Australia. This information is being provided by Woodside following the merger with BHP Petroleum on 1 June 2022.

The Griffin Field ceased production in 2009, with decommissioning being undertaken in stages. Decommissioning activities to date include the plugging and abandonment of all wells in 2017 and removal of the mid-depth buoys.

BHP consulted stakeholders in November 2021 on the removal of the majority of the remaining equipment in the Griffin Field. On 22 December 2021 the associated Environment Plan (EP) for these removal activities, the Griffin Decommissioning and Field Management Environment Plan, was submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for assessment.

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Woodside would be happy to accept any additional feedback from stakeholders by close of business on **2 August 2022** further to that provided for the Griffin Decommissioning and Field Management Environment Plan.

Regards

■

Woodside Feedback

### 2.9.1 Email sent to DBCA – 5 September 2022

Dear DBCA

Woodside Energy (formerly BHP Petroleum Pty Ltd) (BHP) is providing additional information to stakeholders further to that provided previously by BHP about planned decommissioning activities related to equipment in the Griffin Field and the Gas Export Pipeline.

Woodside is providing additional information about proposed leave *in situ* activities so that stakeholders are informed about potential risks and impacts of proposed activities. Planned *in situ* activities are summarised in the table below and a fact sheet is attached providing more information.

#### Proposed *in situ* activities

Environment Plan	Summary	Title Area
Griffin Field Decommissioning (Commonwealth)	Proposal to leave <i>in situ</i> concrete gravity bases, piled foundations and anchors at or	WA-10-L

	below the mudline.	
Griffin Gas Export Pipeline Decommissioning (Commonwealth)	Removal of mercury contamination within the Gas Export Pipeline (GEP).  Proposal to leave <i>in situ</i> the part of the steel GEP that extends between the Griffin Field and the former Griffin onshore gas plant that is in Commonwealth waters following verification of successful mercury removal.	WA-3-PL, TPL/10, and PL 20
Griffin Gas Export Pipeline Decommissioning (State)	Removal of mercury contamination within the GEP.  Proposal to leave <i>in situ</i> the part of the steel GEP that extends between the Griffin Field and the former Griffin onshore gas plant that is in State waters following verification of successful mercury removal.	WA-3-PL, TPL/10, and PL 20

The balance of the equipment within the Griffin Field, including the Riser Turret Mooring, is proposed to be removed under the Griffin Field Decommissioning Environment Plan. A fact sheet previously provided to stakeholders about these activities is attached for reference.

### Providing feedback

Woodside would be happy to accept any additional feedback from stakeholders by close of business on **19 September 2022**.

Comments provided previously will be carried forward in the respective Commonwealth and State Environment Plans for proposed activities.

Please get back to us at the earliest opportunity if you need any additional information.

Regards



**Woodside Feedback**

## **2.10 Email sent to DMIRS – 19 July 2022**

Dear DMIRS

Woodside Energy provides an activity update further to information previously provided by BHP for the decommissioning of its Griffin Field in Commonwealth waters offshore Western Australia. This information is being provided by Woodside following the merger with BHP Petroleum on 1 June 2022.

The Griffin Field ceased production in 2009, with decommissioning being undertaken in stages. Decommissioning activities to date include the plugging and abandonment of all wells in 2017 and removal of the mid-depth buoys.

BHP consulted stakeholders in November 2021 on the removal of the majority of the remaining equipment in the Griffin Field. On 22 December 2021 the associated Environment Plan (EP) for these removal activities, the Griffin Decommissioning and Field Management Environment Plan, was submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for assessment.

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Woodside would be happy to accept any additional feedback from stakeholders by close of business on **2 August 2022** further to that provided for the Griffin Decommissioning and Field Management Environment Plan.

Regards

■

### **2.10.1 Email sent to DMIRS – 5 September 2022**

Dear DMIRS

Woodside Energy (formerly BHP Petroleum Pty Ltd) (BHP) is providing additional information to stakeholders further to that provided previously by BHP about planned decommissioning activities related to equipment in the Griffin Field and the Gas Export Pipeline.

Woodside is providing additional information about proposed leave *in situ* activities so that stakeholders are informed about potential risks and impacts of proposed activities. Planned *in situ* activities are summarised in the table below and a fact sheet is attached providing more information.

**Proposed *in situ* activities**

Environment Plan	Summary	Title Area
Griffin Field Decommissioning (Commonwealth)	Proposal to leave <i>in situ</i> concrete gravity bases, piled foundations and anchors at or below the mudline.	WA-10-L
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Griffin Gas Export Pipeline Decommissioning (State)	Removal of mercury contamination within the GEP.  Proposal to leave <i>in situ</i> the part of the steel GEP that extends between the Griffin Field and the former Griffin onshore gas plant that is in State waters following verification of successful mercury removal.	WA-3-PL, TPL/10, and PL 20

The balance of the equipment within the Griffin Field, including the Riser Turret Mooring, is proposed to be removed under the Griffin Field Decommissioning Environment Plan. A fact sheet previously provided to stakeholders about these activities is attached for reference.

**Providing feedback**

Woodside would be happy to accept any additional feedback from stakeholders by close of business on **19 September 2022**.

Comments provided previously will be carried forward in the respective Commonwealth and State Environment Plans for proposed activities.

Please get back to us at the earliest opportunity if you need any additional information.

Regards

■

### **Woodside Feedback**

#### **2.11 Email sent to DPIRD – 19 July 2022**

Dear ■

Woodside Energy provides an activity update further to information previously provided by BHP for the decommissioning of its Griffin Field in Commonwealth waters offshore Western Australia. This information is being provided by Woodside following the merger with BHP Petroleum on 1 June 2022.

The Griffin Field ceased production in 2009, with decommissioning being undertaken in stages. Decommissioning activities to date include the plugging and abandonment of all wells in 2017 and removal of the mid-depth buoys.

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Woodside advises that the activity scope for removal activities now includes full recovery of the Riser Turret Mooring (RTM) from the Title Area and the submerged tow and recovery of two of the RTM top sections outside the title area for recovery. An activity update information sheet is attached for reference.

### **Fisheries assessment**

The day-to-day activities of licence holders in Commonwealth-managed fisheries overlapping the area relevant to the change in activity scope are not expected to be impacted. Representative organisations for these fisheries are being provided this activity update for information purposes.

The day-to-day activities of licence holders in State-managed fisheries overlapping the area relevant to the change in activity scope that may be impacted are:

- Onslow Prawn Managed Fishery
- Pilbara Line Fishery
- Pilbara Trap Managed Fishery
- Pilbara Fish Trawl (Interim) Managed Fishery

Licence holders in these fisheries and representative organisations have been provided this activity update for comment.

### Providing feedback

Woodside would be happy to accept any additional feedback from stakeholders by close of business on **2 August 2022** further to that provided for the Griffin Decommissioning and Field Management Environment Plan.

Regards

■

Woodside Feedback

#### 2.11.1 Email sent to DPIRD – 5 September 2022

Dear ■

Woodside Energy (formerly BHP Petroleum Pty Ltd) (BHP) is providing additional information to stakeholders further to that provided previously by BHP about planned decommissioning activities related to equipment in the Griffin Field and the Gas Export Pipeline.

Woodside is providing additional information about proposed leave *in situ* activities so that stakeholders are informed about potential risks and impacts of proposed activities. Planned *in situ* activities are summarised in the table below and a fact sheet is attached providing more information.

### Proposed *in situ* activities

Environment Plan	Summary	Title Area
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Griffin Field Decommissioning (Commonwealth)	Proposal to leave <i>in situ</i> concrete gravity bases, piled foundations and anchors at or below the mudline.	WA-10-L
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The balance of the equipment within the Griffin Field, including the Riser Turret Mooring, is proposed to be removed under the Griffin Field Decommissioning Environment Plan. A fact sheet previously provided to stakeholders about these activities is attached for reference.

#### Fisheries assessment - Commonwealth

The day-to-day activities of licence holders in Commonwealth-managed fisheries overlapping the area relevant to the change in activity scope are not expected to be impacted. These fisheries are:

- Western Tuna and Billfish
- Western Skipjack Tuna
- Southern Bluefin Tuna Fishery

Representative organisations for these fisheries are being provided this activity update for information purposes.

#### Fisheries assessment - State

The day-to-day activities of licence holders in State-managed fisheries overlapping the area relevant to the change in activity scope that may be impacted are:

- Mackerel Managed Fishery (Area 2)
- Onslow Prawn Managed Fishery
- Pilbara Line Fishery
- Pilbara Trap Managed Fishery
- Pilbara Fish Trawl (Interim) Managed Fishery (closed)

Licence holders in these fisheries and representative organisations have been provided this activity update for comment.

### **Providing feedback**

Woodside would be happy to accept any additional feedback from stakeholders by close of business on **26 September 2022**.

Comments provided previously will be carried forward in the respective Commonwealth and State Environment Plans for proposed activities.

Please get back to us at the earliest opportunity if you need any additional information.

Regards

■

### **Woodside Feedback**

#### **2.12 Email sent to DoT – 19 July 2022**

Dear DoT

Woodside Energy provides an activity update further to information previously provided by BHP for the decommissioning of its Griffin Field in Commonwealth waters offshore Western Australia. This information is being provided by Woodside following the merger with BHP Petroleum on 1 June 2022.

The Griffin Field ceased production in 2009, with decommissioning being undertaken in stages. Decommissioning activities to date include the plugging and abandonment of all wells in 2017 and removal of the mid-depth buoys.

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Regards

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Woodside Feedback

### **2.12.1 Email sent to DoT – 5 September 2022**

Dear DoT

Woodside Energy (formerly BHP Petroleum Pty Ltd) (BHP) is providing additional information to stakeholders further to that provided previously by BHP about planned decommissioning activities related to equipment in the Griffin Field and the Gas Export Pipeline.

Woodside is providing additional information about proposed leave *in situ* activities so that stakeholders are informed about potential risks and impacts of proposed activities. Planned *in situ* activities are summarised in the table below and a fact sheet is attached providing more information.

#### **Proposed *in situ* activities**

Environment Plan	Summary	Title Area
Griffin Field Decommissioning (Commonwealth)	Proposal to leave <i>in situ</i> concrete gravity bases, piled foundations and anchors at or below the mudline.	WA-10-L
Griffin Gas Export Pipeline Decommissioning (Commonwealth)	Removal of mercury contamination within the Gas Export Pipeline (GEP).  Proposal to leave <i>in situ</i> the part of the steel GEP that extends between the Griffin Field and the former Griffin onshore gas plant that is in Commonwealth waters following verification of successful mercury removal.	WA-3-PL, TPL/10, and PL 20
Griffin Gas Export Pipeline Decommissioning (State)	Removal of mercury contamination within the GEP.  Proposal to leave <i>in situ</i> the part of the steel GEP that extends between the Griffin Field and the former Griffin onshore gas plant that is in State waters following verification of successful mercury removal.	WA-3-PL, TPL/10, and PL 20

The balance of the equipment within the Griffin Field, including the Riser Turret Mooring, is proposed to be removed under the Griffin Field Decommissioning Environment Plan. A fact sheet previously provided to stakeholders about these activities is attached for reference.

### Providing feedback

Woodside would be happy to accept any additional feedback from stakeholders by close of business on **19 September 2022**.

Comments provided previously will be carried forward in the respective Commonwealth and State Environment Plans for proposed activities.

Please get back to us at the earliest opportunity if you need any additional information.

Regards



## **Woodside Feedback**

### **2.13 Email sent to APPEA (APPEA) – 19 July 2022**

Dear APPEA

Woodside Energy provides an activity update further to information previously provided by BHP for the decommissioning of its Griffin Field in Commonwealth waters offshore Western Australia. This information is being provided by Woodside following the merger with BHP Petroleum on 1 June 2022.

The Griffin Field ceased production in 2009, with decommissioning being undertaken in stages. Decommissioning activities to date include the plugging and abandonment of all wells in 2017 and removal of the mid-depth buoys.

BHP consulted stakeholders in November 2021 on the removal of the majority of the remaining equipment in the Griffin Field. On 22 December 2021 the associated Environment Plan (EP) for these removal activities, the Griffin Decommissioning and Field Management Environment Plan, was submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for assessment.

Woodside advises that the activity scope for removal activities now includes full recovery of the Riser Turret Mooring (RTM) from the Title Area and the submerged tow and recovery of two of the RTM top sections outside the title area for recovery. An activity update information sheet is attached for reference.

Woodside would be happy to accept any additional feedback from stakeholders by close of business on 2 August 2022 further to that provided for the Griffin Decommissioning and Field Management Environment Plan.

Regards

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Woodside Feedback

### 2.13.1 Email sent to APPEA (APPEA) – 5 September 2022

Dear APPEA

Woodside Energy (formerly BHP Petroleum Pty Ltd) (BHP) is providing additional information to stakeholders further to that provided previously by BHP about planned decommissioning activities related to equipment in the Griffin Field and the Gas Export Pipeline.

Woodside is providing additional information about proposed leave *in situ* activities so that stakeholders are informed about potential risks and impacts of proposed activities. Planned *in situ* activities are summarised in the table below and a fact sheet is attached providing more information.

#### Proposed *in situ* activities

Environment Plan	Summary	Title Area
Griffin Field Decommissioning (Commonwealth)	Proposal to leave <i>in situ</i> concrete gravity bases, piled foundations and anchors at or below the mudline.	WA-10-L
Griffin Gas Export Pipeline Decommissioning (Commonwealth)	Removal of mercury contamination within the Gas Export Pipeline (GEP).  Proposal to leave <i>in situ</i> the part of the steel GEP that extends between the Griffin Field and the former Griffin onshore gas plant that is in Commonwealth waters following verification of successful mercury removal.	WA-3-PL, TPL/10, and PL 20
Griffin Gas Export Pipeline Decommissioning (State)	Removal of mercury contamination within the GEP.  Proposal to leave <i>in situ</i> the part of the steel GEP that extends between the Griffin Field and the former Griffin onshore gas plant that is in State waters following verification of successful mercury removal.	WA-3-PL, TPL/10, and PL 20

The balance of the equipment within the Griffin Field, including the Riser Turret Mooring, is proposed to be removed under the Griffin Field Decommissioning Environment Plan. A fact sheet previously provided to stakeholders about these activities is attached for reference.

### **Providing feedback**

Woodside would be happy to accept any additional feedback from stakeholders by close of business on **19 September 2022**.

Comments provided previously will be carried forward in the respective Commonwealth and State Environment Plans for proposed activities.

Please get back to us at the earliest opportunity if you need any additional information.

Regards

■

### **Woodside Feedback**

#### **2.14 Email sent to Australian Southern Bluefin Tuna Industry Association (ASBTIA) – 19 July 2022**

Dear ASBTIA

Woodside Energy provides an activity update further to information previously provided by BHP for the decommissioning of its Griffin Field in Commonwealth waters offshore Western Australia. This information is being provided by Woodside following the merger with BHP Petroleum on 1 June 2022.

The Griffin Field ceased production in 2009, with decommissioning being undertaken in stages. Decommissioning activities to date include the plugging and abandonment of all wells in 2017 and removal of the mid-depth buoys.

BHP consulted stakeholders in November 2021 on the removal of the majority of the remaining equipment in the Griffin Field. On 22 December 2021 the associated Environment Plan (EP) for these removal activities, the Griffin Decommissioning and Field Management Environment Plan, was submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for assessment.

Woodside advises that the activity scope for removal activities now includes full recovery of the Riser Turret Mooring (RTM) from the Title Area and the submerged tow and recovery of two of the RTM top

sections outside the title area for recovery. An activity update information sheet is attached for reference.

#### Fisheries assessment

The day-to-day activities of licence holders in Commonwealth-managed fisheries overlapping the area relevant to the change in activity scope are not expected to be impacted. Representative organisations for these fisheries are being provided this activity update for information purposes.

The day-to-day activities of licence holders in State-managed fisheries overlapping the area relevant to the change in activity scope that may be impacted are:

- Onslow Prawn Managed Fishery
- Pilbara Line Fishery
- Pilbara Trap Managed Fishery
- Pilbara Fish Trawl (Interim) Managed Fishery

Licence holders in these fisheries and representative organisations have been provided this activity update for comment.

#### Providing feedback

Woodside would be happy to accept any additional feedback from stakeholders by close of business on 2 August 2022 further to that provided for the Griffin Decommissioning and Field Management Environment Plan.

Regards

Woodside Feedback

### **2.14.1 Email sent to ASBTIA – 5 September 2022**

Dear ASBTIA

Woodside Energy (formerly BHP Petroleum Pty Ltd) (BHP) is providing additional information to stakeholders further to that provided previously by BHP about planned decommissioning activities related to equipment in the Griffin Field and the Gas Export Pipeline.

Woodside is providing additional information about proposed leave *in situ* activities so that stakeholders are informed about potential risks and impacts of proposed activities. Planned *in situ* activities are summarised in the table below and a fact sheet is attached providing more information.



**Proposed *in situ* activities**

Environment Plan	Summary	Title Area
Griffin Field Decommissioning (Commonwealth)	Proposal to leave <i>in situ</i> concrete gravity bases, piled foundations and anchors at or below the mudline.	WA-10-L
Griffin Gas Export Pipeline Decommissioning (Commonwealth)	Removal of mercury contamination within the Gas Export Pipeline (GEP).  Proposal to leave <i>in situ</i> the part of the steel GEP that extends between the Griffin Field and the former Griffin onshore gas plant that is in Commonwealth waters following verification of successful mercury removal.	WA-3-PL, TPL/10, and PL 20
Griffin Gas Export Pipeline Decommissioning (State)	Removal of mercury contamination within the GEP.  Proposal to leave <i>in situ</i> the part of the steel GEP that extends between the Griffin Field and the former Griffin onshore gas plant that is in State waters following verification of successful mercury removal.	WA-3-PL, TPL/10, and PL 20

The balance of the equipment within the Griffin Field, including the Riser Turret Mooring, is proposed to be removed under the Griffin Field Decommissioning Environment Plan. A fact sheet previously provided to stakeholders about these activities is attached for reference.

**Fisheries assessment - Commonwealth**

The day-to-day activities of licence holders in Commonwealth-managed fisheries overlapping the area relevant to the change in activity scope are not expected to be impacted. These fisheries are:

- Western Tuna and Billfish
- Western Skipjack Tuna
- Southern Bluefin Tuna Fishery

Representative organisations for these fisheries are being provided this activity update for information purposes.

### **Fisheries assessment - State**

The day-to-day activities of licence holders in State-managed fisheries overlapping the area relevant to the change in activity scope that may be impacted are:

- Mackerel Managed Fishery (Area 2)
- Onslow Prawn Managed Fishery
- Pilbara Line Fishery
- Pilbara Trap Managed Fishery
- Pilbara Fish Trawl (Interim) Managed Fishery (closed)

Licence holders in these fisheries and representative organisations have been provided this activity update for comment.

### **Providing feedback**

Woodside would be happy to accept any additional feedback from stakeholders by close of business on **26 September 2022**.

Comments provided previously will be carried forward in the respective Commonwealth and State Environment Plans for proposed activities.

Please get back to us at the earliest opportunity if you need any additional information.

Regards

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### **Woodside Feedback**

**2.15 Email sent to Commonwealth Fisheries Association (CFA) – 19 July 2022**

Dear CFA

Woodside Energy provides an activity update further to information previously provided by BHP for the decommissioning of its Griffin Field in Commonwealth waters offshore Western Australia. This information is being provided by Woodside following the merger with BHP Petroleum on 1 June 2022.

The Griffin Field ceased production in 2009, with decommissioning being undertaken in stages. Decommissioning activities to date include the plugging and abandonment of all wells in 2017 and removal of the mid-depth buoys.

BHP consulted stakeholders in November 2021 on the removal of the majority of the remaining equipment in the Griffin Field. On 22 December 2021 the associated Environment Plan (EP) for these removal activities, the Griffin Decommissioning and Field Management Environment Plan, was submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for assessment.

Woodside advises that the activity scope for removal activities now includes full recovery of the Riser Turret Mooring (RTM) from the Title Area and the submerged tow and recovery of two of the RTM top sections outside the title area for recovery. An activity update information sheet is attached for reference.

#### Fisheries assessment

The day-to-day activities of licence holders in Commonwealth-managed fisheries overlapping the area relevant to the change in activity scope are not expected to be impacted. Representative organisations for these fisheries are being provided this activity update for information purposes.

The day-to-day activities of licence holders in State-managed fisheries overlapping the area relevant to the change in activity scope that may be impacted are:

- Onslow Prawn Managed Fishery
- Pilbara Line Fishery
- Pilbara Trap Managed Fishery
- Pilbara Fish Trawl (Interim) Managed Fishery

Licence holders in these fisheries and representative organisations have been provided this activity update for comment.

#### Providing feedback

Woodside would be happy to accept any additional feedback from stakeholders by close of business on 2 August 2022 further to that provided for the Griffin Decommissioning and Field Management Environment Plan.

Regards



Woodside Feedback

**2.15.1 Email sent to CFA – 5 September 2022**

Dear CFA

Woodside Energy (formerly BHP Petroleum Pty Ltd) (BHP) is providing additional information to stakeholders further to that provided previously by BHP about planned decommissioning activities related to equipment in the Griffin Field and the Gas Export Pipeline.

Woodside is providing additional information about proposed leave *in situ* activities so that stakeholders are informed about potential risks and impacts of proposed activities. Planned *in situ* activities are summarised in the table below and a fact sheet is attached providing more information.

**Proposed *in situ* activities**

Environment Plan	Summary	Title Area
Griffin Field Decommissioning (Commonwealth)	Proposal to leave <i>in situ</i> concrete gravity bases, piled foundations and anchors at or below the mudline.	WA-10-L
Griffin Gas Export Pipeline Decommissioning (Commonwealth)	Removal of mercury contamination within the Gas Export Pipeline (GEP).  Proposal to leave <i>in situ</i> the part of the steel GEP that extends between the Griffin Field and the former Griffin onshore gas plant that is in Commonwealth waters following verification of successful mercury removal.	WA-3-PL, TPL/10, and PL 20
Griffin Gas Export Pipeline Decommissioning (State)	Removal of mercury contamination within the GEP.	WA-3-PL, TPL/10, and PL 20

	Proposal to leave <i>in situ</i> the part of the steel GEP that extends between the Griffin Field and the former Griffin onshore gas plant that is in State waters following verification of successful mercury removal.	
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The balance of the equipment within the Griffin Field, including the Riser Turret Mooring, is proposed to be removed under the Griffin Field Decommissioning Environment Plan. A fact sheet previously provided to stakeholders about these activities is attached for reference.

### **Fisheries assessment - Commonwealth**

The day-to-day activities of licence holders in Commonwealth-managed fisheries overlapping the area relevant to the change in activity scope are not expected to be impacted. These fisheries are:

- Western Tuna and Billfish
- Western Skipjack Tuna
- Southern Bluefin Tuna Fishery

Representative organisations for these fisheries are being provided this activity update for information purposes.

### **Fisheries assessment - State**

The day-to-day activities of licence holders in State-managed fisheries overlapping the area relevant to the change in activity scope that may be impacted are:

- Mackerel Managed Fishery (Area 2)
- Onslow Prawn Managed Fishery
- Pilbara Line Fishery
- Pilbara Trap Managed Fishery
- Pilbara Fish Trawl (Interim) Managed Fishery (closed)

Licence holders in these fisheries and representative organisations have been provided this activity update for comment.

### **Providing feedback**

Woodside would be happy to accept any additional feedback from stakeholders by close of business on **26 September 2022**.

Comments provided previously will be carried forward in the respective Commonwealth and State Environment Plans for proposed activities.

Please get back to us at the earliest opportunity if you need any additional information.

Regards

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### **Woodside Feedback**

#### **2.16 Email sent to Tuna Australia – 19 July 2022**

Dear Tuna Australia

Woodside Energy provides an activity update further to information previously provided by BHP for the decommissioning of its Griffin Field in Commonwealth waters offshore Western Australia. This information is being provided by Woodside following the merger with BHP Petroleum on 1 June 2022.

The Griffin Field ceased production in 2009, with decommissioning being undertaken in stages. Decommissioning activities to date include the plugging and abandonment of all wells in 2017 and removal of the mid-depth buoys.

BHP consulted stakeholders in November 2021 on the removal of the majority of the remaining equipment in the Griffin Field. On 22 December 2021 the associated Environment Plan (EP) for these removal activities, the Griffin Decommissioning and Field Management Environment Plan, was submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for assessment.

Woodside advises that the activity scope for removal activities now includes full recovery of the Riser Turret Mooring (RTM) from the Title Area and the submerged tow and recovery of two of the RTM top sections outside the title area for recovery. An activity update information sheet is attached for reference.

### **Fisheries assessment**

The day-to-day activities of licence holders in Commonwealth-managed fisheries overlapping the area relevant to the change in activity scope are not expected to be impacted. Representative organisations for these fisheries are being provided this activity update for information purposes.

The day-to-day activities of licence holders in State-managed fisheries overlapping the area relevant to the change in activity scope that may be impacted are:

- Onslow Prawn Managed Fishery
- Pilbara Line Fishery
- Pilbara Trap Managed Fishery
- Pilbara Fish Trawl (Interim) Managed Fishery

Licence holders in these fisheries and representative organisations have been provided this activity update for comment.

### Providing feedback

Woodside would be happy to accept any additional feedback from stakeholders by close of business on **2 August 2022** further to that provided for the Griffin Decommissioning and Field Management Environment Plan.

Regards

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Woodside Feedback

#### 2.16.1 Email sent to Tuna Australia – 5 September 2022

Dear █

Woodside Energy (formerly BHP Petroleum Pty Ltd) (BHP) is providing additional information to stakeholders further to that provided previously by BHP about planned decommissioning activities related to equipment in the Griffin Field and the Gas Export Pipeline.

Woodside is providing additional information about proposed leave *in situ* activities so that stakeholders are informed about potential risks and impacts of proposed activities. Planned *in situ* activities are summarised in the table below and a fact sheet is attached providing more information.

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Environment Plan	Summary	Title Area
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Griffin Gas Export Pipeline Decommissioning (State)	Removal of mercury contamination within the GEP.  Proposal to leave <i>in situ</i> the part of the steel GEP that extends between the Griffin Field and the former Griffin onshore gas plant that is in State waters following verification of successful mercury removal.	WA-3-PL, TPL/10, and PL 20

The balance of the equipment within the Griffin Field, including the Riser Turret Mooring, is proposed to be removed under the Griffin Field Decommissioning Environment Plan. A fact sheet previously provided to stakeholders about these activities is attached for reference.

#### Fisheries assessment - Commonwealth

The day-to-day activities of licence holders in Commonwealth-managed fisheries overlapping the area relevant to the change in activity scope are not expected to be impacted. These fisheries are:

- Western Tuna and Billfish
- Western Skipjack Tuna
- Southern Bluefin Tuna Fishery

Representative organisations for these fisheries are being provided this activity update for information purposes.



### **Fisheries assessment - State**

The day-to-day activities of licence holders in State-managed fisheries overlapping the area relevant to the change in activity scope that may be impacted are:

- Mackerel Managed Fishery (Area 2)
- Onslow Prawn Managed Fishery
- Pilbara Line Fishery
- Pilbara Trap Managed Fishery
- Pilbara Fish Trawl (Interim) Managed Fishery (closed)

Licence holders in these fisheries and representative organisations have been provided this activity update for comment.

### **Providing feedback**

Woodside would be happy to accept any additional feedback from stakeholders by close of business on **26 September 2022**.

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Please get back to us at the earliest opportunity if you need any additional information.

Regards

■

### **Woodside Feedback**

**2.17 Email sent to WAFIC – 19 July 2022**

Dear WAFIC

Woodside Energy provides an activity update further to information previously provided by BHP for the decommissioning of its Griffin Field in Commonwealth waters offshore Western Australia. This information is being provided by Woodside following the merger with BHP Petroleum on 1 June 2022.

The Griffin Field ceased production in 2009, with decommissioning being undertaken in stages. Decommissioning activities to date include the plugging and abandonment of all wells in 2017 and removal of the mid-depth buoys.

BHP consulted stakeholders in November 2021 on the removal of the majority of the remaining equipment in the Griffin Field. On 22 December 2021 the associated Environment Plan (EP) for these removal activities, the Griffin Decommissioning and Field Management Environment Plan, was submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for assessment.

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### **Fisheries assessment**

The day-to-day activities of licence holders in Commonwealth-managed fisheries overlapping the area relevant to the change in activity scope are not expected to be impacted. Representative organisations for these fisheries are being provided this activity update for information purposes.

The day-to-day activities of licence holders in State-managed fisheries overlapping the area relevant to the change in activity scope that may be impacted are:

- Onslow Prawn Managed Fishery
- Pilbara Line Fishery
- Pilbara Trap Managed Fishery
- Pilbara Fish Trawl (Interim) Managed Fishery

Licence holders in these fisheries and representative organisations have been provided this activity update for comment.

### **Providing feedback**

Woodside would be happy to accept any additional feedback from stakeholders by close of business on **2 August 2022** further to that provided for the Griffin Decommissioning and Field Management Environment Plan.

Regards



Woodside Feedback

**2.17.1 Email sent to WAFIC – 5 September 2022**

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**Proposed *in situ* activities**

Environment Plan	Summary	Title Area
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Griffin Gas Export Pipeline Decommissioning (Commonwealth)	Removal of mercury contamination within the Gas Export Pipeline (GEP).  Proposal to leave <i>in situ</i> the part of the steel GEP that extends between the Griffin Field and the former Griffin onshore gas plant that is in Commonwealth waters following verification of successful mercury removal.	WA-3-PL, TPL/10, and PL 20
Griffin Gas Export Pipeline Decommissioning (State)	Removal of mercury contamination within the GEP.  Proposal to leave <i>in situ</i> the part of the steel GEP that extends between the Griffin Field and the former Griffin onshore gas plant that is in State	WA-3-PL, TPL/10, and PL 20

	waters following verification of successful mercury removal.	
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The balance of the equipment within the Griffin Field, including the Riser Turret Mooring, is proposed to be removed under the Griffin Field Decommissioning Environment Plan. A fact sheet previously provided to stakeholders about these activities is attached for reference.

#### **Fisheries assessment - Commonwealth**

The day-to-day activities of licence holders in Commonwealth-managed fisheries overlapping the area relevant to the change in activity scope are not expected to be impacted. These fisheries are:

- Western Tuna and Billfish
- Western Skipjack Tuna
- Southern Bluefin Tuna Fishery

Representative organisations for these fisheries are being provided this activity update for information purposes.

#### **Fisheries assessment - State**

The day-to-day activities of licence holders in State-managed fisheries overlapping the area relevant to the change in activity scope that may be impacted are:

- Mackerel Managed Fishery (Area 2)
- Onslow Prawn Managed Fishery
- Pilbara Line Fishery
- Pilbara Trap Managed Fishery
- Pilbara Fish Trawl (Interim) Managed Fishery (closed)

Licence holders in these fisheries and representative organisations have been provided this activity update for comment.

#### **Providing feedback**

Woodside would be happy to accept any additional feedback from stakeholders by close of business on **26 September 2022**.

Comments provided previously will be carried forward in the respective Commonwealth and State Environment Plans for proposed activities.

Please get back to us at the earliest opportunity if you need any additional information.

Regards



### **Woodside Feedback**

#### **2.18 Email sent to Marine Tourism Association of WA – 19 July 2022**

Dear MTWA

Woodside Energy provides an activity update further to information previously provided by BHP for the decommissioning of its Griffin Field in Commonwealth waters offshore Western Australia. This information is being provided by Woodside following the merger with BHP Petroleum on 1 June 2022.

The Griffin Field ceased production in 2009, with decommissioning being undertaken in stages. Decommissioning activities to date include the plugging and abandonment of all wells in 2017 and removal of the mid-depth buoys.

BHP consulted stakeholders in November 2021 on the removal of the majority of the remaining equipment in the Griffin Field. On 22 December 2021 the associated Environment Plan (EP) for these removal activities, the Griffin Decommissioning and Field Management Environment Plan, was submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for assessment.

Woodside advises that the activity scope for removal activities now includes full recovery of the Riser Turret Mooring (RTM) from the Title Area and the submerged tow and recovery of two of the RTM top sections outside the title area for recovery. An activity update information sheet is attached for reference.

Woodside would be happy to accept any additional feedback from stakeholders by close of business on **2 August 2022** further to that provided for the Griffin Decommissioning and Field Management Environment Plan.

Regards



Woodside Feedback

### 2.18.1 Email sent to Marine Tourism Association of WA – 5 September 2022

Dear Marine Tourism WA

Woodside Energy (formerly BHP Petroleum Pty Ltd) (BHP) is providing additional information to stakeholders further to that provided previously by BHP about planned decommissioning activities related to equipment in the Griffin Field and the Gas Export Pipeline.

Woodside is providing additional information about proposed leave *in situ* activities so that stakeholders are informed about potential risks and impacts of proposed activities. Planned *in situ* activities are summarised in the table below and a fact sheet is attached providing more information.

#### Proposed *in situ* activities

Environment Plan	Summary	Title Area
Griffin Field Decommissioning (Commonwealth)	Proposal to leave <i>in situ</i> concrete gravity bases, piled foundations and anchors at or below the mudline.	WA-10-L
Griffin Gas Export Pipeline Decommissioning (Commonwealth)	Removal of mercury contamination within the Gas Export Pipeline (GEP).  Proposal to leave <i>in situ</i> the part of the steel GEP that extends between the Griffin Field and the former Griffin onshore gas plant that is in Commonwealth waters following verification of successful mercury removal.	WA-3-PL, TPL/10, and PL 20
Griffin Gas Export Pipeline Decommissioning (State)	Removal of mercury contamination within the GEP.	WA-3-PL, TPL/10, and PL 20

	Proposal to leave <i>in situ</i> the part of the steel GEP that extends between the Griffin Field and the former Griffin onshore gas plant that is in State waters following verification of successful mercury removal.	
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The balance of the equipment within the Griffin Field, including the Riser Turret Mooring, is proposed to be removed under the Griffin Field Decommissioning Environment Plan. A fact sheet previously provided to stakeholders about these activities is attached for reference.

### Providing feedback

Woodside would be happy to accept any additional feedback from stakeholders by close of business on **19 September 2022**.

Comments provided previously will be carried forward in the respective Commonwealth and State Environment Plans for proposed activities.

Please get back to us at the earliest opportunity if you need any additional information.

Regards

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### Woodside Feedback

#### 2.19 Email sent to Pearl Producers Association (PPA) – 19 July 2022

Dear PPA

Woodside Energy provides an activity update further to information previously provided by BHP for the decommissioning of its Griffin Field in Commonwealth waters offshore Western Australia. This information is being provided by Woodside following the merger with BHP Petroleum on 1 June 2022.

The Griffin Field ceased production in 2009, with decommissioning being undertaken in stages. Decommissioning activities to date include the plugging and abandonment of all wells in 2017 and removal of the mid-depth buoys.

BHP consulted stakeholders in November 2021 on the removal of the majority of the remaining equipment in the Griffin Field. On 22 December 2021 the associated Environment Plan (EP) for these removal activities, the Griffin Decommissioning and Field Management Environment Plan, was submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for assessment.

Woodside advises that the activity scope for removal activities now includes full recovery of the Riser Turret Mooring (RTM) from the Title Area and the submerged tow and recovery of two of the RTM top sections outside the title area for recovery. An activity update information sheet is attached for reference.

Woodside would be happy to accept any additional feedback from stakeholders by close of business on **2 August 2022** further to that provided for the Griffin Decommissioning and Field Management Environment Plan.

Regards

■

Woodside Feedback

### 2.19.1 Email sent to PPA – 5 September 2022

Dear PPA

Woodside Energy (formerly BHP Petroleum Pty Ltd) (BHP) is providing additional information to stakeholders further to that provided previously by BHP about planned decommissioning activities related to equipment in the Griffin Field and the Gas Export Pipeline.

Woodside is providing additional information about proposed leave *in situ* activities so that stakeholders are informed about potential risks and impacts of proposed activities. Planned *in situ* activities are summarised in the table below and a fact sheet is attached providing more information.

#### Proposed *in situ* activities

Environment Plan	Summary	Title Area
Griffin Field Decommissioning (Commonwealth)	Proposal to leave <i>in situ</i> concrete gravity bases, piled foundations and anchors at or below the mudline.	WA-10-L



Griffin Gas Export Pipeline Decommissioning (Commonwealth)	<p>Removal of mercury contamination within the Gas Export Pipeline (GEP).</p> <p>Proposal to leave <i>in situ</i> the part of the steel GEP that extends between the Griffin Field and the former Griffin onshore gas plant that is in Commonwealth waters following verification of successful mercury removal.</p>	WA-3-PL, TPL/10, and PL 20
Griffin Gas Export Pipeline Decommissioning (State)	<p>Removal of mercury contamination within the GEP.</p> <p>Proposal to leave <i>in situ</i> the part of the steel GEP that extends between the Griffin Field and the former Griffin onshore gas plant that is in State waters following verification of successful mercury removal.</p>	WA-3-PL, TPL/10, and PL 20

The balance of the equipment within the Griffin Field, including the Riser Turret Mooring, is proposed to be removed under the Griffin Field Decommissioning Environment Plan. A fact sheet previously provided to stakeholders about these activities is attached for reference.

#### **Fisheries assessment - Commonwealth**

The day-to-day activities of licence holders in Commonwealth-managed fisheries overlapping the area relevant to the change in activity scope are not expected to be impacted. These fisheries are:

- Western Tuna and Billfish
- Western Skipjack Tuna
- Southern Bluefin Tuna Fishery

Representative organisations for these fisheries are being provided this activity update for information purposes.

#### **Fisheries assessment - State**

The day-to-day activities of licence holders in State-managed fisheries overlapping the area relevant to the change in activity scope that may be impacted are:

- Mackerel Managed Fishery (Area 2)

- Onslow Prawn Managed Fishery
- Pilbara Line Fishery
- Pilbara Trap Managed Fishery
- Pilbara Fish Trawl (Interim) Managed Fishery (closed)

Licence holders in these fisheries and representative organisations have been provided this activity update for comment.

### **Providing feedback**

Woodside would be happy to accept any additional feedback from stakeholders by close of business on **26 September 2022**.

Comments provided previously will be carried forward in the respective Commonwealth and State Environment Plans for proposed activities.

Please get back to us at the earliest opportunity if you need any additional information.

Regards

■

### **Woodside Feedback**

#### **2.20 Email sent to Recfishwest – 19 July 2022**

Dear ■

Woodside Energy provides an activity update further to information previously provided by BHP for the decommissioning of its Griffin Field in Commonwealth waters offshore Western Australia. This information is being provided by Woodside following the merger with BHP Petroleum on 1 June 2022.

The Griffin Field ceased production in 2009, with decommissioning being undertaken in stages. Decommissioning activities to date include the plugging and abandonment of all wells in 2017 and removal of the mid-depth buoys.

BHP consulted stakeholders in November 2021 on the removal of the majority of the remaining equipment in the Griffin Field. On 22 December 2021 the associated Environment Plan (EP) for these removal activities, the Griffin Decommissioning and Field Management Environment Plan, was submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for assessment.

Woodside advises that the activity scope for removal activities now includes full recovery of the Riser Turret Mooring (RTM) from the Title Area and the submerged tow and recovery of two of the RTM top sections outside the title area for recovery. An activity update information sheet is attached for reference.

Woodside would be happy to accept any additional feedback from stakeholders by close of business on **2 August 2022** further to that provided for the Griffin Decommissioning and Field Management Environment Plan.

Regards

■

Woodside Feedback

### 2.20.1 Email sent to Recfishwest – 5 September 2022

Dear Recfishers

Woodside Energy (formerly BHP Petroleum Pty Ltd) (BHP) is providing additional information to stakeholders further to that provided previously by BHP about planned decommissioning activities related to equipment in the Griffin Field and the Gas Export Pipeline.

Woodside is providing additional information about proposed leave *in situ* activities so that stakeholders are informed about potential risks and impacts of proposed activities. Planned *in situ* activities are summarised in the table below and a fact sheet is attached providing more information.

#### Proposed *in situ* activities

Environment Plan	Summary	Title Area
Griffin Field Decommissioning (Commonwealth)	Proposal to leave <i>in situ</i> concrete gravity bases, piled foundations and anchors at or below the mudline.	WA-10-L

Griffin Gas Export Pipeline Decommissioning (Commonwealth)	<p>Removal of mercury contamination within the Gas Export Pipeline (GEP).</p> <p>Proposal to leave <i>in situ</i> the part of the steel GEP that extends between the Griffin Field and the former Griffin onshore gas plant that is in Commonwealth waters following verification of successful mercury removal.</p>	WA-3-PL, TPL/10, and PL 20
Griffin Gas Export Pipeline Decommissioning (State)	<p>Removal of mercury contamination within the GEP.</p> <p>Proposal to leave <i>in situ</i> the part of the steel GEP that extends between the Griffin Field and the former Griffin onshore gas plant that is in State waters following verification of successful mercury removal.</p>	WA-3-PL, TPL/10, and PL 20

The balance of the equipment within the Griffin Field, including the Riser Turret Mooring, is proposed to be removed under the Griffin Field Decommissioning Environment Plan. A fact sheet previously provided to stakeholders about these activities is attached for reference.

**Providing feedback**

Woodside would be happy to accept any additional feedback from stakeholders by close of business on **26 September 2022**.

Comments provided previously will be carried forward in the respective Commonwealth and State Environment Plans for proposed activities.

Please get back to us at the earliest opportunity if you need any additional information.

Regards



**Woodside Feedback**

**2.21 Email sent to Gascoyne Recreational Marine Users and Karratha Recreational Marine Users (formerly Charter Boat / Marine Tourism Operators) – 19 July 2022**

Dear charter / marine tourism operator

Woodside Energy provides an activity update further to information previously provided by BHP for the decommissioning of its Griffin Field in Commonwealth waters offshore Western Australia. This information is being provided by Woodside following the merger with BHP Petroleum on 1 June 2022.

The Griffin Field ceased production in 2009, with decommissioning being undertaken in stages. Decommissioning activities to date include the plugging and abandonment of all wells in 2017 and removal of the mid-depth buoys.

BHP consulted stakeholders in November 2021 on the removal of the majority of the remaining equipment in the Griffin Field. On 22 December 2021 the associated Environment Plan (EP) for these removal activities, the Griffin Decommissioning and Field Management Environment Plan, was submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for assessment.

Woodside advises that the activity scope for removal activities now includes full recovery of the Riser Turret Mooring (RTM) from the Title Area and the submerged tow and recovery of two of the RTM top sections outside the title area for recovery. An activity update information sheet is attached for reference.

Woodside would be happy to accept any additional feedback from stakeholders by close of business on **2 August 2022** further to that provided for the Griffin Decommissioning and Field Management Environment Plan.

Regards

■

**Woodside Feedback**

**2.21.1 Email sent to Gascoyne Recreational Marine Users (formerly Charter Boat / Marine Tourism Operators) – 5 September 2022**

Dear Marine Tourism Operators

Woodside Energy (formerly BHP Petroleum Pty Ltd) (BHP) is providing additional information to stakeholders further to that provided previously by BHP about planned decommissioning activities related to equipment in the Griffin Field and the Gas Export Pipeline.

Woodside is providing additional information about proposed leave *in situ* activities so that stakeholders are informed about potential risks and impacts of proposed activities. Planned *in situ* activities are summarised in the table below and a fact sheet is attached providing more information.

**Proposed *in situ* activities**

Environment Plan	Summary	Title Area
Griffin Field Decommissioning (Commonwealth)	Proposal to leave <i>in situ</i> concrete gravity bases, piled foundations and anchors at or below the mudline.	WA-10-L
Griffin Gas Export Pipeline Decommissioning (Commonwealth)	Removal of mercury contamination within the Gas Export Pipeline (GEP).  Proposal to leave <i>in situ</i> the part of the steel GEP that extends between the Griffin Field and the former Griffin onshore gas plant that is in Commonwealth waters following verification of successful mercury removal.	WA-3-PL, TPL/10, and PL 20
Griffin Gas Export Pipeline Decommissioning (State)	Removal of mercury contamination within the GEP.  Proposal to leave <i>in situ</i> the part of the steel GEP that extends between the Griffin Field and the former Griffin onshore gas plant that is in State waters following verification of successful mercury removal.	WA-3-PL, TPL/10, and PL 20

The balance of the equipment within the Griffin Field, including the Riser Turret Mooring, is proposed to be removed under the Griffin Field Decommissioning Environment Plan. A fact sheet previously provided to stakeholders about these activities is attached for reference.

### Providing feedback

Woodside would be happy to accept any additional feedback from stakeholders by close of business on **26 September 2022**.

Comments provided previously will be carried forward in the respective Commonwealth and State Environment Plans for proposed activities.

Please get back to us at the earliest opportunity if you need any additional information.

Regards

### 2.22 Email sent to the Onslow Chamber of Commerce and Industry, Shire of Ashburton and Buurabalayji Thalanyji Aboriginal Corporation (BTAC) – 5 September 2022

Dear [stakeholder]

Woodside Energy (formerly BHP Petroleum Pty Ltd) (BHP) is providing additional information to stakeholders further to that provided previously by BHP about planned decommissioning activities related to equipment in the Griffin Field and the Gas Export Pipeline.

Woodside is providing additional information about proposed leave *in situ* activities so that stakeholders are informed about potential risks and impacts of proposed activities. Planned *in situ* activities are summarised in the table below and a fact sheet is attached providing more information.

### Proposed *in situ* activities

Environment Plan	Summary	Title Area
Griffin Field Decommissioning (Commonwealth)	Proposal to leave <i>in situ</i> concrete gravity bases, piled foundations and anchors at or below the mudline.	WA-10-L
Griffin Gas Export Pipeline Decommissioning (Commonwealth)	Removal of mercury contamination within the Gas Export Pipeline (GEP).	WA-3-PL, TPL/10, and PL 20

	<p>Proposal to leave <i>in situ</i> the part of the steel GEP that extends between the Griffin</p> <p>Field and the former Griffin onshore gas plant that is in Commonwealth waters following verification of successful mercury removal.</p>	
Griffin Gas Export Pipeline Decommissioning (State)	<p>Removal of mercury contamination within the GEP.</p> <p>Proposal to leave <i>in situ</i> the part of the steel GEP that extends between the Griffin Field and the former Griffin onshore gas plant that is in State waters following verification of successful mercury removal.</p>	WA-3-PL, TPL/10, and PL 20

The balance of the equipment within the Griffin Field, including the Riser Turret Mooring, is proposed to be removed under the Griffin Field Decommissioning Environment Plan. A fact sheet previously provided to stakeholders about these activities is attached for reference.

**Providing feedback**

Woodside would be happy to accept any additional feedback from stakeholders by close of business on **19 September 2022**.

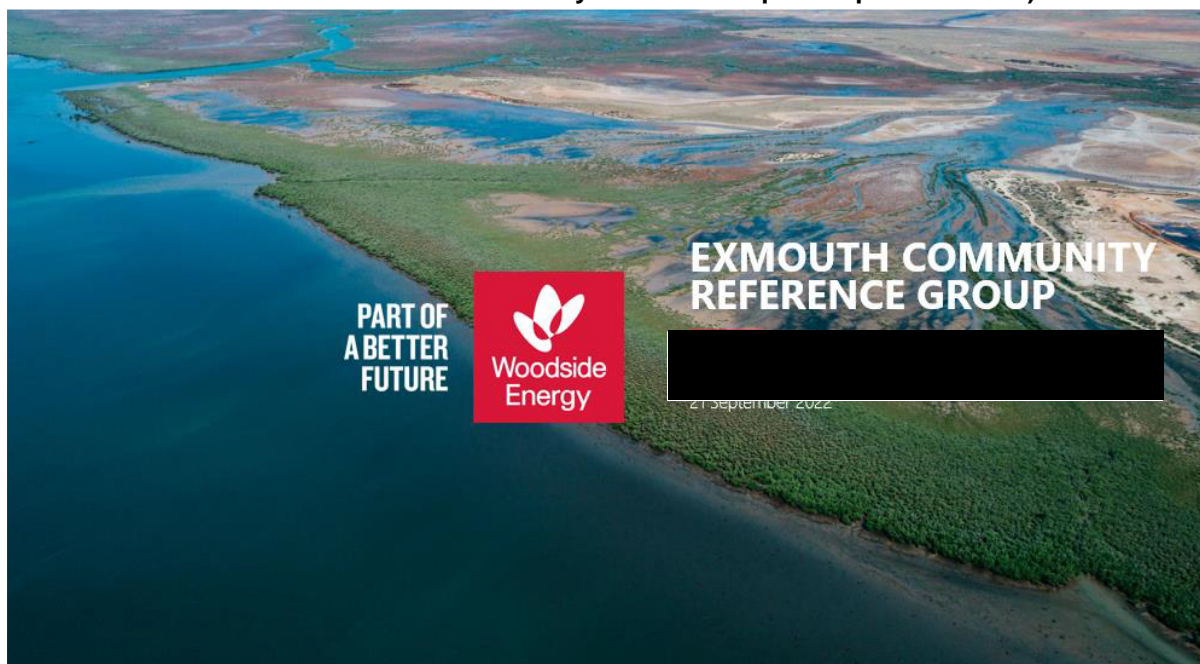
Comments provided previously will be carried forward in the respective Commonwealth and State Environment Plans for proposed activities.

Please get back to us at the earliest opportunity if you need any additional information.

Regards



## 2.23 Presentation to Exmouth Community Liaison Group (21 September 2022)



### INTRODUCTION

#### Disclaimer, important notes and assumptions

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**EXMOUTH COMMUNITY REFERENCE GROUP**

**AGENDA**

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- Operations update
- Activity update
- Environment Plans
- Community partnerships






**ENVIRONMENT PLANS**

**Griffin Decommissioning**

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- Decommissioning activities are covered by four Environment Plans, all currently under assessment
- Execution contract (EPRD) was awarded to Technip FMC in June 2022, with work in the field commencing 2H 2023

<p><b>Decommissioning &amp; Field Management (Cth)</b></p> <ul style="list-style-type: none"> <li>• Submitted for assessment December 2021</li> <li>• Proposal to remove RTM, mooring chains, flexibles, wellheads/trees, distribution skids, ancillary subsea equipment</li> <li>• The RTM will be toppled and sectioned into pieces for recovery with two larger pieces being towed to shallower water for recovery</li> </ul>	<p><b>Gas Export Pipeline (GEP) decommissioning (Cth)</b></p> <ul style="list-style-type: none"> <li>• Commonwealth EP submitted for assessment March 2022 and State EP July 2022</li> <li>• Proposal to leave the Gas Export Pipeline <i>in situ</i>, which extends between the Griffin field and the former Griffin onshore gas plant that is in Commonwealth waters</li> </ul>
<p><b>Field decommissioning (Cth)</b></p> <ul style="list-style-type: none"> <li>• Submitted for assessment April 2021</li> <li>• Proposal to leave <i>in situ</i> anchors, piles and concrete gravity bases, all of which are buried</li> </ul>	<p><b>Gas Export Pipeline (GEP) decommissioning (State)</b></p> <ul style="list-style-type: none"> <li>• Commonwealth EP submitted for assessment March 2022 and State EP July 2022</li> <li>• Proposal to leave the Gas Export Pipeline <i>in situ</i>, which extends between the Griffin field and the former Griffin onshore gas plant that is in State waters</li> </ul>



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### 3. Activity Update (February 2023)

#### 3.1 Email sent to the following persons or organisations (16 February 2023)

- *Australian Border Force (ABF)*
- *Department of Industry, Science and Resources (DISR)*
- *Department of Mines, Industry and Regulation (DMIRS)*
- *Australian Petroleum Production and Exploration Association (APPEA)*
- *Marine Tourism Western Australia*
- *Pearl Producers Association (PPA)*
- *Recfishwest*
- *Western Australian (WA) Game Fishing Association*

Dear Stakeholder

Woodside is providing this update on the progressive decommissioning of the Griffin and Stybarrow fields, previously operated by BHP Petroleum Pty Ltd (BHP).

We are providing this information to ensure relevant persons are informed about the status of proposed activities, as there have been changes to activity scope and supporting consultation information since consultation commenced for these decommissioning projects in 2021.

The **Griffin Field** is in Commonwealth waters in Petroleum Licence WA-10-L, 65 km northwest of Onslow and 94 km northeast of Exmouth, Western Australia and in water depths of approximately 120 m.

The **Stybarrow Field** is in Commonwealth waters in Petroleum Licence WA-32-L, approximately 53 km northwest of Exmouth, Western Australia and in water depths of approximately 810 – 850 m.

A summary of proposed activities is outlined below, and more detailed information is provided in the attached Consultation Information Sheets. The Information Sheets provide details on activities proposed to be managed under a number of Environment Plans for each Field, including a summary of potential key risks and associated management measures. The Information Sheets are also available on our [website](#).

Any feedback provided previously on proposed activities will remain current where Environment Plans are under assessment by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

Please let us know if you would like to update previous feedback or have any additional views by **17 March 2023**.

**Activity:**

	<b>Griffin Field Decommissioning Activities</b>	<b>Stybarrow Field Decommissioning Activities</b>
<b>Summary:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, distribution skids, risers, flexible flowlines, rigid flowlines, umbilicals, and the pipeline end module (PLEM)).</li> <li>• Removal of the Riser Turret Mooring (RTM) and its moorings. Depending on the vessel utilised, recovery of the RTM may require sections of it to be towed to shallower water out of the title.</li> <li>• Removal of an exploration wellhead (Ramillies-1 in neighbouring petroleum title WA-12-L).</li> <li>• Ongoing field management activities.</li> <li>• Pigging and subsequent removal of the 26 km of Griffin Gas Export Pipeline (GEP) within Commonwealth waters.</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>• Proposal to leave in situ 12 RTM drag anchors (buried), 6 concrete gravity bases and 5 piled foundations for the PLEM and 4 distribution skids.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>• Pre-execution activities associated with the well P&amp;A, such as barrier testing and removal of marine growth.</li> <li>• Well P&amp;A of the 10 productions/injection wells by placing cement plugs in the wells to permanently prevent hydrocarbon release.</li> <li>• Cutting and removal of the wellhead and subsea tree assembly.</li> <li>• Unblocking of the H4 flowline, if deemed feasible.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, manifolds, risers, flexible flowlines, and umbilicals).</li> <li>• Removal of the Disconnectable Turret Mooring (DTM) and its moorings. Recovery of the DTM may require it to be towed to shallower water outside of permit area WA-32-L to support the DTM removal from the marine environment.</li> <li>• Ongoing field management activities (equipment monitoring and inspection).</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>• Proposed leave in situ of the 9 DTM drag anchors (buried), nine suction piles for the riser holdbacks and the historical exploration wellhead, Eskdale-1, which was unable to be removed following its drilling and abandonment in 2003.</li> </ul>

<b>Location:</b>	<ul style="list-style-type: none"> <li>94 km northeast of Exmouth, Western Australia.</li> </ul>	<ul style="list-style-type: none"> <li>53 km northwest of Exmouth, Western Australia.</li> </ul>
<b>Approx. Water Depth (m):</b>	<ul style="list-style-type: none"> <li>Approx. 120 m.</li> </ul>	<ul style="list-style-type: none"> <li>Approx. 810 – 850 m.</li> </ul>
<b>Schedule:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Earliest proposed removal activity start is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>Facilities removal must be completed no later than 31 December 2024, pursuant to General Direction 832.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>Earliest P&amp;A start is estimated to be Q4 2023, subject to approvals, MODU and vessel availability and weather constraints.</li> <li>P&amp;A activities must be completed no later than 30 September 2024, pursuant to General Direction 833.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Earliest facilities and DTM removal is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>Equipment removal must be completed no later than 31 March 2025, pursuant to General Direction 833.</li> </ul>
<b>Duration:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Removal activities are anticipated to take approximately 6 months to complete and GEP removal activities are anticipated to take approximately 2 months to complete.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>P&amp;A activities are anticipated to take approximately 6 – 9 months.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Removal activities are anticipated to take approximately 4-6 months to complete and DTM removal activities are anticipated to take approximately 1 month to complete.</li> </ul>
<b>Exclusionary/Cautious Zone:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the equipment.</li> <li>A temporary 500 m exclusion zone will apply around the</li> </ul>	<p><b>P&amp;A Activities</b></p> <ul style="list-style-type: none"> <li>The Operational Area includes the area encompassing an approximate 3,000 m radius around each of the four drill centres within WA-32-L.</li> <li>A temporary 500 m exclusion zone will apply around the</li> </ul>

	<p>project vessels during removal and potential tow activities.</p>	<p>MODU and the associated project vessels during P&amp;A activities.</p> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the subsea infrastructure and wellheads.</li> <li>• The DTM has an existing 1200 m radius petroleum safety zone which will continue to be in place until it is removed.</li> <li>• A temporary 500 m exclusion zone will apply around the CSV and the associated project vessels during removal activities.</li> <li>• A temporary 500 m exclusion zone will apply around the HLV and the associated project vessels during the removal of the DTM.</li> </ul>
<p><b>Vessels:</b></p>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Construction support vessel (CSV) and Heavy Lift Vessel (HLV) for recovery and pipeline removal activities.</li> <li>• An anchor handling tug (AHT) to support the towing of the RTM to sheltered water.</li> </ul>	<p><b>P&amp;A activities</b></p> <ul style="list-style-type: none"> <li>• Semi-Submersible Mobile Offshore Drilling Unit (MODU)</li> <li>• The MODU will be supported by 2 to 3 offshore support vessels.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• CSV and HLV for recovery and activities.</li> <li>• AHTs to support the towing of the DTM to the shallower water location (if required).</li> </ul>

**Feedback:**

If you have any feedback on these activities, please respond to Woodside at: [Feedback@woodside.com.au](mailto:Feedback@woodside.com.au) or 1800 442 977.

Your feedback and our response will be included in our Environment Plan which will be submitted to 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.

Please provide your views by **17 March 2023**.

You can also subscribe on our website to receive Consultation Information Sheets for proposed activities: [www.woodside.com/sustainability/consultation-activities](http://www.woodside.com/sustainability/consultation-activities).

### 3.2 Email / Letter sent to Gascoyne Recreational Marine Users (65 licence holders) (17 February 2023)

Dear [Stakeholder]

Woodside is providing this update on the progressive decommissioning of the Griffin and Stybarrow fields, previously operated by BHP Petroleum Pty Ltd (BHP).

We are providing this information to ensure relevant persons are informed about the status of proposed activities, as there have been changes to activity scope and supporting consultation information since consultation commenced for these decommissioning projects in 2021.

The **Griffin Field** is in Commonwealth waters in Petroleum Licence WA-10-L, 65 km northwest of Onslow and 94 km northeast of Exmouth, Western Australia and in water depths of approximately 120 m.

The **Stybarrow Field** is in Commonwealth waters in Petroleum Licence WA-32-L, approximately 53 km northwest of Exmouth, Western Australia and in water depths of approximately 810 – 850 m.

Please see the relevant QR codes below which link directly to consultation information sheets which provide 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 [www.woodside.com](http://www.woodside.com). You can also subscribe to receive updates on our consultation activities by subscribing through our Consultation Activities page.

Activity Update: Griffin Decommissioning EP



Activity Update: Stybarrow Decommissioning EP



Activity Update: Stybarrow Plug & Abandonment EP



Operational Areas and Exclusion Zones will apply around a range of vessels that will support plugging and abandonment and infrastructure recovery and removal activities, which are outlined in the activity summaries below.

Any feedback provided previously on proposed activities will remain current where Environment Plans are under assessment by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

Please let us know if you would like to update previous feedback or have any additional views by 17 March 2023.

Activity:

	Griffin Field Decommissioning Activities	Stybarrow Field Decommissioning Activities
<b>Summary:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Removal of subsea equipment (wellheads, trees, distribution skids, risers, flexible flowlines, rigid flowlines, umbilicals, and the pipeline end module (PLEM)).</li> <li>Removal of the Riser Turret Mooring (RTM) and its moorings. Depending on the vessel utilised, recovery of the RTM may require sections of it to be towed to shallower water out of the title.</li> <li>Removal of an exploration wellhead (Ramillies-1 in neighbouring petroleum title WA-12-L).</li> <li>Ongoing field management activities.</li> <li>Pigging and subsequent removal of the 26 km of Griffin Gas Export Pipeline (GEP) within Commonwealth waters.</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>Proposal to leave <i>in situ</i> 12 RTM drag anchors (buried), 6 concrete gravity bases and 5 piled foundations for the PLEM and 4 distribution skids.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>Pre-execution activities associated with the well P&amp;A, such as barrier testing and removal of marine growth.</li> <li>Well P&amp;A of the 10 productions/injection wells by placing cement plugs in the wells to permanently prevent hydrocarbon release.</li> <li>Cutting and removal of the wellhead and subsea tree assembly.</li> <li>Unblocking of the H4 flowline, if deemed feasible.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Removal of subsea equipment (wellheads, trees, manifolds, risers, flexible flowlines, and umbilicals).</li> <li>Removal of the Disconnectable Turret Mooring (DTM) and its moorings. Recovery of the DTM may require it to be towed to shallower water outside of permit area WA-32-L to support the DTM removal from the marine environment.</li> <li>Ongoing field management activities (equipment monitoring and inspection).</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>Proposed leave <i>in situ</i> of the 9 DTM drag anchors (buried), nine suction piles for the riser holdbacks and the historical exploration wellhead, Eskdale-1, which was unable to be removed following its drilling and abandonment in 2003.</li> </ul>



Griffin Field Decommissioning (End State) Environment Plan

<b>Location:</b>	<ul style="list-style-type: none"> <li>94 km northeast of Exmouth, Western Australia.</li> </ul>	<ul style="list-style-type: none"> <li>53 km northwest of Exmouth, Western Australia.</li> </ul>
<b>Approx. Water Depth (m):</b>	<ul style="list-style-type: none"> <li>Approx. 120 m.</li> </ul>	<ul style="list-style-type: none"> <li>Approx. 810 – 850 m.</li> </ul>
<b>Schedule:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Earliest proposed removal activity start is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>Facilities removal must be completed no later than 31 December 2024, pursuant to General Direction 832.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>Earliest P&amp;A start is estimated to be Q4 2023, subject to approvals, MODU and vessel availability and weather constraints.</li> <li>P&amp;A activities must be completed no later than 30 September 2024, pursuant to General Direction 833.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Earliest facilities and DTM removal is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>Equipment removal must be completed no later than 31 March 2025, pursuant to General Direction 833.</li> </ul>
<b>Duration:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Removal activities are anticipated to take approximately 6 months to complete and GEP removal activities are anticipated to take approximately 2 months to complete.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>P&amp;A activities are anticipated to take approximately 6 – 9 months.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Removal activities are anticipated to take approximately 4-6 months to complete and DTM removal activities are anticipated to take approximately 1 month to complete.</li> </ul>
<b>Exclusionary/Cautionary Zone:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the equipment.</li> <li>A temporary 500 m exclusion zone will apply around the project vessels during removal and potential tow activities.</li> </ul>	<p><b>P&amp;A Activities</b></p> <ul style="list-style-type: none"> <li>The Operational Area includes the area encompassing an approximate 3,000 m radius around each of the four drill centers within WA-32-L.</li> <li>A temporary 500 m exclusion zone will apply around the MODU and the associated project vessels during P&amp;A activities.</li> </ul>

		<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the subsea infrastructure and wellheads.</li> <li>• The DTM has an existing 1200 m radius petroleum safety zone which will continue to be in place until it is removed.</li> <li>• A temporary 500 m exclusion zone will apply around the CSV and the associated project vessels during removal activities.</li> <li>• A temporary 500 m exclusion zone will apply around the HLV and the associated project vessels during the removal of the DTM.</li> </ul>
Vessels:	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Construction support vessel (CSV) and Heavy Lift Vessel (HLV) for recovery and pipeline removal activities.</li> <li>• An anchor handling tug (AHT) to support the towing of the RTM to sheltered water.</li> </ul>	<p><b>P&amp;A activities</b></p> <ul style="list-style-type: none"> <li>• Semi-Submersible Mobile Offshore Drilling Unit (MODU)</li> <li>• The MODU will be supported by 2 to 3 offshore support vessels.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• CSV and HLV for recovery and activities.</li> <li>• AHTs to support the towing of the DTM to the shallower water location (if required).</li> </ul>

**Feedback:**

If you have any feedback on these activities, please respond to Woodside at: [Feedback@woodside.com.au](mailto:Feedback@woodside.com.au) or 1800 442 977.

Your feedback and our response will be included in our Environment Plan which will be submitted to 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.

Please provide your views by **17 March 2023**.

**Attachment A: Feedback Form**

**Attachment A: Feedback Form**

FEEDBACK	GRIFFIN DECOMMISSIONING EP	STYBARROW DECOMMISSIONING EP	STYBARROW PLUG & ABANDONMENT EP

**3.2.1 Email sent to Carnarvon Fishing Club (16 February 2023)**

Dear Carnarvon Fishing Club

Woodside is providing this update on the progressive decommissioning of the Griffin and Stybarrow fields, previously operated by BHP Petroleum Pty Ltd (BHP).

We are providing this information to ensure relevant persons are informed about the status of proposed activities, as there have been changes to activity scope and supporting consultation information since consultation commenced for these decommissioning projects in 2021.

The **Griffin Field** is in Commonwealth waters in Petroleum Licence WA-10-L, 65 km northwest of Onslow and 94 km northeast of Exmouth, Western Australia and in water depths of approximately 120 m.

The **Stybarrow Field** is in Commonwealth waters in Petroleum Licence WA-32-L, approximately 53 km northwest of Exmouth, Western Australia and in water depths of approximately 810 – 850 m.

A summary of proposed activities is outlined below, and more detailed information is provided in the attached Consultation Information Sheets. The Information Sheets provide details on activities proposed to be managed under a number of Environment Plans for each Field, including a summary of potential key risks and associated management measures. The Information Sheets are also available on our [website](#).

Any feedback provided previously on proposed activities will remain current where Environment Plans are under assessment by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

Please let us know if you would like to update previous feedback or have any additional views by **17 March 2023**.

**Activity:**

	<b>Griffin Field Decommissioning Activities</b>	<b>Stybarrow Field Decommissioning Activities</b>
<b>Summary:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, distribution skids, risers, flexible flowlines, rigid flowlines, umbilicals, and the pipeline end module (PLEM)).</li> <li>• Removal of the Riser Turret Mooring (RTM) and its moorings. Depending on the vessel utilised, recovery of the RTM may require sections of it to be towed to shallower water out of the title.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>• Pre-execution activities associated with the well P&amp;A, such as barrier testing and removal of marine growth.</li> <li>• Well P&amp;A of the 10 productions/injection wells by placing cement plugs in the wells to permanently prevent hydrocarbon release.</li> <li>• Cutting and removal of the wellhead and subsea tree assembly.</li> <li>• Unblocking of the H4 flowline, if deemed feasible.</li> </ul>

	<ul style="list-style-type: none"> <li>• Removal of an exploration wellhead (Ramillies-1 in neighbouring petroleum title WA-12-L).</li> <li>• Ongoing field management activities.</li> <li>• Pigging and subsequent removal of the 26 km of Griffin Gas Export Pipeline (GEP) within Commonwealth waters.</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>• Proposal to leave in situ 12 RTM drag anchors (buried), 6 concrete gravity bases and 5 piled foundations for the PLEM and 4 distribution skids.</li> </ul>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, manifolds, risers, flexible flowlines, and umbilicals).</li> <li>• Removal of the Disconnectable Turret Mooring (DTM) and its moorings. Recovery of the DTM may require it to be towed to shallower water outside of permit area WA-32-L to support the DTM removal from the marine environment.</li> <li>• Ongoing field management activities (equipment monitoring and inspection).</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>• Proposed leave in situ of the 9 DTM drag anchors (buried), nine suction piles for the riser holdbacks and the historical exploration wellhead, Eskdale-1, which was unable to be removed following its drilling and abandonment in 2003.</li> </ul>
<b>Location:</b>	<ul style="list-style-type: none"> <li>• 94 km northeast of Exmouth, Western Australia.</li> </ul>	<ul style="list-style-type: none"> <li>• 53 km northwest of Exmouth, Western Australia.</li> </ul>
<b>Approx. Water Depth (m):</b>	<ul style="list-style-type: none"> <li>• Approx. 120 m.</li> </ul>	<ul style="list-style-type: none"> <li>• Approx. 810 – 850 m.</li> </ul>
<b>Schedule:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Earliest proposed removal activity start is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>• Facilities removal must be completed no later than 31 December 2024, pursuant to General Direction 832.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>• Earliest P&amp;A start is estimated to be Q4 2023, subject to approvals, MODU and vessel availability and weather constraints.</li> <li>• P&amp;A activities must be completed no later than 30 September 2024, pursuant to General Direction 833.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Earliest facilities and DTM removal is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> </ul>

		<ul style="list-style-type: none"> <li>Equipment removal must be completed no later than 31 March 2025, pursuant to General Direction 833.</li> </ul>
<b>Duration:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Removal activities are anticipated to take approximately 6 months to complete and GEP removal activities are anticipated to take approximately 2 months to complete.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>P&amp;A activities are anticipated to take approximately 6 – 9 months.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Removal activities are anticipated to take approximately 4-6 months to complete and DTM removal activities are anticipated to take approximately 1 month to complete.</li> </ul>
<b>Exclusionary/Cautious Zone:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the equipment.</li> <li>A temporary 500 m exclusion zone will apply around the project vessels during removal and potential tow activities.</li> </ul>	<p><b>P&amp;A Activities</b></p> <ul style="list-style-type: none"> <li>The Operational Area includes the area encompassing an approximate 3,000 m radius around each of the four drill centers within WA-32-L.</li> <li>A temporary 500 m exclusion zone will apply around the MODU and the associated project vessels during P&amp;A activities.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the subsea infrastructure and wellheads.</li> <li>The DTM has an existing 1200 m radius petroleum safety zone which will continue to be in place until it is removed.</li> <li>A temporary 500 m exclusion zone will apply around the CSV and the associated project vessels during removal activities.</li> <li>A temporary 500 m exclusion zone will apply around the HLV and the associated project</li> </ul>

		vessels during the removal of the DTM.
<b>Vessels:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Construction support vessel (CSV) and Heavy Lift Vessel (HLV) for recovery and pipeline removal activities.</li> <li>• An anchor handling tug (AHT) to support the towing of the RTM to sheltered water.</li> </ul>	<p><b>P&amp;A activities</b></p> <ul style="list-style-type: none"> <li>• Semi-Submersible Mobile Offshore Drilling Unit (MODU)</li> <li>• The MODU will be supported by 2 to 3 offshore support vessels.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• CSV and HLV for recovery and activities.</li> <li>• AHTs to support the towing of the DTM to the shallower water location (if required).</li> </ul>

**Feedback:**

If you have any feedback on these activities, please respond to Woodside at: [Feedback@woodside.com.au](mailto:Feedback@woodside.com.au) or 1800 442 977.

Your feedback and our response will be included in our Environment Plan which will be submitted to 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.

Please provide your views by **17 March 2023**.

You can also subscribe on our website to receive Consultation Information Sheets for proposed activities: [www.woodside.com/sustainability/consultation-activities](http://www.woodside.com/sustainability/consultation-activities).

**3.2.2 Email sent to Ashburton Anglers (17 February 2023)**

Hi [REDACTED]

Hope you're well.

Woodside is providing this update on the progressive decommissioning of the Griffin and Stybarrow fields, previously operated by BHP Petroleum Pty Ltd (BHP).

We are providing this information to ensure relevant persons, including the Ashburton Anglers, are informed about the status of proposed activities, as there have been changes to activity scope and supporting consultation information since consultation commenced for these decommissioning projects in 2021.

The **Griffin Field** is in Commonwealth waters in Petroleum Licence WA-10-L, 65 km northwest of Onslow and 94 km northeast of Exmouth, Western Australia and in water depths of approximately 120 m.

The **Stybarrow Field** is in Commonwealth waters in Petroleum Licence WA-32-L, approximately 53 km northwest of Exmouth, Western Australia and in water depths of approximately 810 – 850 m.

A summary of proposed activities is outlined below, and more detailed information is provided in the attached Consultation Information Sheets. The Information Sheets provide details on activities proposed to be managed under a number of Environment Plans for each Field, including a summary of potential key risks and associated management measures. The Information Sheets are also available on our [website](#).

Any feedback provided previously on proposed activities will remain current where Environment Plans are under assessment by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA). Please let us know if you would like to update previous feedback or have any additional views by **17 March 2023**.

**Activity:**

	<b>Griffin Field Decommissioning Activities</b>	<b>Stybarrow Field Decommissioning Activities</b>
<b>Summary:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, distribution skids, risers, flexible flowlines, rigid flowlines, umbilicals, and the pipeline end module (PLEM)).</li> <li>• Removal of the Riser Turret Mooring (RTM) and its moorings. Depending on the vessel utilised, recovery of the RTM may require sections of it to be towed to shallower water out of the title.</li> <li>• Removal of an exploration wellhead (Ramillies-1 in</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>• Pre-execution activities associated with the well P&amp;A, such as barrier testing and removal of marine growth.</li> <li>• Well P&amp;A of the 10 productions/injection wells by placing cement plugs in the wells to permanently prevent hydrocarbon release.</li> <li>• Cutting and removal of the wellhead and subsea tree assembly.</li> <li>• Unblocking of the H4 flowline, if deemed feasible.</li> </ul>



	<p>neighbouring petroleum title WA-12-L).</p> <ul style="list-style-type: none"> <li>• Ongoing field management activities.</li> <li>• Pigging and subsequent removal of the 26 km of Griffin Gas Export Pipeline (GEP) within Commonwealth waters.</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>• Proposal to leave in situ 12 RTM drag anchors (buried), 6 concrete gravity bases and 5 piled foundations for the PLEM and 4 distribution skids.</li> </ul>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, manifolds, risers, flexible flowlines, and umbilicals).</li> <li>• Removal of the Disconnectable Turret Mooring (DTM) and its moorings. Recovery of the DTM may require it to be towed to shallower water outside of permit area WA-32-L to support the DTM removal from the marine environment.</li> <li>• Ongoing field management activities (equipment monitoring and inspection).</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>• Proposed leave in situ of the 9 DTM drag anchors (buried), nine suction piles for the riser holdbacks and the historical exploration wellhead, Eskdale-1, which was unable to be removed following its drilling and abandonment in 2003.</li> </ul>
<b>Location:</b>	<ul style="list-style-type: none"> <li>• 94 km northeast of Exmouth, Western Australia.</li> </ul>	<ul style="list-style-type: none"> <li>• 53 km northwest of Exmouth, Western Australia.</li> </ul>
<b>Approx. Water Depth (m):</b>	<ul style="list-style-type: none"> <li>• Approx. 120 m.</li> </ul>	<ul style="list-style-type: none"> <li>• Approx. 810 – 850 m.</li> </ul>
<b>Schedule:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Earliest proposed removal activity start is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>• Facilities removal must be completed no later than 31 December 2024, pursuant to General Direction 832.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>• Earliest P&amp;A start is estimated to be Q4 2023, subject to approvals, MODU and vessel availability and weather constraints.</li> <li>• P&amp;A activities must be completed no later than 30 September 2024, pursuant to General Direction 833.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Earliest facilities and DTM removal is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> </ul>

		<ul style="list-style-type: none"> <li>Equipment removal must be completed no later than 31 March 2025, pursuant to General Direction 833.</li> </ul>
<b>Duration:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Removal activities are anticipated to take approximately 6 months to complete and GEP removal activities are anticipated to take approximately 2 months to complete.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>P&amp;A activities are anticipated to take approximately 6 – 9 months.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Removal activities are anticipated to take approximately 4-6 months to complete and DTM removal activities are anticipated to take approximately 1 month to complete.</li> </ul>
<b>Exclusionary/Cautious Zone:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the equipment.</li> <li>A temporary 500 m exclusion zone will apply around the project vessels during removal and potential tow activities.</li> </ul>	<p><b>P&amp;A Activities</b></p> <ul style="list-style-type: none"> <li>The Operational Area includes the area encompassing an approximate 3,000 m radius around each of the four drill centres within WA-32-L.</li> <li>A temporary 500 m exclusion zone will apply around the MODU and the associated project vessels during P&amp;A activities.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the subsea infrastructure and wellheads.</li> <li>The DTM has an existing 1200 m radius petroleum safety zone which will continue to be in place until it is removed.</li> <li>A temporary 500 m exclusion zone will apply around the CSV and the associated project vessels during removal activities.</li> <li>A temporary 500 m exclusion zone will apply around the HLV and the associated project</li> </ul>

		vessels during the removal of the DTM.
<b>Vessels:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Construction support vessel (CSV) and Heavy Lift Vessel (HLV) for recovery and pipeline removal activities.</li> <li>• An anchor handling tug (AHT) to support the towing of the RTM to sheltered water.</li> </ul>	<p><b>P&amp;A activities</b></p> <ul style="list-style-type: none"> <li>• Semi-Submersible Mobile Offshore Drilling Unit (MODU)</li> <li>• The MODU will be supported by 2 to 3 offshore support vessels.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• CSV and HLV for recovery and activities.</li> <li>• AHTs to support the towing of the DTM to the shallower water location (if required).</li> </ul>

**Feedback:**

If you have any feedback on these activities, please respond to Woodside at: [Feedback@woodside.com.au](mailto:Feedback@woodside.com.au) or 1800 442 977.

Your feedback and our response will be included in our Environment Plan which will be submitted to 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. Please provide your views by **17 March 2023**.

You can also subscribe on our website to receive Consultation Information Sheets for proposed activities: [www.woodside.com/sustainability/consultation-activities](http://www.woodside.com/sustainability/consultation-activities).

**3.3 Email sent to the Conservation Council of WA (CCWA) (16 February 2023)**

Dear Conservation Council of WA

Woodside is providing this update on the progressive decommissioning of the Griffin and Stybarrow fields, previously operated by BHP Petroleum Pty Ltd (BHP).

We are providing this information to ensure relevant persons are informed about the status of proposed activities, as there have been changes to activity scope and supporting consultation information since consultation commenced for these decommissioning projects in 2021.

The **Griffin Field** is in Commonwealth waters in Petroleum Licence WA-10-L, 65 km northwest of Onslow and 94 km northeast of Exmouth, Western Australia and in water depths of approximately 120 m.

The **Stybarrow Field** is in Commonwealth waters in Petroleum Licence WA-32-L, approximately 53 km northwest of Exmouth, Western Australia and in water depths of approximately 810 – 850 m.

A summary of proposed activities is outlined below, and more detailed information is provided in the attached Consultation Information Sheets. The Information Sheets provide details on activities proposed to be managed under a number of Environment Plans for each Field, including a summary of potential key risks and associated management measures. The Information Sheets are also available on our [website](#).

Any feedback provided previously on proposed activities will remain current where Environment Plans are under assessment by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

Please let us know if you would like to update previous feedback or have any additional views by **17 March 2023**.

**Activity:**

	<b>Griffin Field Decommissioning Activities</b>	<b>Stybarrow Field Decommissioning Activities</b>
<b>Summary:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Removal of subsea equipment (wellheads, trees, distribution skids, risers, flexible flowlines, rigid flowlines, umbilicals, and the pipeline end module (PLEM)).</li> <li>Removal of the Riser Turret Mooring (RTM) and its moorings. Depending on the vessel utilised, recovery of the RTM may require sections of it to be towed to shallower water out of the title.</li> <li>Removal of an exploration wellhead (Ramillies-1 in neighbouring petroleum title WA-12-L).</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>Pre-execution activities associated with the well P&amp;A, such as barrier testing and removal of marine growth.</li> <li>Well P&amp;A of the 10 productions/injection wells by placing cement plugs in the wells to permanently prevent hydrocarbon release.</li> <li>Cutting and removal of the wellhead and subsea tree assembly.</li> <li>Unblocking of the H4 flowline, if deemed feasible.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Removal of subsea equipment (wellheads, trees, manifolds,</li> </ul>

	<ul style="list-style-type: none"> <li>Ongoing field management activities.</li> <li>Pigging and subsequent removal of the 26 km of Griffin Gas Export Pipeline (GEP) within Commonwealth waters.</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>Proposal to leave in situ 12 RTM drag anchors (buried), 6 concrete gravity bases and 5 piled foundations for the PLEM and 4 distribution skids.</li> </ul>	<ul style="list-style-type: none"> <li>risers, flexible flowlines, and umbilicals).</li> <li>Removal of the Disconnectable Turret Mooring (DTM) and its moorings. Recovery of the DTM may require it to be towed to shallower water outside of permit area WA-32-L to support the DTM removal from the marine environment.</li> <li>Ongoing field management activities (equipment monitoring and inspection).</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>Proposed leave in situ of the 9 DTM drag anchors (buried), nine suction piles for the riser holdbacks and the historical exploration wellhead, Eskdale-1, which was unable to be removed following its drilling and abandonment in 2003.</li> </ul>
<b>Location:</b>	<ul style="list-style-type: none"> <li>94 km northeast of Exmouth, Western Australia.</li> </ul>	<ul style="list-style-type: none"> <li>53 km northwest of Exmouth, Western Australia.</li> </ul>
<b>Approx. Water Depth (m):</b>	<ul style="list-style-type: none"> <li>Approx. 120 m.</li> </ul>	<ul style="list-style-type: none"> <li>Approx. 810 – 850 m.</li> </ul>
<b>Schedule:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Earliest proposed removal activity start is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>Facilities removal must be completed no later than 31 December 2024, pursuant to General Direction 832.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>Earliest P&amp;A start is estimated to be Q4 2023, subject to approvals, MODU and vessel availability and weather constraints.</li> <li>P&amp;A activities must be completed no later than 30 September 2024, pursuant to General Direction 833.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Earliest facilities and DTM removal is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>Equipment removal must be completed no later than 31 March 2025, pursuant to General Direction 833.</li> </ul>

<p><b>Duration:</b></p>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Removal activities are anticipated to take approximately 6 months to complete and GEP removal activities are anticipated to take approximately 2 months to complete.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>P&amp;A activities are anticipated to take approximately 6 – 9 months.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Removal activities are anticipated to take approximately 4-6 months to complete and DTM removal activities are anticipated to take approximately 1 month to complete.</li> </ul>
<p><b>Exclusionary/Cautious Zone:</b></p>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the equipment.</li> <li>A temporary 500 m exclusion zone will apply around the project vessels during removal and potential tow activities.</li> </ul>	<p><b>P&amp;A Activities</b></p> <ul style="list-style-type: none"> <li>The Operational Area includes the area encompassing an approximate 3,000 m radius around each of the four drill centers within WA-32-L.</li> <li>A temporary 500 m exclusion zone will apply around the MODU and the associated project vessels during P&amp;A activities.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the subsea infrastructure and wellheads.</li> <li>The DTM has an existing 1200 m radius petroleum safety zone which will continue to be in place until it is removed.</li> <li>A temporary 500 m exclusion zone will apply around the CSV and the associated project vessels during removal activities.</li> <li>A temporary 500 m exclusion zone will apply around the HLV and the associated project vessels during the removal of the DTM.</li> </ul>
<p><b>Vessels:</b></p>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Construction support vessel (CSV) and Heavy Lift Vessel</li> </ul>	<p><b>P&amp;A activities</b></p> <ul style="list-style-type: none"> <li>Semi-Submersible Mobile Offshore Drilling Unit (MODU)</li> </ul>

	<ul style="list-style-type: none"> <li>(HLV) for recovery and pipeline removal activities.</li> <li>An anchor handling tug (AHT) to support the towing of the RTM to sheltered water.</li> </ul>	<ul style="list-style-type: none"> <li>The MODU will be supported by 2 to 3 offshore support vessels.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>CSV and HLV for recovery and activities.</li> <li>AHTs to support the towing of the DTM to the shallower water location (if required).</li> </ul>
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**Feedback:**

If you have any feedback on these activities, please respond to Woodside at: [Feedback@woodside.com.au](mailto:Feedback@woodside.com.au) or 1800 442 977.

Your feedback and our response will be included in our Environment Plan which will be submitted to 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.

Please provide your views by **17 March 2023**.

You can also subscribe on our website to receive Consultation Information Sheets for proposed activities: [www.woodside.com/sustainability/consultation-activities](http://www.woodside.com/sustainability/consultation-activities).

**3.4 Email sent to the Australian Conservation Foundation (ACF) (16 February 2023)**

Dear Australian Conservation Foundation

Woodside is providing this update on the progressive decommissioning of the Griffin and Stybarrow fields, previously operated by BHP Petroleum Pty Ltd (BHP).

We are providing this information to ensure relevant persons are informed about the status of proposed activities, as there have been changes to activity scope and supporting consultation information since consultation commenced for these decommissioning projects in 2021.

The **Griffin Field** is in Commonwealth waters in Petroleum Licence WA-10-L, 65 km northwest of Onslow and 94 km northeast of Exmouth, Western Australia and in water depths of approximately 120 m.

The **Stybarrow Field** is in Commonwealth waters in Petroleum Licence WA-32-L, approximately 53 km northwest of Exmouth, Western Australia and in water depths of approximately 810 – 850 m.

A summary of proposed activities is outlined below, and more detailed information is provided in the attached Consultation Information Sheets. The Information Sheets provide details on activities proposed to be managed under a number of Environment Plans for each Field, including a summary of potential key risks and associated management measures. The Information Sheets are also available on our [website](#).

Any feedback provided previously on proposed activities will remain current where Environment Plans are under assessment by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

Please let us know if you would like to update previous feedback or have any additional views by **17 March 2023**.

**Activity:**

	<b>Griffin Field Decommissioning Activities</b>	<b>Stybarrow Field Decommissioning Activities</b>
<b>Summary:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, distribution skids, risers, flexible flowlines, rigid flowlines, umbilicals, and the pipeline end module (PLEM)).</li> <li>• Removal of the Riser Turret Mooring (RTM) and its moorings. Depending on the vessel utilised, recovery of the RTM may require sections of it to be towed to shallower water out of the title.</li> <li>• Removal of an exploration wellhead (Ramillies-1 in neighbouring petroleum title WA-12-L).</li> <li>• Ongoing field management activities.</li> <li>• Pigging and subsequent removal of the 26 km of Griffin Gas Export Pipeline</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>• Pre-execution activities associated with the well P&amp;A, such as barrier testing and removal of marine growth.</li> <li>• Well P&amp;A of the 10 productions/injection wells by placing cement plugs in the wells to permanently prevent hydrocarbon release.</li> <li>• Cutting and removal of the wellhead and subsea tree assembly.</li> <li>• Unblocking of the H4 flowline, if deemed feasible.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, manifolds, risers, flexible flowlines, and umbilicals).</li> <li>• Removal of the Disconnectable Turret Mooring (DTM) and its moorings. Recovery of the</li> </ul>



	<p>(GEP) within Commonwealth waters.</p> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>• Proposal to leave in situ 12 RTM drag anchors (buried), 6 concrete gravity bases and 5 piled foundations for the PLEM and 4 distribution skids.</li> </ul>	<p>DTM may require it to be towed to shallower water outside of permit area WA-32-L to support the DTM removal from the marine environment.</p> <ul style="list-style-type: none"> <li>• Ongoing field management activities (equipment monitoring and inspection).</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>• Proposed leave in situ of the 9 DTM drag anchors (buried), nine suction piles for the riser holdbacks and the historical exploration wellhead, Eskdale-1, which was unable to be removed following its drilling and abandonment in 2003.</li> </ul>
<b>Location:</b>	<ul style="list-style-type: none"> <li>• 94 km northeast of Exmouth, Western Australia.</li> </ul>	<ul style="list-style-type: none"> <li>• 53 km northwest of Exmouth, Western Australia.</li> </ul>
<b>Approx. Water Depth (m):</b>	<ul style="list-style-type: none"> <li>• Approx. 120 m.</li> </ul>	<ul style="list-style-type: none"> <li>• Approx. 810 – 850 m.</li> </ul>
<b>Schedule:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Earliest proposed removal activity start is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>• Facilities removal must be completed no later than 31 December 2024, pursuant to General Direction 832.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>• Earliest P&amp;A start is estimated to be Q4 2023, subject to approvals, MODU and vessel availability and weather constraints.</li> <li>• P&amp;A activities must be completed no later than 30 September 2024, pursuant to General Direction 833.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Earliest facilities and DTM removal is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>• Equipment removal must be completed no later than 31 March 2025, pursuant to General Direction 833.</li> </ul>
<b>Duration:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal activities are anticipated to take approximately 6 months to complete and GEP removal</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>• P&amp;A activities are anticipated to take approximately 6 – 9 months.</li> </ul>

	<p>activities are anticipated to take approximately 2 months to complete.</p>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Removal activities are anticipated to take approximately 4-6 months to complete and DTM removal activities are anticipated to take approximately 1 month to complete.</li> </ul>
<p><b>Exclusionary/Cautious Zone:</b></p>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the equipment.</li> <li>A temporary 500 m exclusion zone will apply around the project vessels during removal and potential tow activities.</li> </ul>	<p><b>P&amp;A Activities</b></p> <ul style="list-style-type: none"> <li>The Operational Area includes the area encompassing an approximate 3,000 m radius around each of the four drill centers within WA-32-L.</li> <li>A temporary 500 m exclusion zone will apply around the MODU and the associated project vessels during P&amp;A activities.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the subsea infrastructure and wellheads.</li> <li>The DTM has an existing 1200 m radius petroleum safety zone which will continue to be in place until it is removed.</li> <li>A temporary 500 m exclusion zone will apply around the CSV and the associated project vessels during removal activities.</li> <li>A temporary 500 m exclusion zone will apply around the HLV and the associated project vessels during the removal of the DTM.</li> </ul>
<p><b>Vessels:</b></p>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Construction support vessel (CSV) and Heavy Lift Vessel (HLV) for recovery and pipeline removal activities.</li> <li>An anchor handling tug (AHT) to support the towing</li> </ul>	<p><b>P&amp;A activities</b></p> <ul style="list-style-type: none"> <li>Semi-Submersible Mobile Offshore Drilling Unit (MODU)</li> <li>The MODU will be supported by 2 to 3 offshore support vessels.</li> </ul>

	of the RTM to sheltered water.	<b>Removal Activities</b> <ul style="list-style-type: none"><li>• CSV and HLV for recovery and activities.</li><li>• AHTs to support the towing of the DTM to the shallower water location (if required).</li></ul>
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**Feedback:**

If you have any feedback on these activities, please respond to Woodside at: [Feedback@woodside.com.au](mailto:Feedback@woodside.com.au) or 1800 442 977.

Your feedback and our response will be included in our Environment Plan which will be submitted to 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.

Please provide your views by **17 March 2023**.

You can also subscribe on our website to receive Consultation Information Sheets for proposed activities: [www.woodside.com/sustainability/consultation-activities](http://www.woodside.com/sustainability/consultation-activities).

**3.5 Email sent to the WAFIC (16 February 2023)**

Dear [REDACTED]

Woodside is providing this update on the progressive decommissioning of the Griffin and Stybarrow fields, previously operated by BHP Petroleum Pty Ltd (BHP).

We are providing this information to ensure relevant persons are informed about the status of proposed activities, as there have been changes to activity scope and supporting consultation information since consultation commenced for these decommissioning projects in 2021.

The **Griffin Field** is in Commonwealth waters in Petroleum Licence WA-10-L, 65 km northwest of Onslow and 94 km northeast of Exmouth, Western Australia and in water depths of approximately 120 m.

The **Stybarrow Field** is in Commonwealth waters in Petroleum Licence WA-32-L, approximately 53 km northwest of Exmouth, Western Australia and in water depths of approximately 810 – 850 m.

**Operational Areas and Exclusion Zones will apply around a range of vessels that will support plugging and abandonment and infrastructure recovery and removal activities, which are outlined in the activity summaries below.**

A summary of proposed activities is outlined below and more detailed information is provided in the attached Consultation Information Sheets, including a summary of potential key risks and associated management measures. The Information Sheets are also available on our [website](#).

Fisheries have been identified as being relevant based on fishing licence overlap with the activity area, assessment of government fishing effort data (including Fishcube and AFMA) from recent years, fishing methods and water depth.

Any feedback provided previously on proposed activities will remain current where Environment Plans are under assessment by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA). Please let us know if you would like to update previous feedback or have any additional views by 17 March 2023.

**Activity:**

	<b>Griffin Field Decommissioning Activities</b>	<b>Stybarrow Field Decommissioning Activities</b>
<b>Summary:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, distribution skids, risers, flexible flowlines, rigid flowlines, umbilicals, and the pipeline end module (PLEM)).</li> <li>• Removal of the Riser Turret Mooring (RTM) and its moorings. Depending on the vessel utilised, recovery of the RTM may require sections of it to be towed to shallower water out of the title.</li> <li>• Removal of an exploration wellhead (Ramillies-1 in neighbouring petroleum title WA-12-L).</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>• Pre-execution activities associated with the well P&amp;A, such as barrier testing and removal of marine growth.</li> <li>• Well P&amp;A of the 10 productions/injection wells by placing cement plugs in the wells to permanently prevent hydrocarbon release.</li> <li>• Cutting and removal of the wellhead and subsea tree assembly.</li> <li>• Unblocking of the H4 flowline, if deemed feasible.</li> </ul> <p><b>Removal Activities</b></p>

	<ul style="list-style-type: none"> <li>Ongoing field management activities.</li> <li>Pigging and subsequent removal of the 26 km of Griffin Gas Export Pipeline (GEP) within Commonwealth waters.</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>Proposal to leave in situ 12 RTM drag anchors (buried), 6 concrete gravity bases and 5 piled foundations for the PLEM and 4 distribution skids.</li> </ul>	<ul style="list-style-type: none"> <li>Removal of subsea equipment (wellheads, trees, manifolds, risers, flexible flowlines, and umbilicals).</li> <li>Removal of the Disconnectable Turret Mooring (DTM) and its moorings. Recovery of the DTM may require it to be towed to shallower water outside of permit area WA-32-L to support the DTM removal from the marine environment.</li> <li>Ongoing field management activities (equipment monitoring and inspection).</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>Proposed leave in situ of the 9 DTM drag anchors (buried), nine suction piles for the riser holdbacks and the historical exploration wellhead, Eskdale-1, which was unable to be removed following its drilling and abandonment in 2003.</li> </ul>
<b>Location:</b>	<ul style="list-style-type: none"> <li>94 km northeast of Exmouth, Western Australia.</li> </ul>	<ul style="list-style-type: none"> <li>53 km northwest of Exmouth, Western Australia.</li> </ul>
<b>Approx. Water Depth (m):</b>	<ul style="list-style-type: none"> <li>Approx. 120 m.</li> </ul>	<ul style="list-style-type: none"> <li>Approx. 810 – 850 m.</li> </ul>
<b>Schedule:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Earliest proposed removal activity start is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>Facilities removal must be completed no later than 31 December 2024, pursuant to General Direction 832.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>Earliest P&amp;A start is estimated to be Q4 2023, subject to approvals, MODU and vessel availability and weather constraints.</li> <li>P&amp;A activities must be completed no later than 30 September 2024, pursuant to General Direction 833.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Earliest facilities and DTM removal is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>Equipment removal must be completed no later than 31</li> </ul>

		<p>March 2025, pursuant to General Direction 833.</p>
<p><b>Duration:</b></p>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Removal activities are anticipated to take approximately 6 months to complete and GEP removal activities are anticipated to take approximately 2 months to complete.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>P&amp;A activities are anticipated to take approximately 6 – 9 months.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Removal activities are anticipated to take approximately 4-6 months to complete and DTM removal activities are anticipated to take approximately 1 month to complete.</li> </ul>
<p><b>Exclusionary/Cautious Zone:</b></p>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the equipment.</li> <li>A temporary 500 m exclusion zone will apply around the project vessels during removal and potential tow activities.</li> </ul>	<p><b>P&amp;A Activities</b></p> <ul style="list-style-type: none"> <li>The Operational Area includes the area encompassing an approximate 3,000 m radius around each of the four drill centres within WA-32-L.</li> <li>A temporary 500 m exclusion zone will apply around the MODU and the associated project vessels during P&amp;A activities.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the subsea infrastructure and wellheads.</li> <li>The DTM has an existing 1200 m radius petroleum safety zone which will continue to be in place until it is removed.</li> <li>A temporary 500 m exclusion zone will apply around the CSV and the associated project vessels during removal activities.</li> <li>A temporary 500 m exclusion zone will apply around the HLW and the associated project vessels during the removal of the DTM.</li> </ul>

<b>Vessels:</b>	<b>Removal Activities</b>	<b>P&amp;A activities</b>
	<ul style="list-style-type: none"> <li>• Construction support vessel (CSV) and Heavy Lift Vessel (HLV) for recovery and pipeline removal activities.</li> <li>• An anchor handling tug (AHT) to support the towing of the RTM to sheltered water.</li> </ul>	<ul style="list-style-type: none"> <li>• Semi-Submersible Mobile Offshore Drilling Unit (MODU)</li> <li>• The MODU will be supported by 2 to 3 offshore support vessels.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• CSV and HLV for recovery and activities.</li> <li>• AHTs to support the towing of the DTM to the shallower water location (if required).</li> </ul>

**Commercial fishing implications:**

**Commonwealth-managed fisheries**

We note there are three active overlapping Commonwealth managed fisheries in the environment that may be affected (EMBA), listed below, of which the Western Deepwater Trawl Fishery may have been active in the Stybarrow Operational Area in recent years. We have consulted licence holders in this fishery.

- Western Tuna and Billfish
- North West Slope Trawl
- Western Deepwater Trawl

Woodside has also provided information to the representative organisations of other identified Commonwealth managed fisheries 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.

**State-managed fisheries**

We note that there are 20 overlapping State managed fisheries in the EMBA listed below.

- Exmouth Gulf Beach Seine and Mesh Net Managed Fish
- Exmouth Gulf Prawn Managed Fishery
- Gascoyne Demersal Scalefish Managed Fishery
- Mackerel Managed Fishery (Area 2)
- Mackerel Managed Fishery (Area 3)
- Marine Aquarium Fish Managed Fishery

- Nickol Bay Prawn Managed Fishery
- Onslow Prawn Managed Fishery
- Open Access in the North Coast, Gascoyne Coast and
- Pilbara Crab Managed Fishery
- Pilbara Fish Trawl (Interim) Managed Fishery
- Pilbara Line Fishery (Condition)
- Pilbara Trap Managed Fishery
- Shark Bay Crab Managed Fishery
- Shark Bay Prawn Managed Fishery
- Shark Bay Scallop Managed Fishery
- West Australian Sea Cucumber Fishery
- West Coast Deep Sea Crustacean Managed Fishery
- West Coast Demersal Scalefish (Interim) Managed Fishery
- West Coast Rock Lobster Managed Fishery

Of these State-managed fisheries, the following may have been active in the Operational Area in recent years.

<b>Griffin Field Decommissioning</b>	<b>Stybarrow Field Decommissioning</b>
<ul style="list-style-type: none"> <li>• Exmouth Gulf Prawn Managed Fishery</li> <li>• Mackerel Managed Fishery (Area 2)</li> <li>• Marine Aquarium Fish Managed Fishery</li> <li>• Onslow Prawn Managed Fishery</li> <li>• Pilbara Line Fishery (Condition)</li> <li>• Pilbara Trap Managed Fishery</li> <li>• Tour Operators</li> <li>• West Coast Deep Sea Crustacean Managed Fishery</li> </ul>	<ul style="list-style-type: none"> <li>• Tour Operators</li> <li>• West Coast Deep Sea Crustacean Managed Fishery</li> </ul>

**Feedback:**

If you have any feedback on these activities, please respond to Woodside at: [Feedback@woodside.com.au](mailto:Feedback@woodside.com.au) or 1800 442 977.

Your feedback and our response will be included in our Environment Plan which will be submitted to 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. Please provide your views by **17 March 2023**.

You can also subscribe on our website to receive Consultation Information Sheets for proposed activities: [www.woodside.com/sustainability/consultation-activities](http://www.woodside.com/sustainability/consultation-activities).

### **3.6 Email sent to the AMSA and AHO (16 February 2023)**

Dear AMSA and AHO

Woodside is providing this update on the progressive decommissioning of the Griffin and Stybarrow fields, previously operated by BHP Petroleum Pty Ltd (BHP).

We are providing this information to ensure relevant persons are informed about the status of proposed activities, as there have been changes to activity scope and supporting consultation information since consultation commenced for these decommissioning projects in 2021.

The **Griffin Field** is in Commonwealth waters in Petroleum Licence WA-10-L, 65 km northwest of Onslow and 94 km northeast of Exmouth, Western Australia and in water depths of approximately 120 m.

The **Stybarrow Field** is in Commonwealth waters in Petroleum Licence WA-32-L, approximately 53 km northwest of Exmouth, Western Australia and in water depths of approximately 810 – 850 m.

A summary of proposed activities is outlined below, and more detailed information is provided in the attached Consultation Information Sheets. The Information Sheets provide details on activities proposed to be managed under a number of Environment Plans for each Field, including a summary of potential key risks and associated management measures. The Information Sheets are also available on our [website](#).

Any feedback provided previously on proposed activities will remain current where Environment Plans are under assessment by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

Please let us know if you would like to update previous feedback or have any additional views by **17 March 2023**.

**Activity:**

	<b>Griffin Field Decommissioning Activities</b>	<b>Stybarrow Field Decommissioning Activities</b>
<b>Summary:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, distribution skids, risers, flexible flowlines, rigid flowlines, umbilicals, and the pipeline end module (PLEM)).</li> <li>• Removal of the Riser Turret Mooring (RTM) and its moorings. Depending on the vessel utilised, recovery of the RTM may require sections of it to be towed to shallower water out of the title.</li> <li>• Removal of an exploration wellhead (Ramillies-1 in neighbouring petroleum title WA-12-L).</li> <li>• Ongoing field management activities.</li> <li>• Pigging and subsequent removal of the 26 km of Griffin Gas Export Pipeline (GEP) within Commonwealth waters.</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>• Proposal to leave in situ 12 RTM drag anchors (buried), 6 concrete gravity bases and 5 piled foundations for the PLEM and 4 distribution skids.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>• Pre-execution activities associated with the well P&amp;A, such as barrier testing and removal of marine growth.</li> <li>• Well P&amp;A of the 10 productions/injection wells by placing cement plugs in the wells to permanently prevent hydrocarbon release.</li> <li>• Cutting and removal of the wellhead and subsea tree assembly.</li> <li>• Unblocking of the H4 flowline, if deemed feasible.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, manifolds, risers, flexible flowlines, and umbilicals).</li> <li>• Removal of the Disconnectable Turret Mooring (DTM) and its moorings. Recovery of the DTM may require it to be towed to shallower water outside of permit area WA-32-L to support the DTM removal from the marine environment.</li> <li>• Ongoing field management activities (equipment monitoring and inspection).</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>• Proposed leave in situ of the 9 DTM drag anchors (buried), nine suction piles for the riser holdbacks and the historical exploration wellhead, Eskdale-1, which was unable to be removed following its drilling and abandonment in 2003.</li> </ul>
<b>Location:</b>	<ul style="list-style-type: none"> <li>• 94 km northeast of Exmouth, Western Australia.</li> </ul>	<ul style="list-style-type: none"> <li>• 53 km northwest of Exmouth, Western Australia.</li> </ul>
<b>Approx. Water Depth (m):</b>	<ul style="list-style-type: none"> <li>• Approx. 120 m.</li> </ul>	<ul style="list-style-type: none"> <li>• Approx. 810 – 850 m.</li> </ul>

<p><b>Schedule:</b></p>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Earliest proposed removal activity start is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>• Facilities removal must be completed no later than 31 December 2024, pursuant to General Direction 832.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>• Earliest P&amp;A start is estimated to be Q4 2023, subject to approvals, MODU and vessel availability and weather constraints.</li> <li>• P&amp;A activities must be completed no later than 30 September 2024, pursuant to General Direction 833.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Earliest facilities and DTM removal is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>• Equipment removal must be completed no later than 31 March 2025, pursuant to General Direction 833.</li> </ul>
<p><b>Duration:</b></p>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal activities are anticipated to take approximately 6 months to complete and GEP removal activities are anticipated to take approximately 2 months to complete.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>• P&amp;A activities are anticipated to take approximately 6 – 9 months.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal activities are anticipated to take approximately 4-6 months to complete and DTM removal activities are anticipated to take approximately 1 month to complete.</li> </ul>
<p><b>Exclusionary/Cautious Zone:</b></p>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the equipment.</li> <li>• A temporary 500 m exclusion zone will apply around the project vessels during removal and potential tow activities.</li> </ul>	<p><b>P&amp;A Activities</b></p> <ul style="list-style-type: none"> <li>• The Operational Area includes the area encompassing an approximate 3,000 m radius around each of the four drill centres within WA-32-L.</li> <li>• A temporary 500 m exclusion zone will apply around the MODU and the associated project vessels during P&amp;A activities.</li> </ul>

		<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the subsea infrastructure and wellheads.</li> <li>• The DTM has an existing 1200 m radius petroleum safety zone which will continue to be in place until it is removed.</li> <li>• A temporary 500 m exclusion zone will apply around the CSV and the associated project vessels during removal activities.</li> <li>• A temporary 500 m exclusion zone will apply around the HLV and the associated project vessels during the removal of the DTM.</li> </ul>
<p><b>Vessels:</b></p>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Construction support vessel (CSV) and Heavy Lift Vessel (HLV) for recovery and pipeline removal activities.</li> <li>• An anchor handling tug (AHT) to support the towing of the RTM to sheltered water.</li> </ul>	<p><b>P&amp;A activities</b></p> <ul style="list-style-type: none"> <li>• Semi-Submersible Mobile Offshore Drilling Unit (MODU)</li> <li>• The MODU will be supported by 2 to 3 offshore support vessels.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• CSV and HLV for recovery and activities.</li> <li>• AHTs to support the towing of the DTM to the shallower water location (if required).</li> </ul>

**Feedback:**

If you have any feedback on these activities, please respond to Woodside at: [Feedback@woodside.com.au](mailto:Feedback@woodside.com.au) or 1800 442 977.

Your feedback and our response will be included in our Environment Plan which will be submitted to 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.

Please provide your views by **17 March 2023**.

You can also subscribe on our website to receive Consultation Information Sheets for proposed activities: [www.woodside.com/sustainability/consultation-activities](http://www.woodside.com/sustainability/consultation-activities).

### **3.7 Email sent to the Department of Defence (DoD) (16 February 2023)**

Dear Department of Defence

Woodside is providing this update on the progressive decommissioning of the Griffin and Stybarrow fields, previously operated by BHP Petroleum Pty Ltd (BHP).

We are providing this information to ensure relevant persons are informed about the status of proposed activities, as there have been changes to activity scope and supporting consultation information since consultation commenced for these decommissioning projects in 2021.

The **Griffin Field** is in Commonwealth waters in Petroleum Licence WA-10-L, 65 km northwest of Onslow and 94 km northeast of Exmouth, Western Australia and in water depths of approximately 120 m.

The **Stybarrow Field** is in Commonwealth waters in Petroleum Licence WA-32-L, approximately 53 km northwest of Exmouth, Western Australia and in water depths of approximately 810 – 850 m.

A summary of proposed activities is outlined below, and more detailed information is provided in the attached Consultation Information Sheets. The Information Sheets provide details on activities proposed to be managed under a number of Environment Plans for each Field, including a summary of potential key risks and associated management measures. The Information Sheets are also available on our [website](#).

Any feedback provided previously on proposed activities will remain current where Environment Plans are under assessment by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

Please let us know if you would like to update previous feedback or have any additional views by **17 March 2023**.

**Activity:**

	<b>Griffin Field Decommissioning Activities</b>	<b>Stybarrow Field Decommissioning Activities</b>
<b>Summary:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, distribution skids, risers, flexible flowlines, rigid flowlines, umbilicals, and the pipeline end module (PLEM)).</li> <li>• Removal of the Riser Turret Mooring (RTM) and its moorings. Depending on the vessel utilised, recovery of the RTM may require sections of it to be towed to shallower water out of the title.</li> <li>• Removal of an exploration wellhead (Ramillies-1 in neighbouring petroleum title WA-12-L).</li> <li>• Ongoing field management activities.</li> <li>• Pigging and subsequent removal of the 26 km of Griffin Gas Export Pipeline (GEP) within Commonwealth waters.</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>• Proposal to leave in situ 12 RTM drag anchors (buried), 6 concrete gravity bases and 5 piled foundations for the PLEM and 4 distribution skids.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>• Pre-execution activities associated with the well P&amp;A, such as barrier testing and removal of marine growth.</li> <li>• Well P&amp;A of the 10 productions/injection wells by placing cement plugs in the wells to permanently prevent hydrocarbon release.</li> <li>• Cutting and removal of the wellhead and subsea tree assembly.</li> <li>• Unblocking of the H4 flowline, if deemed feasible.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, manifolds, risers, flexible flowlines, and umbilicals).</li> <li>• Removal of the Disconnectable Turret Mooring (DTM) and its moorings. Recovery of the DTM may require it to be towed to shallower water outside of permit area WA-32-L to support the DTM removal from the marine environment.</li> <li>• Ongoing field management activities (equipment monitoring and inspection).</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>• Proposed leave in situ of the 9 DTM drag anchors (buried), nine suction piles for the riser holdbacks and the historical exploration wellhead, Eskdale-1, which was unable to be removed following its drilling and abandonment in 2003.</li> </ul>
<b>Location:</b>	<ul style="list-style-type: none"> <li>• 94 km northeast of Exmouth, Western Australia.</li> </ul>	<ul style="list-style-type: none"> <li>• 53 km northwest of Exmouth, Western Australia.</li> </ul>
<b>Approx. Water Depth (m):</b>	<ul style="list-style-type: none"> <li>• Approx. 120 m.</li> </ul>	<ul style="list-style-type: none"> <li>• Approx. 810 – 850 m.</li> </ul>

<p><b>Schedule:</b></p>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Earliest proposed removal activity start is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>• Facilities removal must be completed no later than 31 December 2024, pursuant to General Direction 832.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>• Earliest P&amp;A start is estimated to be Q4 2023, subject to approvals, MODU and vessel availability and weather constraints.</li> <li>• P&amp;A activities must be completed no later than 30 September 2024, pursuant to General Direction 833.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Earliest facilities and DTM removal is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>• Equipment removal must be completed no later than 31 March 2025, pursuant to General Direction 833.</li> </ul>
<p><b>Duration:</b></p>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal activities are anticipated to take approximately 6 months to complete and GEP removal activities are anticipated to take approximately 2 months to complete.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>• P&amp;A activities are anticipated to take approximately 6 – 9 months.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal activities are anticipated to take approximately 4-6 months to complete and DTM removal activities are anticipated to take approximately 1 month to complete.</li> </ul>
<p><b>Exclusionary/Cautionary Zone:</b></p>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the equipment.</li> <li>• A temporary 500 m exclusion zone will apply around the project vessels during removal and potential tow activities.</li> </ul>	<p><b>P&amp;A Activities</b></p> <ul style="list-style-type: none"> <li>• The Operational Area includes the area encompassing an approximate 3,000 m radius around each of the four drill centres within WA-32-L.</li> <li>• A temporary 500 m exclusion zone will apply around the MODU and the associated project vessels during P&amp;A activities.</li> </ul>

		<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the subsea infrastructure and wellheads.</li> <li>• The DTM has an existing 1200 m radius petroleum safety zone which will continue to be in place until it is removed.</li> <li>• A temporary 500 m exclusion zone will apply around the CSV and the associated project vessels during removal activities.</li> <li>• A temporary 500 m exclusion zone will apply around the HLV and the associated project vessels during the removal of the DTM.</li> </ul>
<p><b>Vessels:</b></p>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Construction support vessel (CSV) and Heavy Lift Vessel (HLV) for recovery and pipeline removal activities.</li> <li>• An anchor handling tug (AHT) to support the towing of the RTM to sheltered water.</li> </ul>	<p><b>P&amp;A activities</b></p> <ul style="list-style-type: none"> <li>• Semi-Submersible Mobile Offshore Drilling Unit (MODU)</li> <li>• The MODU will be supported by 2 to 3 offshore support vessels.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• CSV and HLV for recovery and activities.</li> <li>• AHTs to support the towing of the DTM to the shallower water location (if required).</li> </ul>

**Feedback:**

If you have any feedback on these activities, please respond to Woodside at: [Feedback@woodside.com.au](mailto:Feedback@woodside.com.au) or 1800 442 977.

Your feedback and our response will be included in our Environment Plan which will be submitted to 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.



Please provide your views by **17 March 2023**.

You can also subscribe on our website to receive Consultation Information Sheets for proposed activities: [www.woodside.com/sustainability/consultation-activities](http://www.woodside.com/sustainability/consultation-activities).

### **3.8 Email sent to the CFA (16 February 2023)**

Dear [REDACTED]

Woodside is providing this update on the progressive decommissioning of the Griffin and Stybarrow fields, previously operated by BHP Petroleum Pty Ltd (BHP).

We are providing this information to ensure relevant persons are informed about the status of proposed activities, as there have been changes to activity scope and supporting consultation information since consultation commenced for these decommissioning projects in 2021.

The **Griffin Field** is in Commonwealth waters in Petroleum Licence WA-10-L, 65 km northwest of Onslow and 94 km northeast of Exmouth, Western Australia and in water depths of approximately 120 m.

The **Stybarrow Field** is in Commonwealth waters in Petroleum Licence WA-32-L, approximately 53 km northwest of Exmouth, Western Australia and in water depths of approximately 810 – 850 m.

**Operational Areas and Exclusion Zones will apply around a range of vessels that will support plugging and abandonment and infrastructure recovery and removal activities, which are outlined in the activity summaries below.**

A summary of proposed activities is outlined below and more detailed information is provided in the attached Consultation Information Sheets, including a summary of potential key risks and associated management measures. The Information Sheets are also available on our [website](#).

Fisheries have been identified as being relevant based on fishing licence overlap with the activity area, assessment of government fishing effort data (including Fishcube and AFMA) from recent years, fishing methods and water depth.

Any feedback provided previously on proposed activities will remain current where Environment Plans are under assessment by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA). Please let us know if you would like to update previous feedback or have any additional views by 17 March 2023.

**Activity:**

	<b>Griffin Field Decommissioning Activities</b>	<b>Stybarrow Field Decommissioning Activities</b>
<b>Summary:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, distribution skids, risers, flexible flowlines, rigid flowlines, umbilicals, and the pipeline end module (PLEM)).</li> <li>• Removal of the Riser Turret Mooring (RTM) and its moorings. Depending on the vessel utilised, recovery of the RTM may require sections of it to be towed to shallower water out of the title.</li> <li>• Removal of an exploration wellhead (Ramillies-1 in neighbouring petroleum title WA-12-L).</li> <li>• Ongoing field management activities.</li> <li>• Pigging and subsequent removal of the 26 km of Griffin Gas Export Pipeline (GEP) within Commonwealth waters.</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>• Proposal to leave in situ 12 RTM drag anchors (buried), 6 concrete gravity bases and 5 piled foundations for the PLEM and 4 distribution skids.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>• Pre-execution activities associated with the well P&amp;A, such as barrier testing and removal of marine growth.</li> <li>• Well P&amp;A of the 10 productions/injection wells by placing cement plugs in the wells to permanently prevent hydrocarbon release.</li> <li>• Cutting and removal of the wellhead and subsea tree assembly.</li> <li>• Unblocking of the H4 flowline, if deemed feasible.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, manifolds, risers, flexible flowlines, and umbilicals).</li> <li>• Removal of the Disconnectable Turret Mooring (DTM) and its moorings. Recovery of the DTM may require it to be towed to shallower water outside of permit area WA-32-L to support the DTM removal from the marine environment.</li> <li>• Ongoing field management activities (equipment monitoring and inspection).</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>• Proposed leave in situ of the 9 DTM drag anchors (buried), nine suction piles for the riser holdbacks and the historical exploration wellhead, Eskdale-1, which was unable to be removed following its drilling and abandonment in 2003.</li> </ul>
<b>Location:</b>	<ul style="list-style-type: none"> <li>• 94 km northeast of Exmouth, Western Australia.</li> </ul>	<ul style="list-style-type: none"> <li>• 53 km northwest of Exmouth, Western Australia.</li> </ul>
<b>Approx. Water Depth (m):</b>	<ul style="list-style-type: none"> <li>• Approx. 120 m.</li> </ul>	<ul style="list-style-type: none"> <li>• Approx. 810 – 850 m.</li> </ul>

<p><b>Schedule:</b></p>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Earliest proposed removal activity start is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>• Facilities removal must be completed no later than 31 December 2024, pursuant to General Direction 832.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>• Earliest P&amp;A start is estimated to be Q4 2023, subject to approvals, MODU and vessel availability and weather constraints.</li> <li>• P&amp;A activities must be completed no later than 30 September 2024, pursuant to General Direction 833.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Earliest facilities and DTM removal is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>• Equipment removal must be completed no later than 31 March 2025, pursuant to General Direction 833.</li> </ul>
<p><b>Duration:</b></p>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal activities are anticipated to take approximately 6 months to complete and GEP removal activities are anticipated to take approximately 2 months to complete.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>• P&amp;A activities are anticipated to take approximately 6 – 9 months.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal activities are anticipated to take approximately 4-6 months to complete and DTM removal activities are anticipated to take approximately 1 month to complete.</li> </ul>
<p><b>Exclusionary/Cautious Zone:</b></p>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the equipment.</li> <li>• A temporary 500 m exclusion zone will apply around the project vessels during removal and potential tow activities.</li> </ul>	<p><b>P&amp;A Activities</b></p> <ul style="list-style-type: none"> <li>• The Operational Area includes the area encompassing an approximate 3,000 m radius around each of the four drill centres within WA-32-L.</li> <li>• A temporary 500 m exclusion zone will apply around the MODU and the associated project vessels during P&amp;A activities.</li> </ul>

		<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the subsea infrastructure and wellheads.</li> <li>• The DTM has an existing 1200 m radius petroleum safety zone which will continue to be in place until it is removed.</li> <li>• A temporary 500 m exclusion zone will apply around the CSV and the associated project vessels during removal activities.</li> <li>• A temporary 500 m exclusion zone will apply around the HLV and the associated project vessels during the removal of the DTM.</li> </ul>
<p><b>Vessels:</b></p>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Construction support vessel (CSV) and Heavy Lift Vessel (HLV) for recovery and pipeline removal activities.</li> <li>• An anchor handling tug (AHT) to support the towing of the RTM to sheltered water.</li> </ul>	<p><b>P&amp;A activities</b></p> <ul style="list-style-type: none"> <li>• Semi-Submersible Mobile Offshore Drilling Unit (MODU)</li> <li>• The MODU will be supported by 2 to 3 offshore support vessels.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• CSV and HLV for recovery and activities.</li> <li>• AHTs to support the towing of the DTM to the shallower water location (if required).</li> </ul>

**Commonwealth-managed fishery implications:**

We note there are three overlapping Commonwealth managed fisheries (listed below) in the Environments that May Be Affected (EMBAs) for the Griffin and Stybarrow decommissioning projects, of which the Western Deepwater Trawl Fishery may have been active in the Stybarrow Operational Area (see attached Information Sheets for more details).

- Western Tuna and Billfish
- North West Slope Trawl
- Western Deepwater Trawl

Woodside is consulting licence holders in these fisheries, as well as providing information to representative organisations 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.

**Feedback:**

If you have any feedback on these activities, please respond to Woodside at: [Feedback@woodside.com.au](mailto:Feedback@woodside.com.au) or 1800 442 977.

Your feedback and our response will be included in our Environment Plan which will be submitted to 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. Please provide your views by **17 March 2023**.

You can also subscribe on our website to receive Consultation Information Sheets for proposed activities: [www.woodside.com/sustainability/consultation-activities](http://www.woodside.com/sustainability/consultation-activities).

**3.9 Email sent to Tuna Australia (16 February 2023)**

Dear [REDACTED]

Woodside is providing this update on the progressive decommissioning of the Griffin and Stybarrow fields, previously operated by BHP Petroleum Pty Ltd (BHP).

We are providing this information to ensure relevant persons are informed about the status of proposed activities, as there have been changes to activity scope and supporting consultation information since consultation commenced for these decommissioning projects in 2021.

The **Griffin Field** is in Commonwealth waters in Petroleum Licence WA-10-L, 65 km northwest of Onslow and 94 km northeast of Exmouth, Western Australia and in water depths of approximately 120 m.

The Stybarrow Field is in Commonwealth waters in Petroleum Licence WA-32-L, approximately 53 km northwest of Exmouth, Western Australia and in water depths of approximately 810 – 850 m.

**Operational Areas and Exclusion Zones will apply around a range of vessels that will support plugging and abandonment and infrastructure recovery and removal activities, which are outlined in the activity summaries below.**

A summary of proposed activities is outlined below and more detailed information is provided in the attached Consultation Information Sheets, including a summary of potential key risks and associated management measures. The Information Sheets are also available on our website.

Fisheries have been identified as being relevant based on fishing licence overlap with the activity area, assessment of government fishing effort data (including Fishcube and AFMA) from recent years, fishing methods and water depth.

Any feedback provided previously on proposed activities will remain current where Environment Plans are under assessment by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA). Please let us know if you would like to update previous feedback or have any additional views by 17 March 2023.

**Activity:**

	<b>Griffin Field Decommissioning Activities</b>	<b>Stybarrow Field Decommissioning Activities</b>
<b>Summary:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, distribution skids, risers, flexible flowlines, rigid flowlines, umbilicals, and the pipeline end module (PLEM)).</li> <li>• Removal of the Riser Turret Mooring (RTM) and its moorings. Depending on the vessel utilised, recovery of the RTM may require sections of it to be towed to shallower water out of the title.</li> <li>• Removal of an exploration wellhead (Ramillies-1 in neighbouring petroleum title WA-12-L).</li> <li>• Ongoing field management activities.</li> <li>• Pigging and subsequent removal of the 26 km of Griffin Gas Export Pipeline (GEP) within Commonwealth waters.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>• Pre-execution activities associated with the well P&amp;A, such as barrier testing and removal of marine growth.</li> <li>• Well P&amp;A of the 10 productions/injection wells by placing cement plugs in the wells to permanently prevent hydrocarbon release.</li> <li>• Cutting and removal of the wellhead and subsea tree assembly.</li> <li>• Unblocking of the H4 flowline, if deemed feasible.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, manifolds, risers, flexible flowlines, and umbilicals).</li> <li>• Removal of the Disconnectable Turret Mooring (DTM) and its moorings. Recovery of the DTM may require it to be towed to shallower water outside of</li> </ul>

	<p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>Proposal to leave in situ 12 RTM drag anchors (buried), 6 concrete gravity bases and 5 piled foundations for the PLEM and 4 distribution skids.</li> </ul>	<p>permit area WA-32-L to support the DTM removal from the marine environment.</p> <ul style="list-style-type: none"> <li>Ongoing field management activities (equipment monitoring and inspection).</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>Proposed leave in situ of the 9 DTM drag anchors (buried), nine suction piles for the riser holdbacks and the historical exploration wellhead, Eskdale-1, which was unable to be removed following its drilling and abandonment in 2003.</li> </ul>
<b>Location:</b>	<ul style="list-style-type: none"> <li>94 km northeast of Exmouth, Western Australia.</li> </ul>	<ul style="list-style-type: none"> <li>53 km northwest of Exmouth, Western Australia.</li> </ul>
<b>Approx. Water Depth (m):</b>	<ul style="list-style-type: none"> <li>Approx. 120 m.</li> </ul>	<ul style="list-style-type: none"> <li>Approx. 810 – 850 m.</li> </ul>
<b>Schedule:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Earliest proposed removal activity start is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>Facilities removal must be completed no later than 31 December 2024, pursuant to General Direction 832.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>Earliest P&amp;A start is estimated to be Q4 2023, subject to approvals, MODU and vessel availability and weather constraints.</li> <li>P&amp;A activities must be completed no later than 30 September 2024, pursuant to General Direction 833.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Earliest facilities and DTM removal is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>Equipment removal must be completed no later than 31 March 2025, pursuant to General Direction 833.</li> </ul>
<b>Duration:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Removal activities are anticipated to take approximately 6 months to complete and GEP removal activities are anticipated to</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>P&amp;A activities are anticipated to take approximately 6 – 9 months.</li> </ul>

	take approximately 2 months to complete.	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Removal activities are anticipated to take approximately 4-6 months to complete and DTM removal activities are anticipated to take approximately 1 month to complete.</li> </ul>
<b>Exclusionary/Cautious Zone:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the equipment.</li> <li>A temporary 500 m exclusion zone will apply around the project vessels during removal and potential tow activities.</li> </ul>	<p><b>P&amp;A Activities</b></p> <ul style="list-style-type: none"> <li>The Operational Area includes the area encompassing an approximate 3,000 m radius around each of the four drill centres within WA-32-L.</li> <li>A temporary 500 m exclusion zone will apply around the MODU and the associated project vessels during P&amp;A activities.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the subsea infrastructure and wellheads.</li> <li>The DTM has an existing 1200 m radius petroleum safety zone which will continue to be in place until it is removed.</li> <li>A temporary 500 m exclusion zone will apply around the CSV and the associated project vessels during removal activities.</li> <li>A temporary 500 m exclusion zone will apply around the HLV and the associated project vessels during the removal of the DTM.</li> </ul>
<b>Vessels:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Construction support vessel (CSV) and Heavy Lift Vessel (HLV) for recovery and pipeline removal activities.</li> <li>An anchor handling tug (AHT) to support the towing of the RTM to sheltered water.</li> </ul>	<p><b>P&amp;A activities</b></p> <ul style="list-style-type: none"> <li>Semi-Submersible Mobile Offshore Drilling Unit (MODU)</li> <li>The MODU will be supported by 2 to 3 offshore support vessels.</li> </ul> <p><b>Removal Activities</b></p>



		<ul style="list-style-type: none"><li>• CSV and HLV for recovery and activities.</li><li>• AHTs to support the towing of the DTM to the shallower water location (if required).</li></ul>
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**Commonwealth-managed fishery implications:**

We note there are three overlapping Commonwealth managed fisheries (listed below) in the Environments that May Be Affected (EMBA)s for the Griffin and Stybarrow decommissioning projects, of which the Western Deepwater Trawl Fishery may have been active in the Stybarrow Operational Area (see attached Information Sheets for more details).

- Western Tuna and Billfish
- North West Slope Trawl
- Western Deepwater Trawl

Woodside is consulting licence holders in these fisheries, as well as providing information to representative organisations 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.

**Feedback:**

If you have any feedback on these activities, please respond to Woodside at: [Feedback@woodside.com.au](mailto:Feedback@woodside.com.au) or 1800 442 977.

Your feedback and our response will be included in our Environment Plan which will be submitted to 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. Please provide your views by **17 March 2023**.

You can also subscribe on our website to receive Consultation Information Sheets for proposed activities: [www.woodside.com/sustainability/consultation-activities](http://www.woodside.com/sustainability/consultation-activities).

**3.10 Email sent to the Australian Fisheries Management Authority (AFMA) (16 February 2023)**

Dear AFMA

Woodside is providing this update on the progressive decommissioning of the Griffin and Stybarrow fields, previously operated by BHP Petroleum Pty Ltd (BHP).

We are providing this information to ensure relevant persons are informed about the status of proposed activities, as there have been changes to activity scope and supporting consultation information since consultation commenced for these decommissioning projects in 2021.

The **Griffin Field** is in Commonwealth waters in Petroleum Licence WA-10-L, 65 km northwest of Onslow and 94 km northeast of Exmouth, Western Australia and in water depths of approximately 120 m.

The **Stybarrow Field** is in Commonwealth waters in Petroleum Licence WA-32-L, approximately 53 km northwest of Exmouth, Western Australia and in water depths of approximately 810 – 850 m.

**Operational Areas and Exclusion Zones will apply around a range of vessels that will support plugging and abandonment and infrastructure recovery and removal activities, which are outlined in the activity summaries below.**

A summary of proposed activities is outlined below and more detailed information is provided in the attached Consultation Information Sheets, including a summary of potential key risks and associated management measures. The Information Sheets are also available on our website.

Fisheries have been identified as being relevant based on fishing licence overlap with the activity area, assessment of government fishing effort data (including Fishcube and AFMA) from recent years, fishing methods and water depth.

Any feedback provided previously on proposed activities will remain current where Environment Plans are under assessment by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA). Please let us know if you would like to update previous feedback or have any additional views by 17 March 2023.

**Activity:**

	<b>Griffin Field Decommissioning Activities</b>	<b>Stybarrow Field Decommissioning Activities</b>
<b>Summary:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, distribution skids, risers, flexible flowlines, rigid flowlines, umbilicals, and the pipeline end module (PLEM)).</li> <li>• Removal of the Riser Turret Mooring (RTM) and its moorings. Depending on the vessel utilised, recovery of the RTM may require sections of it to be towed to shallower water out of the title.</li> <li>• Removal of an exploration wellhead (Ramillies-1 in neighbouring petroleum title WA-12-L).</li> <li>• Ongoing field management activities.</li> <li>• Pigging and subsequent removal of the 26 km of Griffin Gas Export Pipeline (GEP) within Commonwealth waters.</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>• Proposal to leave in situ 12 RTM drag anchors (buried), 6 concrete gravity bases and 5 piled foundations for the PLEM and 4 distribution skids.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>• Pre-execution activities associated with the well P&amp;A, such as barrier testing and removal of marine growth.</li> <li>• Well P&amp;A of the 10 productions/injection wells by placing cement plugs in the wells to permanently prevent hydrocarbon release.</li> <li>• Cutting and removal of the wellhead and subsea tree assembly.</li> <li>• Unblocking of the H4 flowline, if deemed feasible.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, manifolds, risers, flexible flowlines, and umbilicals).</li> <li>• Removal of the Disconnectable Turret Mooring (DTM) and its moorings. Recovery of the DTM may require it to be towed to shallower water outside of permit area WA-32-L to support the DTM removal from the marine environment.</li> <li>• Ongoing field management activities (equipment monitoring and inspection).</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>• Proposed leave in situ of the 9 DTM drag anchors (buried), nine suction piles for the riser holdbacks and the historical exploration wellhead, Eskdale-1, which was unable to be removed following its drilling and abandonment in 2003.</li> </ul>
<b>Location:</b>	<ul style="list-style-type: none"> <li>• 94 km northeast of Exmouth, Western Australia.</li> </ul>	<ul style="list-style-type: none"> <li>• 53 km northwest of Exmouth, Western Australia.</li> </ul>
<b>Approx. Water Depth (m):</b>	<ul style="list-style-type: none"> <li>• Approx. 120 m.</li> </ul>	<ul style="list-style-type: none"> <li>• Approx. 810 – 850 m.</li> </ul>

<p><b>Schedule:</b></p>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Earliest proposed removal activity start is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>• Facilities removal must be completed no later than 31 December 2024, pursuant to General Direction 832.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>• Earliest P&amp;A start is estimated to be Q4 2023, subject to approvals, MODU and vessel availability and weather constraints.</li> <li>• P&amp;A activities must be completed no later than 30 September 2024, pursuant to General Direction 833.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Earliest facilities and DTM removal is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>• Equipment removal must be completed no later than 31 March 2025, pursuant to General Direction 833.</li> </ul>
<p><b>Duration:</b></p>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal activities are anticipated to take approximately 6 months to complete and GEP removal activities are anticipated to take approximately 2 months to complete.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>• P&amp;A activities are anticipated to take approximately 6 – 9 months.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal activities are anticipated to take approximately 4-6 months to complete and DTM removal activities are anticipated to take approximately 1 month to complete.</li> </ul>
<p><b>Exclusionary/Cautious Zone:</b></p>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the equipment.</li> <li>• A temporary 500 m exclusion zone will apply around the project vessels during removal and potential tow activities.</li> </ul>	<p><b>P&amp;A Activities</b></p> <ul style="list-style-type: none"> <li>• The Operational Area includes the area encompassing an approximate 3,000 m radius around each of the four drill centres within WA-32-L.</li> <li>• A temporary 500 m exclusion zone will apply around the MODU and the associated project vessels during P&amp;A activities.</li> </ul>

		<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the subsea infrastructure and wellheads.</li> <li>• The DTM has an existing 1200 m radius petroleum safety zone which will continue to be in place until it is removed.</li> <li>• A temporary 500 m exclusion zone will apply around the CSV and the associated project vessels during removal activities.</li> <li>• A temporary 500 m exclusion zone will apply around the HLV and the associated project vessels during the removal of the DTM.</li> </ul>
<p><b>Vessels:</b></p>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Construction support vessel (CSV) and Heavy Lift Vessel (HLV) for recovery and pipeline removal activities.</li> <li>• An anchor handling tug (AHT) to support the towing of the RTM to sheltered water.</li> </ul>	<p><b>P&amp;A activities</b></p> <ul style="list-style-type: none"> <li>• Semi-Submersible Mobile Offshore Drilling Unit (MODU)</li> <li>• The MODU will be supported by 2 to 3 offshore support vessels.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• CSV and HLV for recovery and activities.</li> <li>• AHTs to support the towing of the DTM to the shallower water location (if required).</li> </ul>

**Commonwealth-managed fishery implications:**

We note there are three overlapping Commonwealth managed fisheries (listed below) in the Environments that May Be Affected (EMBAs) for the Griffin and Stybarrow decommissioning projects, of which the Western Deepwater Trawl Fishery may have been active in the Stybarrow Operational Area (see attached Information Sheets for more details).

- Western Tuna and Billfish
- North West Slope Trawl
- Western Deepwater Trawl

Woodside is consulting licence holders in these fisheries, as well as providing information to representative organisations 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.

**Feedback:**

If you have any feedback on these activities, please respond to Woodside at: [Feedback@woodside.com.au](mailto:Feedback@woodside.com.au) or 1800 442 977.

Your feedback and our response will be included in our Environment Plan which will be submitted to 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. Please provide your views by **17 March 2023**.

You can also subscribe on our website to receive Consultation Information Sheets for proposed activities: [www.woodside.com/sustainability/consultation-activities](http://www.woodside.com/sustainability/consultation-activities).

**3.11 Email sent to the Department of Primary Industries and Regional Development (DPIRD) (16 February 2023)**

Dear DPIRD

Woodside is providing this update on the progressive decommissioning of the Griffin and Stybarrow fields, previously operated by BHP Petroleum Pty Ltd (BHP).

We are providing this information to ensure relevant persons are informed about the status of proposed activities, as there have been changes to activity scope and supporting consultation information since consultation commenced for these decommissioning projects in 2021.

The **Griffin Field** is in Commonwealth waters in Petroleum Licence WA-10-L, 65 km northwest of Onslow and 94 km northeast of Exmouth, Western Australia and in water depths of approximately 120 m.

The **Stybarrow Field** is in Commonwealth waters in Petroleum Licence WA-32-L, approximately 53 km northwest of Exmouth, Western Australia and in water depths of approximately 810 – 850 m.

**Operational Areas and Exclusion Zones will apply around a range of vessels that will support plugging and abandonment and infrastructure recovery and removal activities, which are outlined in the activity summaries below.**

A summary of proposed activities is outlined below and more detailed information is provided in the attached Consultation Information Sheets, including a summary of potential key risks and associated management measures. The Information Sheets are also available and be accessed via the QR Code in this letter.

Fisheries have been identified as being relevant based on fishing licence overlap with the activity area, assessment of government fishing effort data (including Fishcube and AFMA) from recent years, fishing methods and water depth.

Any feedback provided previously on proposed activities will remain current where Environment Plans are under assessment by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA). Please let us know if you would like to update previous feedback or have any additional views by 17 March 2023.

**Activity:**

	<b>Griffin Field Decommissioning Activities</b>	<b>Stybarrow Field Decommissioning Activities</b>
<b>Summary:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, distribution skids, risers, flexible flowlines, rigid flowlines, umbilicals, and the pipeline end module (PLEM)).</li> <li>• Removal of the Riser Turret Mooring (RTM) and its moorings. Depending on the vessel utilised, recovery of the RTM may require sections of it to be towed to shallower water out of the title.</li> <li>• Removal of an exploration wellhead (Ramillies-1 in neighbouring petroleum title WA-12-L).</li> <li>• Ongoing field management activities.</li> <li>• Pigging and subsequent removal of the 26 km of Griffin Gas Export Pipeline (GEP) within Commonwealth waters.</li> </ul> <p><b>In Situ Activities</b></p>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>• Pre-execution activities associated with the well P&amp;A, such as barrier testing and removal of marine growth.</li> <li>• Well P&amp;A of the 10 productions/injection wells by placing cement plugs in the wells to permanently prevent hydrocarbon release.</li> <li>• Cutting and removal of the wellhead and subsea tree assembly.</li> <li>• Unblocking of the H4 flowline, if deemed feasible.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, manifolds, risers, flexible flowlines, and umbilicals).</li> <li>• Removal of the Disconnectable Turret Mooring (DTM) and its moorings. Recovery of the DTM may require it to be towed to shallower water outside of permit area WA-32-L to</li> </ul>

	<ul style="list-style-type: none"> <li>Proposal to leave <i>in situ</i> 12 RTM drag anchors (buried), 6 concrete gravity bases and 5 piled foundations for the PLEM and 4 distribution skids.</li> </ul>	<ul style="list-style-type: none"> <li>support the DTM removal from the marine environment.</li> <li>Ongoing field management activities (equipment monitoring and inspection).</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>Proposed leave <i>in situ</i> of the 9 DTM drag anchors (buried), nine suction piles for the riser holdbacks and the historical exploration wellhead, Eskdale-1, which was unable to be removed following its drilling and abandonment in 2003.</li> </ul>
<b>Location:</b>	<ul style="list-style-type: none"> <li>94 km northeast of Exmouth, Western Australia.</li> </ul>	<ul style="list-style-type: none"> <li>53 km northwest of Exmouth, Western Australia.</li> </ul>
<b>Approx. Water Depth (m):</b>	<ul style="list-style-type: none"> <li>Approx. 120 m.</li> </ul>	<ul style="list-style-type: none"> <li>Approx. 810 – 850 m.</li> </ul>
<b>Schedule:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Earliest proposed removal activity start is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>Facilities removal must be completed no later than 31 December 2024, pursuant to General Direction 832.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>Earliest P&amp;A start is estimated to be Q4 2023, subject to approvals, MODU and vessel availability and weather constraints.</li> <li>P&amp;A activities must be completed no later than 30 September 2024, pursuant to General Direction 833.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Earliest facilities and DTM removal is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>Equipment removal must be completed no later than 31 March 2025, pursuant to General Direction 833.</li> </ul>
<b>Duration:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Removal activities are anticipated to take approximately 6 months to complete and GEP removal activities are anticipated to take approximately 2 months to complete.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>P&amp;A activities are anticipated to take approximately 6 – 9 months.</li> </ul> <p><b>Removal Activities</b></p>



		<ul style="list-style-type: none"> <li>Removal activities are anticipated to take approximately 4-6 months to complete and DTM removal activities are anticipated to take approximately 1 month to complete.</li> </ul>
<b>Exclusionary/Cautious Zone:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the equipment.</li> <li>A temporary 500 m exclusion zone will apply around the project vessels during removal and potential tow activities.</li> </ul>	<p><b>P&amp;A Activities</b></p> <ul style="list-style-type: none"> <li>The Operational Area includes the area encompassing an approximate 3,000 m radius around each of the four drill centres within WA-32-L.</li> <li>A temporary 500 m exclusion zone will apply around the MODU and the associated project vessels during P&amp;A activities.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the subsea infrastructure and wellheads.</li> <li>The DTM has an existing 1200 m radius petroleum safety zone which will continue to be in place until it is removed.</li> <li>A temporary 500 m exclusion zone will apply around the CSV and the associated project vessels during removal activities.</li> <li>A temporary 500 m exclusion zone will apply around the HLV and the associated project vessels during the removal of the DTM.</li> </ul>
<b>Vessels:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Construction support vessel (CSV) and Heavy Lift Vessel (HLV) for recovery and pipeline removal activities.</li> <li>An anchor handling tug (AHT) to support the towing of the RTM to sheltered water.</li> </ul>	<p><b>P&amp;A activities</b></p> <ul style="list-style-type: none"> <li>Semi-Submersible Mobile Offshore Drilling Unit (MODU)</li> <li>The MODU will be supported by 2 to 3 offshore support vessels.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>CSV and HLV for recovery and activities.</li> </ul>

	<ul style="list-style-type: none"> <li>AHTs to support the towing of the DTM to the shallower water location (if required).</li> </ul>
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**State-managed fisheries implications:**

We note there are 20 overlapping State managed fisheries (listed below) in the Environments that May Be Affected (EMBAs) for the Griffin and Stybarrow decommissioning projects (see attached Information Sheets for more details).

- Exmouth Gulf Beach Seine and Mesh Net Managed Fish
- Exmouth Gulf Prawn Managed Fishery
- Gascoyne Demersal Scalefish Managed Fishery
- Mackerel Managed Fishery (Area 2)
- Mackerel Managed Fishery (Area 3)
- Marine Aquarium Fish Managed Fishery
- Nickol Bay Prawn Managed Fishery
- Onslow Prawn Managed Fishery
- Pilbara Crab Managed Fishery
- Pilbara Fish Trawl (Interim) Managed Fishery
- Pilbara Line Fishery (Condition)
- Pilbara Trap Managed Fishery
- Shark Bay Crab Managed Fishery
- Shark Bay Prawn Managed Fishery
- Shark Bay Scallop Managed Fishery
- West Australian Sea Cucumber Fishery
- West Coast Deep Sea Crustacean Managed Fishery
- West Coast Demersal Scalefish (Interim) Managed Fishery
- West Coast Rock Lobster Managed Fishery

Of these State-managed fisheries, the following may have been active in the Operational Area in recent years.

<b>Griffin Field Decommissioning</b>	<b>Stybarrow Field Decommissioning</b>
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<ul style="list-style-type: none"><li>• Exmouth Gulf Prawn Managed Fishery</li><li>• Mackerel Managed Fishery (Area 2)</li><li>• Marine Aquarium Fish Managed Fishery</li><li>• Onslow Prawn Managed Fishery</li><li>• Pilbara Line Fishery (Condition)</li><li>• Pilbara Trap Managed Fishery</li><li>• Tour Operators</li><li>• West Coast Deep Sea Crustacean Managed Fishery</li></ul>	<ul style="list-style-type: none"><li>• Tour Operators</li><li>• West Coast Deep Sea Crustacean Managed Fishery</li></ul>
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Woodside is consulting licence holders in all identified fisheries, as well as providing information to representative organisations.

**Feedback:**

If you have any feedback on these activities, please respond to Woodside at: [Feedback@woodside.com.au](mailto:Feedback@woodside.com.au) or 1800 442 977.

Your feedback and our response will be included in our Environment Plan which will be submitted to 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.

Please provide your views by **17 March 2023**.

**3.12 Email sent to the DCCEEW and DAFF (16 February 2023)**

Dear DCCEEW and DAFF

Woodside is providing this update on the progressive decommissioning of the Griffin and Stybarrow fields, previously operated by BHP Petroleum Pty Ltd (BHP).

We are providing this information to ensure relevant persons are informed about the status of proposed activities, as there have been changes to activity scope and supporting consultation information since consultation commenced for these decommissioning projects in 2021.

The **Griffin Field** is in Commonwealth waters in Petroleum Licence WA-10-L, 65 km northwest of Onslow and 94 km northeast of Exmouth, Western Australia and in water depths of approximately 120 m.

The **Stybarrow Field** is in Commonwealth waters in Petroleum Licence WA-32-L, approximately 53 km northwest of Exmouth, Western Australia and in water depths of approximately 810 – 850 m.

A summary of proposed activities is outlined below, and more detailed information is provided in the attached Consultation Information Sheets. The Information Sheets provide details on activities proposed to be managed under a number of Environment Plans for each Field, including a summary of potential key risks and associated management measures. The Information Sheets are also available on our [website](#).

Any feedback provided previously on proposed activities will remain current where Environment Plans are under assessment by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA). Please let us know if you would like to update previous feedback or have any additional views by 17 March 2023.

**Activity:**

	<b>Griffin Field Decommissioning Activities</b>	<b>Stybarrow Field Decommissioning Activities</b>
<b>Summary:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, distribution skids, risers, flexible flowlines, rigid flowlines, umbilicals, and the pipeline end module (PLEM)).</li> <li>• Removal of the Riser Turret Mooring (RTM) and its moorings. Depending on the vessel utilised, recovery of the RTM may require sections of it to be towed to shallower water out of the title.</li> <li>• Removal of an exploration wellhead (Ramillies-1 in neighbouring petroleum title WA-12-L).</li> <li>• Ongoing field management activities.</li> <li>• Pigging and subsequent removal of the 26 km of Griffin Gas Export Pipeline (GEP) within Commonwealth waters.</li> </ul> <p><b>In Situ Activities</b></p>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>• Pre-execution activities associated with the well P&amp;A, such as barrier testing and removal of marine growth.</li> <li>• Well P&amp;A of the 10 productions/injection wells by placing cement plugs in the wells to permanently prevent hydrocarbon release.</li> <li>• Cutting and removal of the wellhead and subsea tree assembly.</li> <li>• Unblocking of the H4 flowline, if deemed feasible.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, manifolds, risers, flexible flowlines, and umbilicals).</li> <li>• Removal of the Disconnectable Turret Mooring (DTM) and its moorings. Recovery of the DTM may require it to be towed to shallower water outside of permit area WA-32-L to</li> </ul>

	<ul style="list-style-type: none"> <li>Proposal to leave in situ 12 RTM drag anchors (buried), 6 concrete gravity bases and 5 piled foundations for the PLEM and 4 distribution skids.</li> </ul>	<ul style="list-style-type: none"> <li>support the DTM removal from the marine environment.</li> <li>Ongoing field management activities (equipment monitoring and inspection).</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>Proposed leave in situ of the 9 DTM drag anchors (buried), nine suction piles for the riser holdbacks and the historical exploration wellhead, Eskdale-1, which was unable to be removed following its drilling and abandonment in 2003.</li> </ul>
<b>Location:</b>	<ul style="list-style-type: none"> <li>94 km northeast of Exmouth, Western Australia.</li> </ul>	<ul style="list-style-type: none"> <li>53 km northwest of Exmouth, Western Australia.</li> </ul>
<b>Approx. Water Depth (m):</b>	<ul style="list-style-type: none"> <li>Approx. 120 m.</li> </ul>	<ul style="list-style-type: none"> <li>Approx. 810 – 850 m.</li> </ul>
<b>Schedule:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Earliest proposed removal activity start is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>Facilities removal must be completed no later than 31 December 2024, pursuant to General Direction 832.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>Earliest P&amp;A start is estimated to be Q4 2023, subject to approvals, MODU and vessel availability and weather constraints.</li> <li>P&amp;A activities must be completed no later than 30 September 2024, pursuant to General Direction 833.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Earliest facilities and DTM removal is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>Equipment removal must be completed no later than 31 March 2025, pursuant to General Direction 833.</li> </ul>
<b>Duration:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Removal activities are anticipated to take approximately 6 months to complete and GEP removal activities are anticipated to take approximately 2 months to complete.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>P&amp;A activities are anticipated to take approximately 6 – 9 months.</li> </ul> <p><b>Removal Activities</b></p>

		<ul style="list-style-type: none"> <li>Removal activities are anticipated to take approximately 4-6 months to complete and DTM removal activities are anticipated to take approximately 1 month to complete.</li> </ul>
<b>Exclusionary/Cautious Zone:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the equipment.</li> <li>A temporary 500 m exclusion zone will apply around the project vessels during removal and potential tow activities.</li> </ul>	<p><b>P&amp;A Activities</b></p> <ul style="list-style-type: none"> <li>The Operational Area includes the area encompassing an approximate 3,000 m radius around each of the four drill centres within WA-32-L.</li> <li>A temporary 500 m exclusion zone will apply around the MODU and the associated project vessels during P&amp;A activities.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the subsea infrastructure and wellheads.</li> <li>The DTM has an existing 1200 m radius petroleum safety zone which will continue to be in place until it is removed.</li> <li>A temporary 500 m exclusion zone will apply around the CSV and the associated project vessels during removal activities.</li> <li>A temporary 500 m exclusion zone will apply around the HLV and the associated project vessels during the removal of the DTM.</li> </ul>
<b>Vessels:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Construction support vessel (CSV) and Heavy Lift Vessel (HLV) for recovery and pipeline removal activities.</li> <li>An anchor handling tug (AHT) to support the towing of the RTM to sheltered water.</li> </ul>	<p><b>P&amp;A activities</b></p> <ul style="list-style-type: none"> <li>Semi-Submersible Mobile Offshore Drilling Unit (MODU)</li> <li>The MODU will be supported by 2 to 3 offshore support vessels.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>CSV and HLV for recovery and activities.</li> </ul>

		<ul style="list-style-type: none"> <li>AHTs to support the towing of the DTM to the shallower water location (if required).</li> </ul>
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**Biosecurity implications:**

With respect to the biosecurity matters, please note the following information below:

**Environment description Griffin Field:**

The **Operational Area** falls within the continental slope and shelf. The continental slope and shelf are, for the most part, ecosystems built on a soft sediment habitat with gradational variation in species composition due to depth, water temperature, light penetration and sediment composition/structure. It consists of generally sparse populations of sessile sponges, soft corals and algae (at shallower depths), with a mobile population of burrowing crustaceans, echinoderms and molluscs.

The **Environment that May Be Affected (EMBA)** falls within continental shelf, continental slope, continental rise and abyssal plain. The Griffin field subsea infrastructure has created a large artificial reef system in an otherwise fine sand and mud habitat with sparse benthic populations typical of the continental slope and shelf.

**Environment description Stybarrow Field:**

The **Operational Area** and the **EMBA** both fall within the outer shelf, continental slope, and deep ocean. The continental slope and shelf are, for the most part, ecosystems built on a soft sediment habitat with gradational variation in species composition due to depth, water temperature, light penetration, and sediment composition/structure. It consists of generally sparse populations of sessile filter feeders (e.g., sponges, soft corals etc.), infauna, and a mobile epibiota (e.g., crustaceans, echinoderms, and molluscs).

<b>Potential IMS risk</b>	<b>IMS mitigation management</b>
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Accidental introduction and establishment of invasive marine species	Ballast water will be managed according to legislative and regulatory requirements.  Application of Woodside’s IMS risk assessment and appropriate management measures to the RTM (Griffin), DTM (Stybarrow), project vessels and relevant immersible equipment such as Remotely Operated Vehicles (ROVs), unless exempt.
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**Commercial fishing implications:**

Woodside has assessed potential impacts for commercial fisheries based on ABARES/AFMA data, fishing methods and water depth.

We note there are three overlapping Commonwealth managed fisheries (listed below) in the Environments that May Be Affected (EMBAs) for the Griffin and Stybarrow decommissioning projects, of which the Western Deepwater Trawl Fishery may have been active in the Stybarrow Operational Area (see attached Information Sheets for more details).

- Western Tuna and Billfish
- North West Slope Trawl
- Western Deepwater Trawl

Woodside is consulting licence holders in these fisheries, as well as providing information to representative organisations 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.

**Feedback:**

If you have any feedback on these activities, please respond to Woodside at: [Feedback@woodside.com.au](mailto:Feedback@woodside.com.au) or 1800 442 977.

Your feedback and our response will be included in our Environment Plan which will be submitted to 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. Please provide your views by **17 March 2023**.

You can also subscribe on our website to receive Consultation Information Sheets for proposed activities: [www.woodside.com/sustainability/consultation-activities](http://www.woodside.com/sustainability/consultation-activities).

### **3.13 Email sent to Director of National Parks (DNP) (16 February 2023)**

Dear DNP

Woodside is planning to undertake subsea decommissioning activities for the Griffin and Stybarrow fields (previously operated by BHP Petroleum Pty Ltd (BHP)).

The **Griffin Field** is in Commonwealth waters in Petroleum Licence WA-10-L, 65 km northwest of Onslow and 94 km northeast of Exmouth, Western Australia and in water depths of approximately 120 m.

The **Stybarrow Field** is in Commonwealth waters in Petroleum Licence WA-32-L, approximately 53 km northwest of Exmouth, Western Australia and in water depths of approximately 810 – 850 m.

A summary of proposed activities is outlined below, and more detailed information is provided in the attached Consultation Information Sheets. The Information Sheets provide details on activities proposed to be managed under a number of Environment Plans for each Field, including a summary



of potential key risks and associated management measures. The Information Sheets are also available on our [website](#).

Any feedback provided previously on proposed activities will remain current where Environment Plans are under assessment by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

Please let us know if you would like to update previous feedback or have any additional views by **17 March 2023**.

**Activity:**

	<b>Griffin Field Decommissioning Activities</b>	<b>Stybarrow Field Decommissioning Activities</b>
<b>Summary:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, distribution skids, risers, flexible flowlines, rigid flowlines, umbilicals, and the pipeline end module (PLEM)).</li> <li>• Removal of the Riser Turret Mooring (RTM) and its moorings. Depending on the vessel utilised, recovery of the RTM may require sections of it to be towed to shallower water out of the title.</li> <li>• Removal of an exploration wellhead (Ramillies-1 in neighbouring petroleum title WA-12-L).</li> <li>• Ongoing field management activities.</li> <li>• Pigging and subsequent removal of the 26 km of Griffin Gas Export Pipeline (GEP) within Commonwealth waters.</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>• Proposal to leave in situ 12 RTM drag anchors (buried), 6 concrete gravity bases and</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>• Pre-execution activities associated with the well P&amp;A, such as barrier testing and removal of marine growth.</li> <li>• Well P&amp;A of the 10 productions/injection wells by placing cement plugs in the wells to permanently prevent hydrocarbon release.</li> <li>• Cutting and removal of the wellhead and subsea tree assembly.</li> <li>• Unblocking of the H4 flowline, if deemed feasible.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, manifolds, risers, flexible flowlines, and umbilicals).</li> <li>• Removal of the Disconnectable Turret Mooring (DTM) and its moorings. Recovery of the DTM may require it to be towed to shallower water outside of permit area WA-32-L to support the DTM removal from the marine environment.</li> </ul>

	<ul style="list-style-type: none"> <li>5 piled foundations for the PLEM and 4 distribution skids.</li> </ul>	<ul style="list-style-type: none"> <li>Ongoing field management activities (equipment monitoring and inspection).</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>Proposed leave in situ of the 9 DTM drag anchors (buried), nine suction piles for the riser holdbacks and the historical exploration wellhead, Eskdale-1, which was unable to be removed following its drilling and abandonment in 2003.</li> </ul>
<b>Location:</b>	<ul style="list-style-type: none"> <li>94 km northeast of Exmouth, Western Australia.</li> </ul>	<ul style="list-style-type: none"> <li>53 km northwest of Exmouth, Western Australia.</li> </ul>
<b>Approx. Water Depth (m):</b>	<ul style="list-style-type: none"> <li>Approx. 120 m.</li> </ul>	<ul style="list-style-type: none"> <li>Approx. 810 – 850 m.</li> </ul>
<b>Schedule:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Earliest proposed removal activity start is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>Facilities removal must be completed no later than 31 December 2024, pursuant to General Direction 832.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>Earliest P&amp;A start is estimated to be Q4 2023, subject to approvals, MODU and vessel availability and weather constraints.</li> <li>P&amp;A activities must be completed no later than 30 September 2024, pursuant to General Direction 833.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Earliest facilities and DTM removal is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>Equipment removal must be completed no later than 31 March 2025, pursuant to General Direction 833.</li> </ul>
<b>Duration:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Removal activities are anticipated to take approximately 6 months to complete and GEP removal activities are anticipated to take approximately 2 months to complete.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>P&amp;A activities are anticipated to take approximately 6 – 9 months.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Removal activities are anticipated to take</li> </ul>

		approximately 4-6 months to complete and DTM removal activities are anticipated to take approximately 1 month to complete.
<b>Exclusionary/Cautious Zone:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the equipment.</li> <li>A temporary 500 m exclusion zone will apply around the project vessels during removal and potential tow activities.</li> </ul>	<p><b>P&amp;A Activities</b></p> <ul style="list-style-type: none"> <li>The Operational Area includes the area encompassing an approximate 3,000 m radius around each of the four drill centres within WA-32-L.</li> <li>A temporary 500 m exclusion zone will apply around the MODU and the associated project vessels during P&amp;A activities.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the subsea infrastructure and wellheads.</li> <li>The DTM has an existing 1200 m radius petroleum safety zone which will continue to be in place until it is removed.</li> <li>A temporary 500 m exclusion zone will apply around the CSV and the associated project vessels during removal activities.</li> <li>A temporary 500 m exclusion zone will apply around the HLV and the associated project vessels during the removal of the DTM.</li> </ul>
<b>Vessels:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Construction support vessel (CSV) and Heavy Lift Vessel (HLV) for recovery and pipeline removal activities.</li> <li>An anchor handling tug (AHT) to support the towing of the RTM to sheltered water.</li> </ul>	<p><b>P&amp;A activities</b></p> <ul style="list-style-type: none"> <li>Semi-Submersible Mobile Offshore Drilling Unit (MODU)</li> <li>The MODU will be supported by 2 to 3 offshore support vessels.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>CSV and HLV for recovery and activities.</li> </ul>

		<ul style="list-style-type: none"> <li>• AHTs to support the towing of the DTM to the shallower water location (if required).</li> </ul>
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**Protected Area implications:**

We note Australian Government Guidance on consultation activities and confirm that:

<b>Griffin Field Decommissioning Activities</b>	<b>Stybarrow Field Decommissioning Activities</b>
<ul style="list-style-type: none"> <li>• Proposed activities are outside the boundaries of a proclaimed Australian Marine Park.</li> <li>• Nearest protected areas are:                             <ul style="list-style-type: none"> <li>○ ~76 km to Gascoyne Commonwealth Marine Park</li> <li>○ ~59 km to Ningaloo Marine Park (Commonwealth)</li> <li>○ ~41 km to Ningaloo Marine Park (State)</li> <li>○ ~42km to Murion Islands Marine Management Area</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Proposed activities are outside the boundaries of a proclaimed Australian Marine Park.</li> <li>• Nearest protected areas are:                             <ul style="list-style-type: none"> <li>○ ~5 km to Gascoyne Commonwealth Marine Park</li> <li>○ ~24 km to Ningaloo Marine Park (Commonwealth)</li> <li>○ ~36 km to Ningaloo Marine Park (State)</li> <li>○ ~45 km to Murion Islands Marine Management Area</li> </ul> </li> </ul>

We have assessed potential risks to Protected Areas in the development of the proposed Environment Plan and believe that there are no credible risks as part of planned activities that have potential to impact the values of Australian Marine Parks.

The worst-case credible spill scenarios have been assessed for activities to be managed under the Environment Plans:

<p><b>Stybarrow Field Management and Decommissioning EP</b></p>	<p>The worst-case credible spill scenario assessed in this EP is the remote likelihood event of a vessel collision resulting a spill of marine diesel to the marine environment. Through review of hydrocarbon spill modelling, and with consideration of a 10 ppb dissolved and entrained hydrocarbon threshold, the following AMPs may be contacted in the event of a spill:</p> <ul style="list-style-type: none"> <li>• Abrolhos</li> <li>• Argo-Rowley Terrace</li> <li>• Carnarvon Canyon</li> <li>• Dampier</li> <li>• Gascoyne</li> <li>• Montebello</li> </ul>
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	<ul style="list-style-type: none"> <li>• Shark Bay</li> </ul>
<b>Stybarrow Plugging abandonment EP</b>	<p>The worst-case credible spill scenario assessed in this EP is the remote likelihood event of a loss of well containment resulting in a spill of Stybarrow Crude to the marine environment. Through review of hydrocarbon spill modelling, and with consideration of a 10 ppb dissolved and entrained hydrocarbon threshold, the following AMPs may be contacted in the event of a spill:</p> <ul style="list-style-type: none"> <li>• Carnarvon Canyon</li> <li>• Gascoyne</li> <li>• Ningaloo</li> </ul>
<b>Griffin Decommissioning and Field Management EP</b>	<p>The worst-case credible spill scenario assessed in this EP is the remote likelihood event of a loss of well containment resulting in a spill of Stybarrow Crude to the marine environment. Through review of hydrocarbon spill modelling, and with consideration of a 10 ppb dissolved and entrained hydrocarbon threshold, the following AMPs may be contacted in the event of a spill:</p> <ul style="list-style-type: none"> <li>• Carnarvon Canyon</li> <li>• Gascoyne</li> <li>• Ningaloo</li> </ul>
<b>Griffin Gas Export Pipeline Decommissioning EP (Commonwealth)</b>	<p>The worst-case credible spill scenario assessed in this EP is the remote likelihood event of a vessel collision resulting a spill of marine diesel to the marine environment. Through review of hydrocarbon spill modelling, and with consideration of a 10 ppb dissolved and entrained hydrocarbon threshold, the following AMPs may be contacted in the event of a spill:</p> <ul style="list-style-type: none"> <li>• Abrolhos</li> <li>• Argo-Rowley Terrace</li> <li>• Carnarvon Canyon</li> <li>• Gascoyne</li> <li>• Montebello</li> <li>• Shark Bay</li> <li>• Ningaloo</li> </ul>

A Commonwealth Government-approved oil spill response plan will be in place for the duration of the activities, which will include notification 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.

**Feedback:**

If you have any feedback on these activities, please respond to Woodside at: [Feedback@woodside.com.au](mailto:Feedback@woodside.com.au) or 1800 442 977.

Your feedback and our response will be included in our Environment Plan which will be submitted to 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. Please provide your views by **17 March 2023**.

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**3.14 Email sent to the DBCA (16 February 2023)**

Dear DBCA

Woodside is planning to undertake subsea decommissioning activities for the Griffin and Stybarrow fields (previously operated by BHP Petroleum Pty Ltd (BHP)).

The **Griffin Field** is in Commonwealth waters in Petroleum Licence WA-10-L, 65 km northwest of Onslow and 94 km northeast of Exmouth, Western Australia and in water depths of approximately 120 m.

The **Stybarrow Field** is in Commonwealth waters in Petroleum Licence WA-32-L, approximately 53 km northwest of Exmouth, Western Australia and in water depths of approximately 810 – 850 m.

A summary of proposed activities is outlined below, and more detailed information is provided in the attached Consultation Information Sheets. The Information Sheets provide details on activities proposed to be managed under a number of Environment Plans for each Field, including a summary of potential key risks and associated management measures. The Information Sheets are also available on our [website](#).

Any feedback provided previously on proposed activities will remain current where Environment Plans are under assessment by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

Please let us know if you would like to update previous feedback or have any additional views by **17 March 2023**.

**Activity:**

	<b>Griffin Field Decommissioning Activities</b>	<b>Stybarrow Field Decommissioning Activities</b>
<b>Summary:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, distribution skids, risers, flexible flowlines, rigid flowlines, umbilicals, and the pipeline end module (PLEM)).</li> <li>• Removal of the Riser Turret Mooring (RTM) and its moorings. Depending on the vessel utilised, recovery of the RTM may require sections of it to be towed to shallower water out of the title.</li> <li>• Removal of an exploration wellhead (Ramillies-1 in neighbouring petroleum title WA-12-L).</li> <li>• Ongoing field management activities.</li> <li>• Pigging and subsequent removal of the 26 km of Griffin Gas Export Pipeline (GEP) within Commonwealth waters.</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>• Proposal to leave in situ 12 RTM drag anchors (buried), 6 concrete gravity bases and 5 piled foundations for the PLEM and 4 distribution skids.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>• Pre-execution activities associated with the well P&amp;A, such as barrier testing and removal of marine growth.</li> <li>• Well P&amp;A of the 10 productions/injection wells by placing cement plugs in the wells to permanently prevent hydrocarbon release.</li> <li>• Cutting and removal of the wellhead and subsea tree assembly.</li> <li>• Unblocking of the H4 flowline, if deemed feasible.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, manifolds, risers, flexible flowlines, and umbilicals).</li> <li>• Removal of the Disconnectable Turret Mooring (DTM) and its moorings. Recovery of the DTM may require it to be towed to shallower water outside of permit area WA-32-L to support the DTM removal from the marine environment.</li> <li>• Ongoing field management activities (equipment monitoring and inspection).</li> </ul> <p><b>In Situ Activities</b></p>

		<ul style="list-style-type: none"> <li>Proposed leave in situ of the 9 DTM drag anchors (buried), nine suction piles for the riser holdbacks and the historical exploration wellhead, Eskdale-1, which was unable to be removed following its drilling and abandonment in 2003.</li> </ul>
<b>Location:</b>	<ul style="list-style-type: none"> <li>94 km northeast of Exmouth, Western Australia.</li> </ul>	<ul style="list-style-type: none"> <li>53 km northwest of Exmouth, Western Australia.</li> </ul>
<b>Approx. Water Depth (m):</b>	<ul style="list-style-type: none"> <li>Approx. 120 m.</li> </ul>	<ul style="list-style-type: none"> <li>Approx. 810 – 850 m.</li> </ul>
<b>Schedule:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Earliest proposed removal activity start is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>Facilities removal must be completed no later than 31 December 2024, pursuant to General Direction 832.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>Earliest P&amp;A start is estimated to be Q4 2023, subject to approvals, MODU and vessel availability and weather constraints.</li> <li>P&amp;A activities must be completed no later than 30 September 2024, pursuant to General Direction 833.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Earliest facilities and DTM removal is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>Equipment removal must be completed no later than 31 March 2025, pursuant to General Direction 833.</li> </ul>
<b>Duration:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Removal activities are anticipated to take approximately 6 months to complete and GEP removal activities are anticipated to take approximately 2 months to complete.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>P&amp;A activities are anticipated to take approximately 6 – 9 months.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Removal activities are anticipated to take approximately 4-6 months to complete and DTM removal activities are anticipated to take approximately 1 month to complete.</li> </ul>



<p><b>Exclusionary/Cautious Zone:</b></p>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the equipment.</li> <li>• A temporary 500 m exclusion zone will apply around the project vessels during removal and potential tow activities.</li> </ul>	<p><b>P&amp;A Activities</b></p> <ul style="list-style-type: none"> <li>• The Operational Area includes the area encompassing an approximate 3,000 m radius around each of the four drill centres within WA-32-L.</li> <li>• A temporary 500 m exclusion zone will apply around the MODU and the associated project vessels during P&amp;A activities.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the subsea infrastructure and wellheads.</li> <li>• The DTM has an existing 1200 m radius petroleum safety zone which will continue to be in place until it is removed.</li> <li>• A temporary 500 m exclusion zone will apply around the CSV and the associated project vessels during removal activities.</li> <li>• A temporary 500 m exclusion zone will apply around the HLV and the associated project vessels during the removal of the DTM.</li> </ul>
<p><b>Vessels:</b></p>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Construction support vessel (CSV) and Heavy Lift Vessel (HLV) for recovery and pipeline removal activities.</li> <li>• An anchor handling tug (AHT) to support the towing of the RTM to sheltered water.</li> </ul>	<p><b>P&amp;A activities</b></p> <ul style="list-style-type: none"> <li>• Semi-Submersible Mobile Offshore Drilling Unit (MODU)</li> <li>• The MODU will be supported by 2 to 3 offshore support vessels.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• CSV and HLV for recovery and activities.</li> <li>• AHTs to support the towing of the DTM to the shallower water location (if required).</li> </ul>

**Protected Area implications:**

We note Australian Government Guidance on consultation activities and confirm that:

Griffin Field Decommissioning Activities	Stybarrow Field Decommissioning Activities
<ul style="list-style-type: none"> <li>• Proposed activities are outside the boundaries of a proclaimed Australian Marine Park.</li> <li>• Nearest protected areas are:                             <ul style="list-style-type: none"> <li>○ ~76 km to Gascoyne Commonwealth Marine Park</li> <li>○ ~59 km to Ningaloo Marine Park (Commonwealth)</li> <li>○ ~41 km to Ningaloo Marine Park (State)</li> <li>○ ~42km to Muiron Islands Marine Management Area</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Proposed activities are outside the boundaries of a proclaimed Australian Marine Park.</li> <li>• Nearest protected areas are:                             <ul style="list-style-type: none"> <li>○ ~5 km to Gascoyne Commonwealth Marine Park</li> <li>○ ~24 km to Ningaloo Marine Park (Commonwealth)</li> <li>○ ~36 km to Ningaloo Marine Park (State)</li> <li>○ ~45 km to Muiron Islands Marine Management Area</li> </ul> </li> </ul>

We have assessed potential risks to Protected Areas in the development of the proposed Environment Plan and believe that there are no credible risks as part of planned activities that have potential to impact the values of Western Australian Protected Areas.

However, we note a number of State-managed Protected Areas within the Environments that May be Affected for the Griffin and Stybarrow decommissioning activities, in particular the EMBA for proposed plugging and abandonment activities at the Stybarrow Field. We have attached a separate information sheet for these activities and would be pleased to provide additional information on Conservation Parks, Marine Management Areas, Marine Parks, National Parks and Nature Reserves that may be potentially affected by activity risks.

A Commonwealth Government-approved oil spill response plan will be in place for the duration of the activities, which will include notification to relevant agencies and organisations as to the nature and scale of the event, as soon as practicable following an occurrence. DBCA will be advised if an environmental incident occurs that may impact on the values of State Managed Protected Areas.

**Feedback:**

If you have any feedback on these activities, please respond to Woodside at: [Feedback@woodside.com.au](mailto:Feedback@woodside.com.au) or 1800 442 977.

Your feedback and our response will be included in our Environment Plan which will be submitted to 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. Please provide your views by **17 March 2023**.

You can also subscribe on our website to receive Consultation Information Sheets for proposed activities: [www.woodside.com/sustainability/consultation-activities](http://www.woodside.com/sustainability/consultation-activities).

**3.15 Email sent to the Exmouth Community Liaison Group (16 February 2023)**

Dear Exmouth Community Liaison Group,

Woodside is providing this update on the progressive decommissioning of the Griffin and Stybarrow fields, previously operated by BHP Petroleum Pty Ltd (BHP).

We are providing this information to ensure relevant persons are informed about the status of proposed activities, as there have been changes to activity scope and supporting consultation information since consultation commenced for these decommissioning projects in 2021.

The **Griffin Field** is in Commonwealth waters in Petroleum Licence WA-10-L, 65 km northwest of Onslow and 94 km northeast of Exmouth, Western Australia and in water depths of approximately 120 m.

The **Stybarrow Field** is in Commonwealth waters in Petroleum Licence WA-32-L, approximately 53 km northwest of Exmouth, Western Australia and in water depths of approximately 810 – 850 m.

A summary of proposed activities is outlined below, and more detailed information is provided in the attached Consultation Information Sheets. The Information Sheets provide details on activities proposed to be managed under a number of Environment Plans for each Field, including a summary of potential key risks and associated management measures. The Information Sheets are also available on our [website](#).

Any feedback provided previously on proposed activities will remain current where Environment Plans are under assessment by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA). Please let us know if you would like to update previous feedback or have any additional views by **17 March 2023**.

**Activity:**

	<b>Griffin Field Decommissioning Activities</b>	<b>Stybarrow Field Decommissioning Activities</b>
<b>Summary:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Removal of subsea equipment (wellheads, trees, distribution skids, risers, flexible flowlines, rigid flowlines, umbilicals,</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>Pre-execution activities associated with the well P&amp;A, such as barrier</li> </ul>

	<p>and the pipeline end module (PLEM)).</p> <ul style="list-style-type: none"> <li>• Removal of the Riser Turret Mooring (RTM) and its moorings. Depending on the vessel utilised, recovery of the RTM may require sections of it to be towed to shallower water out of the title.</li> <li>• Removal of an exploration wellhead (Ramillies-1 in neighbouring petroleum title WA-12-L).</li> <li>• Ongoing field management activities.</li> <li>• Pigging and subsequent removal of the 26 km of Griffin Gas Export Pipeline (GEP) within Commonwealth waters.</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>• Proposal to leave in situ 12 RTM drag anchors (buried), 6 concrete gravity bases and 5 piled foundations for the PLEM and 4 distribution skids.</li> </ul>	<p>testing and removal of marine growth.</p> <ul style="list-style-type: none"> <li>• Well P&amp;A of the 10 productions/injection wells by placing cement plugs in the wells to permanently prevent hydrocarbon release.</li> <li>• Cutting and removal of the wellhead and subsea tree assembly.</li> <li>• Unblocking of the H4 flowline, if deemed feasible.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, manifolds, risers, flexible flowlines, and umbilicals).</li> <li>• Removal of the Disconnectable Turret Mooring (DTM) and its moorings. Recovery of the DTM may require it to be towed to shallower water outside of permit area WA-32-L to support the DTM removal from the marine environment.</li> <li>• Ongoing field management activities (equipment monitoring and inspection).</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>• Proposed leave in situ of the 9 DTM drag anchors (buried), nine suction piles for the riser holdbacks and the historical exploration wellhead, Eskdale-1, which was unable to be removed following its drilling and abandonment in 2003.</li> </ul>
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<p><b>Location:</b></p>	<ul style="list-style-type: none"> <li>94 km northeast of Exmouth, Western Australia.</li> </ul>	<ul style="list-style-type: none"> <li>53 km northwest of Exmouth, Western Australia.</li> </ul>
<p><b>Approx. Water Depth (m):</b></p>	<ul style="list-style-type: none"> <li>Approx. 120 m.</li> </ul>	<ul style="list-style-type: none"> <li>Approx. 810 – 850 m.</li> </ul>
<p><b>Schedule:</b></p>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Earliest proposed removal activity start is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>Facilities removal must be completed no later than 31 December 2024, pursuant to General Direction 832.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>Earliest P&amp;A start is estimated to be Q4 2023, subject to approvals, MODU and vessel availability and weather constraints.</li> <li>P&amp;A activities must be completed no later than 30 September 2024, pursuant to General Direction 833.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Earliest facilities and DTM removal is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>Equipment removal must be completed no later than 31 March 2025, pursuant to General Direction 833.</li> </ul>
<p><b>Duration:</b></p>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Removal activities are anticipated to take approximately 6 months to complete and GEP removal activities are anticipated to take approximately 2 months to complete.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>P&amp;A activities are anticipated to take approximately 6 – 9 months.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Removal activities are anticipated to take approximately 4-6 months to complete and DTM removal activities are anticipated to take</li> </ul>

		approximately 1 month to complete.
<b>Exclusionary/Cautious Zone:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the equipment.</li> <li>A temporary 500 m exclusion zone will apply around the project vessels during removal and potential tow activities.</li> </ul>	<p><b>P&amp;A Activities</b></p> <ul style="list-style-type: none"> <li>The Operational Area includes the area encompassing an approximate 3,000 m radius around each of the four drill centres within WA-32-L.</li> <li>A temporary 500 m exclusion zone will apply around the MODU and the associated project vessels during P&amp;A activities.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the subsea infrastructure and wellheads.</li> <li>The DTM has an existing 1200 m radius petroleum safety zone which will continue to be in place until it is removed.</li> <li>A temporary 500 m exclusion zone will apply around the CSV and the associated project vessels during removal activities.</li> <li>A temporary 500 m exclusion zone will apply around the HLV and the associated project vessels during the removal of the DTM.</li> </ul>
<b>Vessels:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Construction support vessel (CSV) and Heavy Lift Vessel (HLV) for recovery and</li> </ul>	<p><b>P&amp;A activities</b></p> <ul style="list-style-type: none"> <li>Semi-Submersible Mobile Offshore Drilling Unit (MODU)</li> </ul>

	<p>pipeline removal activities.</p> <ul style="list-style-type: none"> <li>An anchor handling tug (AHT) to support the towing of the RTM to sheltered water.</li> </ul>	<ul style="list-style-type: none"> <li>The MODU will be supported by 2 to 3 offshore support vessels.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>CSV and HLV for recovery and activities.</li> <li>AHTs to support the towing of the DTM to the shallower water location (if required).</li> </ul>
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**Feedback:**

If you have any feedback on these activities, please respond to Woodside at: [Feedback@woodside.com.au](mailto:Feedback@woodside.com.au) or 1800 442 977.

Your feedback and our response will be included in our Environment Plan which will be submitted to 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. Please provide your views by **17 March 2023**.

You can also subscribe on our website to receive Consultation Information Sheets for proposed activities: [www.woodside.com/sustainability/consultation-activities](http://www.woodside.com/sustainability/consultation-activities).

**3.16 Email sent to the Cape Conservation Group Chair (17 February 2023)**

Dear [REDACTED]

Woodside is providing this update on the progressive decommissioning of the Griffin and Stybarrow fields, previously operated by BHP Petroleum Pty Ltd (BHP).

We are providing this information to ensure relevant persons are informed about the status of proposed activities, as there have been changes to activity scope and supporting consultation information since consultation commenced for these decommissioning projects in 2021.

The **Griffin Field** is in Commonwealth waters in Petroleum Licence WA-10-L, 65 km northwest of Onslow and 94 km northeast of Exmouth, Western Australia and in water depths of approximately 120 m.

The **Stybarrow Field** is in Commonwealth waters in Petroleum Licence WA-32-L, approximately 53 km northwest of Exmouth, Western Australia and in water depths of approximately 810 – 850 m.

A summary of proposed activities is outlined below, and more detailed information is provided in the attached Consultation Information Sheets. The Information Sheets provide details on activities proposed to be managed under a number of Environment Plans for each Field, including a summary of potential key risks and associated management measures. The Information Sheets are also available on our [website](#).

Any feedback provided previously on proposed activities will remain current where Environment Plans are under assessment by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA). Please let us know if you would like to update previous feedback or have any additional views by **17 March 2023**.

**Activity:**

	<b>Griffin Field Decommissioning Activities</b>	<b>Stybarrow Field Decommissioning Activities</b>
<b>Summary:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, distribution skids, risers, flexible flowlines, rigid flowlines, umbilicals, and the pipeline end module (PLEM)).</li> <li>• Removal of the Riser Turret Mooring (RTM) and its moorings. Depending on the vessel utilised, recovery of the RTM may require sections of it to be towed to shallower water out of the title.</li> <li>• Removal of an exploration wellhead (Ramillies-1 in neighbouring petroleum title WA-12-L).</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>• Pre-execution activities associated with the well P&amp;A, such as barrier testing and removal of marine growth.</li> <li>• Well P&amp;A of the 10 productions/injection wells by placing cement plugs in the wells to permanently prevent hydrocarbon release.</li> <li>• Cutting and removal of the wellhead and subsea tree assembly.</li> <li>• Unblocking of the H4 flowline, if deemed feasible.</li> </ul> <p><b>Removal Activities</b></p>



	<ul style="list-style-type: none"> <li>Ongoing field management activities.</li> <li>Pigging and subsequent removal of the 26 km of Griffin Gas Export Pipeline (GEP) within Commonwealth waters.</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>Proposal to leave in situ 12 RTM drag anchors (buried), 6 concrete gravity bases and 5 piled foundations for the PLEM and 4 distribution skids.</li> </ul>	<ul style="list-style-type: none"> <li>Removal of subsea equipment (wellheads, trees, manifolds, risers, flexible flowlines, and umbilicals).</li> <li>Removal of the Disconnectable Turret Mooring (DTM) and its moorings. Recovery of the DTM may require it to be towed to shallower water outside of permit area WA-32-L to support the DTM removal from the marine environment.</li> <li>Ongoing field management activities (equipment monitoring and inspection).</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>Proposed leave in situ of the 9 DTM drag anchors (buried), nine suction piles for the riser holdbacks and the historical exploration wellhead, Eskdale-1, which was unable to be removed following its drilling and abandonment in 2003.</li> </ul>
<b>Location:</b>	<ul style="list-style-type: none"> <li>94 km northeast of Exmouth, Western Australia.</li> </ul>	<ul style="list-style-type: none"> <li>53 km northwest of Exmouth, Western Australia.</li> </ul>
<b>Approx. Water Depth (m):</b>	<ul style="list-style-type: none"> <li>Approx. 120 m.</li> </ul>	<ul style="list-style-type: none"> <li>Approx. 810 – 850 m.</li> </ul>
<b>Schedule:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Earliest proposed removal activity start is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>Facilities removal must be completed no later than 31 December 2024, pursuant to General Direction 832.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>Earliest P&amp;A start is estimated to be Q4 2023, subject to approvals, MODU and vessel availability and weather constraints.</li> <li>P&amp;A activities must be completed no later than 30 September 2024,</li> </ul>

		<p>pursuant to General Direction 833.</p> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Earliest facilities and DTM removal is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>• Equipment removal must be completed no later than 31 March 2025, pursuant to General Direction 833.</li> </ul>
<p><b>Duration:</b></p>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal activities are anticipated to take approximately 6 months to complete and GEP removal activities are anticipated to take approximately 2 months to complete.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>• P&amp;A activities are anticipated to take approximately 6 – 9 months.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal activities are anticipated to take approximately 4-6 months to complete and DTM removal activities are anticipated to take approximately 1 month to complete.</li> </ul>
<p><b>Exclusionary/Cautious Zone:</b></p>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the equipment.</li> <li>• A temporary 500 m exclusion zone will apply around the project vessels during removal and potential tow activities.</li> </ul>	<p><b>P&amp;A Activities</b></p> <ul style="list-style-type: none"> <li>• The Operational Area includes the area encompassing an approximate 3,000 m radius around each of the four drill centres within WA-32-L.</li> <li>• A temporary 500 m exclusion zone will apply around the MODU and the associated project vessels during P&amp;A activities.</li> </ul>

		<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the subsea infrastructure and wellheads.</li> <li>• The DTM has an existing 1200 m radius petroleum safety zone which will continue to be in place until it is removed.</li> <li>• A temporary 500 m exclusion zone will apply around the CSV and the associated project vessels during removal activities.</li> <li>• A temporary 500 m exclusion zone will apply around the HLV and the associated project vessels during the removal of the DTM.</li> </ul>
<p><b>Vessels:</b></p>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Construction support vessel (CSV) and Heavy Lift Vessel (HLV) for recovery and pipeline removal activities.</li> <li>• An anchor handling tug (AHT) to support the towing of the RTM to sheltered water.</li> </ul>	<p><b>P&amp;A activities</b></p> <ul style="list-style-type: none"> <li>• Semi-Submersible Mobile Offshore Drilling Unit (MODU)</li> <li>• The MODU will be supported by 2 to 3 offshore support vessels.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• CSV and HLV for recovery and activities.</li> <li>• AHTs to support the towing of the DTM to the shallower water location (if required).</li> </ul>

**Feedback:**

If you have any feedback on these activities, please respond to Woodside at: [Feedback@woodside.com.au](mailto:Feedback@woodside.com.au) or 1800 442 977.

Your feedback and our response will be included in our Environment Plan which will be submitted to 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. Please provide your views by **17 March 2023**.

You can also subscribe on our website to receive Consultation Information Sheets for proposed activities: [www.woodside.com/sustainability/consultation-activities](http://www.woodside.com/sustainability/consultation-activities).

### **3.17 Email sent to Protect Ningaloo (17 February 2023)**

Dear Stakeholder

Woodside is providing this update on the progressive decommissioning of the Griffin and Stybarrow fields, previously operated by BHP Petroleum Pty Ltd (BHP).

We are providing this information to ensure relevant persons are informed about the status of proposed activities, as there have been changes to activity scope and supporting consultation information since consultation commenced for these decommissioning projects in 2021.

The **Griffin Field** is in Commonwealth waters in Petroleum Licence WA-10-L, 65 km northwest of Onslow and 94 km northeast of Exmouth, Western Australia and in water depths of approximately 120 m.

The **Stybarrow Field** is in Commonwealth waters in Petroleum Licence WA-32-L, approximately 53 km northwest of Exmouth, Western Australia and in water depths of approximately 810 – 850 m.

A summary of proposed activities is outlined below, and more detailed information is provided in the attached Consultation Information Sheets. The Information Sheets provide details on activities proposed to be managed under a number of Environment Plans for each Field, including a summary of potential key risks and associated management measures. The Information Sheets are also available on our [website](#).

Any feedback provided previously on proposed activities will remain current where Environment Plans are under assessment by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA). Please let us know if you would like to update previous feedback or have any additional views by **17 March 2023**.

**Activity:**

	Griffin Field Decommissioning Activities	Stybarrow Field Decommissioning Activities
<p><b>Summary:</b></p>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, distribution skids, risers, flexible flowlines, rigid flowlines, umbilicals, and the pipeline end module (PLEM)).</li> <li>• Removal of the Riser Turret Mooring (RTM) and its moorings. Depending on the vessel utilised, recovery of the RTM may require sections of it to be towed to shallower water out of the title.</li> <li>• Removal of an exploration wellhead (Ramillies-1 in neighbouring petroleum title WA-12-L).</li> <li>• Ongoing field management activities.</li> <li>• Pigging and subsequent removal of the 26 km of Griffin Gas Export Pipeline (GEP) within Commonwealth waters.</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>• Proposal to leave in situ 12 RTM drag anchors (buried), 6 concrete gravity bases and 5 piled foundations for the PLEM and 4 distribution skids.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>• Pre-execution activities associated with the well P&amp;A, such as barrier testing and removal of marine growth.</li> <li>• Well P&amp;A of the 10 productions/injection wells by placing cement plugs in the wells to permanently prevent hydrocarbon release.</li> <li>• Cutting and removal of the wellhead and subsea tree assembly.</li> <li>• Unblocking of the H4 flowline, if deemed feasible.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, manifolds, risers, flexible flowlines, and umbilicals).</li> <li>• Removal of the Disconnectable Turret Mooring (DTM) and its moorings. Recovery of the DTM may require it to be towed to shallower water outside of permit area WA-32-L to support the DTM removal from the marine environment.</li> <li>• Ongoing field management activities (equipment monitoring and inspection).</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>• Proposed leave in situ of the 9 DTM drag</li> </ul>

		anchors (buried), nine suction piles for the riser holdbacks and the historical exploration wellhead, Eskdale-1, which was unable to be removed following its drilling and abandonment in 2003.
<b>Location:</b>	<ul style="list-style-type: none"> <li>94 km northeast of Exmouth, Western Australia.</li> </ul>	<ul style="list-style-type: none"> <li>53 km northwest of Exmouth, Western Australia.</li> </ul>
<b>Approx. Water Depth (m):</b>	<ul style="list-style-type: none"> <li>Approx. 120 m.</li> </ul>	<ul style="list-style-type: none"> <li>Approx. 810 – 850 m.</li> </ul>
<b>Schedule:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Earliest proposed removal activity start is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>Facilities removal must be completed no later than 31 December 2024, pursuant to General Direction 832.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>Earliest P&amp;A start is estimated to be Q4 2023, subject to approvals, MODU and vessel availability and weather constraints.</li> <li>P&amp;A activities must be completed no later than 30 September 2024, pursuant to General Direction 833.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Earliest facilities and DTM removal is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>Equipment removal must be completed no later than 31 March 2025, pursuant to General Direction 833.</li> </ul>
<b>Duration:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Removal activities are anticipated to take approximately 6 months to complete and GEP removal activities are anticipated to take</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>P&amp;A activities are anticipated to take approximately 6 – 9 months.</li> </ul>

	<p>approximately 2 months to complete.</p>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Removal activities are anticipated to take approximately 4-6 months to complete and DTM removal activities are anticipated to take approximately 1 month to complete.</li> </ul>
<p><b>Exclusionary/Cautious Zone:</b></p>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the equipment.</li> <li>A temporary 500 m exclusion zone will apply around the project vessels during removal and potential tow activities.</li> </ul>	<p><b>P&amp;A Activities</b></p> <ul style="list-style-type: none"> <li>The Operational Area includes the area encompassing an approximate 3,000 m radius around each of the four drill centres within WA-32-L.</li> <li>A temporary 500 m exclusion zone will apply around the MODU and the associated project vessels during P&amp;A activities.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the subsea infrastructure and wellheads.</li> <li>The DTM has an existing 1200 m radius petroleum safety zone which will continue to be in place until it is removed.</li> <li>A temporary 500 m exclusion zone will apply around the CSV and the associated project vessels during removal activities.</li> <li>A temporary 500 m exclusion zone will apply around the HLV and the associated project vessels during</li> </ul>

		the removal of the DTM.
<b>Vessels:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Construction support vessel (CSV) and Heavy Lift Vessel (HLV) for recovery and pipeline removal activities.</li> <li>• An anchor handling tug (AHT) to support the towing of the RTM to sheltered water.</li> </ul>	<p><b>P&amp;A activities</b></p> <ul style="list-style-type: none"> <li>• Semi-Submersible Mobile Offshore Drilling Unit (MODU)</li> <li>• The MODU will be supported by 2 to 3 offshore support vessels.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• CSV and HLV for recovery and activities.</li> <li>• AHTs to support the towing of the DTM to the shallower water location (if required).</li> </ul>

**Feedback:**

If you have any feedback on these activities, please respond to Woodside at: [Feedback@woodside.com.au](mailto:Feedback@woodside.com.au) or 1800 442 977.

Your feedback and our response will be included in our Environment Plan which will be submitted to 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. Please provide your views by **17 March 2023**.

You can also subscribe on our website to receive Consultation Information Sheets for proposed activities: [www.woodside.com/sustainability/consultation-activities](http://www.woodside.com/sustainability/consultation-activities).

**3.18 Email sent to the Shire of Exmouth (17 February 2023)**

Dear [REDACTED]

Woodside is providing this update on the progressive decommissioning of the Griffin and Stybarrow fields, previously operated by BHP Petroleum Pty Ltd (BHP).



We are providing this information to ensure relevant persons are informed about the status of proposed activities, as there have been changes to activity scope and supporting consultation information since consultation commenced for these decommissioning projects in 2021.

The **Griffin Field** is in Commonwealth waters in Petroleum Licence WA-10-L, 65 km northwest of Onslow and 94 km northeast of Exmouth, Western Australia and in water depths of approximately 120 m.

The **Stybarrow Field** is in Commonwealth waters in Petroleum Licence WA-32-L, approximately 53 km northwest of Exmouth, Western Australia and in water depths of approximately 810 – 850 m.

A summary of proposed activities is outlined below, and more detailed information is provided in the attached Consultation Information Sheets. The Information Sheets provide details on activities proposed to be managed under a number of Environment Plans for each Field, including a summary of potential key risks and associated management measures. The Information Sheets are also available on our [website](#).

Any feedback provided previously on proposed activities will remain current where Environment Plans are under assessment by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA). Please let us know if you would like to update previous feedback or have any additional views by **17 March 2023**.

**Activity:**

	<b>Griffin Field Decommissioning Activities</b>	<b>Stybarrow Field Decommissioning Activities</b>
<b>Summary:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, distribution skids, risers, flexible flowlines, rigid flowlines, umbilicals, and the pipeline end module (PLEM)).</li> <li>• Removal of the Riser Turret Mooring (RTM) and its moorings. Depending on the vessel utilised, recovery of the RTM may require sections of it to be towed to shallower water out of the title.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>• Pre-execution activities associated with the well P&amp;A, such as barrier testing and removal of marine growth.</li> <li>• Well P&amp;A of the 10 productions/injection wells by placing cement plugs in the wells to permanently prevent hydrocarbon release.</li> <li>• Cutting and removal of the wellhead and subsea tree assembly.</li> </ul>

	<ul style="list-style-type: none"> <li>• Removal of an exploration wellhead (Ramillies-1 in neighbouring petroleum title WA-12-L).</li> <li>• Ongoing field management activities.</li> <li>• Pigging and subsequent removal of the 26 km of Griffin Gas Export Pipeline (GEP) within Commonwealth waters.</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>• Proposal to leave in situ 12 RTM drag anchors (buried), 6 concrete gravity bases and 5 piled foundations for the PLEM and 4 distribution skids.</li> </ul>	<ul style="list-style-type: none"> <li>• Unblocking of the H4 flowline, if deemed feasible.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, manifolds, risers, flexible flowlines, and umbilicals).</li> <li>• Removal of the Disconnectable Turret Mooring (DTM) and its moorings. Recovery of the DTM may require it to be towed to shallower water outside of permit area WA-32-L to support the DTM removal from the marine environment.</li> <li>• Ongoing field management activities (equipment monitoring and inspection).</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>• Proposed leave in situ of the 9 DTM drag anchors (buried), nine suction piles for the riser holdbacks and the historical exploration wellhead, Eskdale-1, which was unable to be removed following its drilling and abandonment in 2003.</li> </ul>
<b>Location:</b>	<ul style="list-style-type: none"> <li>• 94 km northeast of Exmouth, Western Australia.</li> </ul>	<ul style="list-style-type: none"> <li>• 53 km northwest of Exmouth, Western Australia.</li> </ul>
<b>Approx. Water Depth (m):</b>	<ul style="list-style-type: none"> <li>• Approx. 120 m.</li> </ul>	<ul style="list-style-type: none"> <li>• Approx. 810 – 850 m.</li> </ul>
<b>Schedule:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Earliest proposed removal activity start is estimated to be Q4 2023, subject to approvals, vessel</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>• Earliest P&amp;A start is estimated to be Q4 2023, subject to approvals, MODU and</li> </ul>

	<p>availability and weather constraints.</p> <ul style="list-style-type: none"> <li>Facilities removal must be completed no later than 31 December 2024, pursuant to General Direction 832.</li> </ul>	<p>vessel availability and weather constraints.</p> <ul style="list-style-type: none"> <li>P&amp;A activities must be completed no later than 30 September 2024, pursuant to General Direction 833.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Earliest facilities and DTM removal is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>Equipment removal must be completed no later than 31 March 2025, pursuant to General Direction 833.</li> </ul>
<b>Duration:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Removal activities are anticipated to take approximately 6 months to complete and GEP removal activities are anticipated to take approximately 2 months to complete.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>P&amp;A activities are anticipated to take approximately 6 – 9 months.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Removal activities are anticipated to take approximately 4-6 months to complete and DTM removal activities are anticipated to take approximately 1 month to complete.</li> </ul>
<b>Exclusionary/Cautious Zone:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the equipment.</li> <li>A temporary 500 m exclusion zone will apply around the</li> </ul>	<p><b>P&amp;A Activities</b></p> <ul style="list-style-type: none"> <li>The Operational Area includes the area encompassing an approximate 3,000 m radius around each of the four drill centres within WA-32-L.</li> <li>A temporary 500 m exclusion zone will apply around the</li> </ul>

	<p>project vessels during removal and potential tow activities.</p>	<p>MODU and the associated project vessels during P&amp;A activities.</p> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the subsea infrastructure and wellheads.</li> <li>• The DTM has an existing 1200 m radius petroleum safety zone which will continue to be in place until it is removed.</li> <li>• A temporary 500 m exclusion zone will apply around the CSV and the associated project vessels during removal activities.</li> <li>• A temporary 500 m exclusion zone will apply around the HLV and the associated project vessels during the removal of the DTM.</li> </ul>
<p><b>Vessels:</b></p>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Construction support vessel (CSV) and Heavy Lift Vessel (HLV) for recovery and pipeline removal activities.</li> <li>• An anchor handling tug (AHT) to support the towing of the RTM to sheltered water.</li> </ul>	<p><b>P&amp;A activities</b></p> <ul style="list-style-type: none"> <li>• Semi-Submersible Mobile Offshore Drilling Unit (MODU)</li> <li>• The MODU will be supported by 2 to 3 offshore support vessels.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• CSV and HLV for recovery and activities.</li> <li>• AHTs to support the towing of the DTM to the shallower water location (if required).</li> </ul>

**Feedback:**

If you have any feedback on these activities, please respond to Woodside at: [Feedback@woodside.com.au](mailto:Feedback@woodside.com.au) or 1800 442 977.

Your feedback and our response will be included in our Environment Plan which will be submitted to 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. Please provide your views by **17 March 2023**.

You can also subscribe on our website to receive Consultation Information Sheets for proposed activities: [www.woodside.com/sustainability/consultation-activities](http://www.woodside.com/sustainability/consultation-activities).

### 3.19 Email sent to the Shire of Ashburton (17 February 2023)

Dear [REDACTED]

Woodside is providing this update on the progressive decommissioning of the Griffin and Stybarrow fields, previously operated by BHP Petroleum Pty Ltd (BHP).

We are providing this information to ensure relevant persons are informed about the status of proposed activities, as there have been changes to activity scope and supporting consultation information since consultation commenced for these decommissioning projects in 2021.

The **Griffin Field** is in Commonwealth waters in Petroleum Licence WA-10-L, 65 km northwest of Onslow and 94 km northeast of Exmouth, Western Australia and in water depths of approximately 120 m.

The **Stybarrow Field** is in Commonwealth waters in Petroleum Licence WA-32-L, approximately 53 km northwest of Exmouth, Western Australia and in water depths of approximately 810 – 850 m.

A summary of proposed activities is outlined below, and more detailed information is provided in the attached Consultation Information Sheets. The Information Sheets provide details on activities proposed to be managed under a number of Environment Plans for each Field, including a summary of potential key risks and associated management measures. The Information Sheets are also available on our [website](#).

Any feedback provided previously on proposed activities will remain current where Environment Plans are under assessment by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA). Please let us know if you would like to update previous feedback or have any additional views by **17 March 2023**.

**Activity:**

	<b>Griffin Field Decommissioning Activities</b>	<b>Stybarrow Field Decommissioning Activities</b>
<b>Summary:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, distribution skids, risers, flexible flowlines, rigid flowlines, umbilicals, and the pipeline end module (PLEM)).</li> <li>• Removal of the Riser Turret Mooring (RTM) and its moorings. Depending on the vessel utilised, recovery of the RTM may require sections of it to be towed to shallower water out of the title.</li> <li>• Removal of an exploration wellhead (Ramillies-1 in neighbouring petroleum title WA-12-L).</li> <li>• Ongoing field management activities.</li> <li>• Pigging and subsequent removal of the 26 km of Griffin Gas Export Pipeline (GEP) within Commonwealth waters.</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>• Proposal to leave in situ 12 RTM drag anchors (buried), 6 concrete gravity bases and 5 piled foundations</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>• Pre-execution activities associated with the well P&amp;A, such as barrier testing and removal of marine growth.</li> <li>• Well P&amp;A of the 10 productions/injection wells by placing cement plugs in the wells to permanently prevent hydrocarbon release.</li> <li>• Cutting and removal of the wellhead and subsea tree assembly.</li> <li>• Unblocking of the H4 flowline, if deemed feasible.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, manifolds, risers, flexible flowlines, and umbilicals).</li> <li>• Removal of the Disconnectable Turret Mooring (DTM) and its moorings. Recovery of the DTM may require it to be towed to shallower water outside of permit area WA-32-L to support the DTM removal from the marine environment.</li> <li>• Ongoing field management activities (equipment monitoring and inspection).</li> </ul>

	for the PLEM and 4 distribution skids.	<p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>Proposed leave in situ of the 9 DTM drag anchors (buried), nine suction piles for the riser holdbacks and the historical exploration wellhead, Eskdale-1, which was unable to be removed following its drilling and abandonment in 2003.</li> </ul>
<b>Location:</b>	<ul style="list-style-type: none"> <li>94 km northeast of Exmouth, Western Australia.</li> </ul>	<ul style="list-style-type: none"> <li>53 km northwest of Exmouth, Western Australia.</li> </ul>
<b>Approx. Water Depth (m):</b>	<ul style="list-style-type: none"> <li>Approx. 120 m.</li> </ul>	<ul style="list-style-type: none"> <li>Approx. 810 – 850 m.</li> </ul>
<b>Schedule:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Earliest proposed removal activity start is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>Facilities removal must be completed no later than 31 December 2024, pursuant to General Direction 832.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>Earliest P&amp;A start is estimated to be Q4 2023, subject to approvals, MODU and vessel availability and weather constraints.</li> <li>P&amp;A activities must be completed no later than 30 September 2024, pursuant to General Direction 833.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Earliest facilities and DTM removal is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>Equipment removal must be completed no later than 31 March 2025, pursuant to General Direction 833.</li> </ul>
<b>Duration:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Removal activities are anticipated to take approximately 6 months to complete and GEP removal activities are anticipated to take approximately 2 months to complete.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>P&amp;A activities are anticipated to take approximately 6 – 9 months.</li> </ul> <p><b>Removal Activities</b></p>

		<ul style="list-style-type: none"> <li>Removal activities are anticipated to take approximately 4-6 months to complete and DTM removal activities are anticipated to take approximately 1 month to complete.</li> </ul>
<b>Exclusionary/Cautious Zone:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the equipment.</li> <li>A temporary 500 m exclusion zone will apply around the project vessels during removal and potential tow activities.</li> </ul>	<p><b>P&amp;A Activities</b></p> <ul style="list-style-type: none"> <li>The Operational Area includes the area encompassing an approximate 3,000 m radius around each of the four drill centres within WA-32-L.</li> <li>A temporary 500 m exclusion zone will apply around the MODU and the associated project vessels during P&amp;A activities.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the subsea infrastructure and wellheads.</li> <li>The DTM has an existing 1200 m radius petroleum safety zone which will continue to be in place until it is removed.</li> <li>A temporary 500 m exclusion zone will apply around the CSV and the associated project vessels during removal activities.</li> <li>A temporary 500 m exclusion zone will apply around the HLV and the associated project vessels during the removal of the DTM.</li> </ul>
<b>Vessels:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Construction support vessel (CSV) and Heavy Lift Vessel (HLV) for recovery and</li> </ul>	<p><b>P&amp;A activities</b></p> <ul style="list-style-type: none"> <li>Semi-Submersible Mobile Offshore Drilling Unit (MODU)</li> </ul>



	<p>pipeline removal activities.</p> <ul style="list-style-type: none"> <li>An anchor handling tug (AHT) to support the towing of the RTM to sheltered water.</li> </ul>	<ul style="list-style-type: none"> <li>The MODU will be supported by 2 to 3 offshore support vessels.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>CSV and HLV for recovery and activities.</li> <li>AHTs to support the towing of the DTM to the shallower water location (if required).</li> </ul>
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**Feedback:**

If you have any feedback on these activities, please respond to Woodside at: [Feedback@woodside.com.au](mailto:Feedback@woodside.com.au) or 1800 442 977.

Your feedback and our response will be included in our Environment Plan which will be submitted to 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. Please provide your views by **17 March 2023**.

You can also subscribe on our website to receive Consultation Information Sheets for proposed activities: [www.woodside.com/sustainability/consultation-activities](http://www.woodside.com/sustainability/consultation-activities).

**3.20 Email sent to the University of Western Australia (UWA) (21 February 2023)**

Dear ■■■

Woodside is providing this update on the progressive decommissioning of the Griffin and Stybarrow fields, previously operated by BHP Petroleum Pty Ltd (BHP).

We are providing this information to ensure relevant persons are informed about the status of proposed activities, as there have been changes to activity scope and supporting consultation information since consultation commenced for these decommissioning projects in 2021.

The **Griffin Field** is in Commonwealth waters in Petroleum Licence WA-10-L, 65 km northwest of Onslow and 94 km northeast of Exmouth, Western Australia and in water depths of approximately 120 m.

The **Stybarrow Field** is in Commonwealth waters in Petroleum Licence WA-32-L, approximately 53 km northwest of Exmouth, Western Australia and in water depths of approximately 810 – 850 m.

A summary of proposed activities is outlined below, and more detailed information is provided in the attached Consultation Information Sheets. The Information Sheets provide details on activities proposed to be managed under a number of Environment Plans for each Field, including a summary of potential key risks and associated management measures. The Information Sheets are also available on our [website](#).

**Woodside is seeking your advice regarding any research activities that UWA may be undertaking that may overlap with our proposed activities.**

Any feedback provided previously on proposed activities will remain current where Environment Plans are under assessment by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

Please let us know if you would like to update previous feedback or have any additional views by **17 March 2023**.

**Activity:**

	<b>Griffin Field Decommissioning Activities</b>	<b>Stybarrow Field Decommissioning Activities</b>
<b>Summary:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, distribution skids, risers, flexible flowlines, rigid flowlines, umbilicals, and the pipeline end module (PLEM)).</li> <li>• Removal of the Riser Turret Mooring (RTM) and its moorings. Depending on the vessel utilised, recovery of the RTM may require sections of it to be towed to shallower water out of the title.</li> <li>• Removal of an exploration wellhead (Ramillies-1 in neighbouring petroleum title WA-12-L).</li> <li>• Ongoing field management activities.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>• Pre-execution activities associated with the well P&amp;A, such as barrier testing and removal of marine growth.</li> <li>• Well P&amp;A of the 10 productions/injection wells by placing cement plugs in the wells to permanently prevent hydrocarbon release.</li> <li>• Cutting and removal of the wellhead and subsea tree assembly.</li> <li>• Unblocking of the H4 flowline, if deemed feasible.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, manifolds,</li> </ul>

	<ul style="list-style-type: none"> <li>Pigging and subsequent removal of the 26 km of Griffin Gas Export Pipeline (GEP) within Commonwealth waters.</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>Proposal to leave in situ 12 RTM drag anchors (buried), 6 concrete gravity bases and 5 piled foundations for the PLEM and 4 distribution skids.</li> </ul>	<ul style="list-style-type: none"> <li>risers, flexible flowlines, and umbilicals).</li> <li>Removal of the Disconnectable Turret Mooring (DTM) and its moorings. Recovery of the DTM may require it to be towed to shallower water outside of permit area WA-32-L to support the DTM removal from the marine environment.</li> <li>Ongoing field management activities (equipment monitoring and inspection).</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>Proposed leave in situ of the 9 DTM drag anchors (buried), nine suction piles for the riser holdbacks and the historical exploration wellhead, Eskdale-1, which was unable to be removed following its drilling and abandonment in 2003.</li> </ul>
<b>Location:</b>	<ul style="list-style-type: none"> <li>94 km northeast of Exmouth, Western Australia.</li> </ul>	<ul style="list-style-type: none"> <li>53 km northwest of Exmouth, Western Australia.</li> </ul>
<b>Approx. Water Depth (m):</b>	<ul style="list-style-type: none"> <li>Approx. 120 m.</li> </ul>	<ul style="list-style-type: none"> <li>Approx. 810 – 850 m.</li> </ul>
<b>Schedule:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Earliest proposed removal activity start is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>Facilities removal must be completed no later than 31 December 2024, pursuant to General Direction 832.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>Earliest P&amp;A start is estimated to be Q4 2023, subject to approvals, MODU and vessel availability and weather constraints.</li> <li>P&amp;A activities must be completed no later than 30 September 2024, pursuant to General Direction 833.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Earliest facilities and DTM removal is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>Equipment removal must be completed no later than 31 March 2025, pursuant to General Direction 833.</li> </ul>

<p><b>Duration:</b></p>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Removal activities are anticipated to take approximately 6 months to complete and GEP removal activities are anticipated to take approximately 2 months to complete.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>P&amp;A activities are anticipated to take approximately 6 – 9 months.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Removal activities are anticipated to take approximately 4-6 months to complete and DTM removal activities are anticipated to take approximately 1 month to complete.</li> </ul>
<p><b>Exclusionary/Cautious Zone:</b></p>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the equipment.</li> <li>A temporary 500 m exclusion zone will apply around the project vessels during removal and potential tow activities.</li> </ul>	<p><b>P&amp;A Activities</b></p> <ul style="list-style-type: none"> <li>The Operational Area includes the area encompassing an approximate 3,000 m radius around each of the four drill centres within WA-32-L.</li> <li>A temporary 500 m exclusion zone will apply around the MODU and the associated project vessels during P&amp;A activities.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the subsea infrastructure and wellheads.</li> <li>The DTM has an existing 1200 m radius petroleum safety zone which will continue to be in place until it is removed.</li> <li>A temporary 500 m exclusion zone will apply around the CSV and the associated project vessels during removal activities.</li> <li>A temporary 500 m exclusion zone will apply around the HLV and the associated project vessels during the removal of the DTM.</li> </ul>
<p><b>Vessels:</b></p>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Construction support vessel (CSV) and Heavy Lift Vessel</li> </ul>	<p><b>P&amp;A activities</b></p> <ul style="list-style-type: none"> <li>Semi-Submersible Mobile Offshore Drilling Unit (MODU)</li> </ul>

	<ul style="list-style-type: none"> <li>(HLV) for recovery and pipeline removal activities.</li> <li>An anchor handling tug (AHT) to support the towing of the RTM to sheltered water.</li> </ul>	<ul style="list-style-type: none"> <li>The MODU will be supported by 2 to 3 offshore support vessels.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>CSV and HLV for recovery and activities.</li> <li>AHTs to support the towing of the DTM to the shallower water location (if required).</li> </ul>
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**Feedback:**

If you have any feedback on these activities, please respond to Woodside at: [Feedback@woodside.com.au](mailto:Feedback@woodside.com.au) or 1800 442 977.

Your feedback and our response will be included in our Environment Plan which will be submitted to 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.

Please provide your views by **17 March 2023**.

You can also subscribe on our website to receive Consultation Information Sheets for proposed activities: [www.woodside.com/sustainability/consultation-activities](http://www.woodside.com/sustainability/consultation-activities).

**3.21 Email sent to the Western Australian Marine Science Institution (WAMSI) (21 February 2023)**

Dear [REDACTED]

Woodside is providing this update on the progressive decommissioning of the Griffin and Stybarrow fields, previously operated by BHP Petroleum Pty Ltd (BHP).

We are providing this information to ensure relevant persons are informed about the status of proposed activities, as there have been changes to activity scope and supporting consultation information since consultation commenced for these decommissioning projects in 2021.

The **Griffin Field** is in Commonwealth waters in Petroleum Licence WA-10-L, 65 km northwest of Onslow and 94 km northeast of Exmouth, Western Australia and in water depths of approximately 120 m.

The **Stybarrow Field** is in Commonwealth waters in Petroleum Licence WA-32-L, approximately 53 km northwest of Exmouth, Western Australia and in water depths of approximately 810 – 850 m.

A summary of proposed activities is outlined below, and more detailed information is provided in the attached Consultation Information Sheets. The Information Sheets provide details on activities proposed to be managed under a number of Environment Plans for each Field, including a summary of potential key risks and associated management measures. The Information Sheets are also available on our [website](#).

**Woodside is seeking your advice regarding any research activities that WAMSI may be undertaking that may overlap with our proposed activities.**

Any feedback provided previously on proposed activities will remain current where Environment Plans are under assessment by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

Please let us know if you would like to update previous feedback or have any additional views by **17 March 2023**.

**Activity:**

	<b>Griffin Field Decommissioning Activities</b>	<b>Stybarrow Field Decommissioning Activities</b>
<b>Summary:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, distribution skids, risers, flexible flowlines, rigid flowlines, umbilicals, and the pipeline end module (PLEM)).</li> <li>• Removal of the Riser Turret Mooring (RTM) and its moorings. Depending on the vessel utilised, recovery of the RTM may require sections of it to be towed to shallower water out of the title.</li> <li>• Removal of an exploration wellhead (Ramillies-1 in</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>• Pre-execution activities associated with the well P&amp;A, such as barrier testing and removal of marine growth.</li> <li>• Well P&amp;A of the 10 productions/injection wells by placing cement plugs in the wells to permanently prevent hydrocarbon release.</li> <li>• Cutting and removal of the wellhead and subsea tree assembly.</li> <li>• Unblocking of the H4 flowline, if deemed feasible.</li> </ul>

	<p>neighbouring petroleum title WA-12-L).</p> <ul style="list-style-type: none"> <li>• Ongoing field management activities.</li> <li>• Pigging and subsequent removal of the 26 km of Griffin Gas Export Pipeline (GEP) within Commonwealth waters.</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>• Proposal to leave in situ 12 RTM drag anchors (buried), 6 concrete gravity bases and 5 piled foundations for the PLEM and 4 distribution skids.</li> </ul>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, manifolds, risers, flexible flowlines, and umbilicals).</li> <li>• Removal of the Disconnectable Turret Mooring (DTM) and its moorings. Recovery of the DTM may require it to be towed to shallower water outside of permit area WA-32-L to support the DTM removal from the marine environment.</li> <li>• Ongoing field management activities (equipment monitoring and inspection).</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>• Proposed leave in situ of the 9 DTM drag anchors (buried), nine suction piles for the riser holdbacks and the historical exploration wellhead, Eskdale-1, which was unable to be removed following its drilling and abandonment in 2003.</li> </ul>
<b>Location:</b>	<ul style="list-style-type: none"> <li>• 94 km northeast of Exmouth, Western Australia.</li> </ul>	<ul style="list-style-type: none"> <li>• 53 km northwest of Exmouth, Western Australia.</li> </ul>
<b>Approx. Water Depth (m):</b>	<ul style="list-style-type: none"> <li>• Approx. 120 m.</li> </ul>	<ul style="list-style-type: none"> <li>• Approx. 810 – 850 m.</li> </ul>
<b>Schedule:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Earliest proposed removal activity start is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>• Facilities removal must be completed no later than 31 December 2024, pursuant to General Direction 832.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>• Earliest P&amp;A start is estimated to be Q4 2023, subject to approvals, MODU and vessel availability and weather constraints.</li> <li>• P&amp;A activities must be completed no later than 30 September 2024, pursuant to General Direction 833.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Earliest facilities and DTM removal is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> </ul>

		<ul style="list-style-type: none"> <li>Equipment removal must be completed no later than 31 March 2025, pursuant to General Direction 833.</li> </ul>
<b>Duration:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Removal activities are anticipated to take approximately 6 months to complete and GEP removal activities are anticipated to take approximately 2 months to complete.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>P&amp;A activities are anticipated to take approximately 6 – 9 months.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Removal activities are anticipated to take approximately 4-6 months to complete and DTM removal activities are anticipated to take approximately 1 month to complete.</li> </ul>
<b>Exclusionary/Cautious Zone:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the equipment.</li> <li>A temporary 500 m exclusion zone will apply around the project vessels during removal and potential tow activities.</li> </ul>	<p><b>P&amp;A Activities</b></p> <ul style="list-style-type: none"> <li>The Operational Area includes the area encompassing an approximate 3,000 m radius around each of the four drill centres within WA-32-L.</li> <li>A temporary 500 m exclusion zone will apply around the MODU and the associated project vessels during P&amp;A activities.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the subsea infrastructure and wellheads.</li> <li>The DTM has an existing 1200 m radius petroleum safety zone which will continue to be in place until it is removed.</li> <li>A temporary 500 m exclusion zone will apply around the CSV and the associated project vessels during removal activities.</li> <li>A temporary 500 m exclusion zone will apply around the HLV and the associated project</li> </ul>



		vessels during the removal of the DTM.
<b>Vessels:</b>	<b>Removal Activities</b> <ul style="list-style-type: none"> <li>• Construction support vessel (CSV) and Heavy Lift Vessel (HLV) for recovery and pipeline removal activities.</li> <li>• An anchor handling tug (AHT) to support the towing of the RTM to sheltered water.</li> </ul>	<b>P&amp;A activities</b> <ul style="list-style-type: none"> <li>• Semi-Submersible Mobile Offshore Drilling Unit (MODU)</li> <li>• The MODU will be supported by 2 to 3 offshore support vessels.</li> </ul> <b>Removal Activities</b> <ul style="list-style-type: none"> <li>• CSV and HLV for recovery and activities.</li> <li>• AHTs to support the towing of the DTM to the shallower water location (if required).</li> </ul>

**Feedback:**

If you have any feedback on these activities, please respond to Woodside at: [Feedback@woodside.com.au](mailto:Feedback@woodside.com.au) or 1800 442 977.

Your feedback and our response will be included in our Environment Plan which will be submitted to 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.

Please provide your views by **17 March 2023**.

You can also subscribe on our website to receive Consultation Information Sheets for proposed activities: [www.woodside.com/sustainability/consultation-activities](http://www.woodside.com/sustainability/consultation-activities).

**3.22 Email sent to the Maritime Union of Australia (MUA) (21 February 2023)**

Dear [REDACTED]

Woodside is providing this update on the progressive decommissioning of the Griffin and Stybarrow fields, previously operated by BHP Petroleum Pty Ltd (BHP).

We are providing this information to ensure relevant persons are informed about the status of proposed activities, as there have been changes to activity scope and supporting consultation information since consultation commenced for these decommissioning projects in 2021.

The **Griffin Field** is in Commonwealth waters in Petroleum Licence WA-10-L, 65 km northwest of Onslow and 94 km northeast of Exmouth, Western Australia and in water depths of approximately 120 m.

The **Stybarrow Field** is in Commonwealth waters in Petroleum Licence WA-32-L, approximately 53 km northwest of Exmouth, Western Australia and in water depths of approximately 810 – 850 m.

A summary of proposed activities is outlined below, and more detailed information is provided in the attached Consultation Information Sheets. The Information Sheets provide details on activities proposed to be managed under a number of Environment Plans for each Field, including a summary of potential key risks and associated management measures. The Information Sheets are also available on our [website](#).

Any feedback provided previously on proposed activities will remain current where Environment Plans are under assessment by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

Please let us know if you would like to update previous feedback or have any additional views by **17 March 2023**.

**Activity:**

	<b>Griffin Field Decommissioning Activities</b>	<b>Stybarrow Field Decommissioning Activities</b>
<b>Summary:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, distribution skids, risers, flexible flowlines, rigid flowlines, umbilicals, and the pipeline end module (PLEM)).</li> <li>• Removal of the Riser Turret Mooring (RTM) and its moorings. Depending on the vessel utilised, recovery of the RTM may require sections of it to be towed to shallower water out of the title.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>• Pre-execution activities associated with the well P&amp;A, such as barrier testing and removal of marine growth.</li> <li>• Well P&amp;A of the 10 productions/injection wells by placing cement plugs in the wells to permanently prevent hydrocarbon release.</li> <li>• Cutting and removal of the wellhead and subsea tree assembly.</li> <li>• Unblocking of the H4 flowline, if deemed feasible.</li> </ul>

	<ul style="list-style-type: none"> <li>• Removal of an exploration wellhead (Ramillies-1 in neighbouring petroleum title WA-12-L).</li> <li>• Ongoing field management activities.</li> <li>• Pigging and subsequent removal of the 26 km of Griffin Gas Export Pipeline (GEP) within Commonwealth waters.</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>• Proposal to leave in situ 12 RTM drag anchors (buried), 6 concrete gravity bases and 5 piled foundations for the PLEM and 4 distribution skids.</li> </ul>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, manifolds, risers, flexible flowlines, and umbilicals).</li> <li>• Removal of the Disconnectable Turret Mooring (DTM) and its moorings. Recovery of the DTM may require it to be towed to shallower water outside of permit area WA-32-L to support the DTM removal from the marine environment.</li> <li>• Ongoing field management activities (equipment monitoring and inspection).</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>• Proposed leave in situ of the 9 DTM drag anchors (buried), nine suction piles for the riser holdbacks and the historical exploration wellhead, Eskdale-1, which was unable to be removed following its drilling and abandonment in 2003.</li> </ul>
<b>Location:</b>	<ul style="list-style-type: none"> <li>• 94 km northeast of Exmouth, Western Australia.</li> </ul>	<ul style="list-style-type: none"> <li>• 53 km northwest of Exmouth, Western Australia.</li> </ul>
<b>Approx. Water Depth (m):</b>	<ul style="list-style-type: none"> <li>• Approx. 120 m.</li> </ul>	<ul style="list-style-type: none"> <li>• Approx. 810 – 850 m.</li> </ul>
<b>Schedule:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Earliest proposed removal activity start is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>• Facilities removal must be completed no later than 31 December 2024, pursuant to General Direction 832.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>• Earliest P&amp;A start is estimated to be Q4 2023, subject to approvals, MODU and vessel availability and weather constraints.</li> <li>• P&amp;A activities must be completed no later than 30 September 2024, pursuant to General Direction 833.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Earliest facilities and DTM removal is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> </ul>

		<ul style="list-style-type: none"> <li>Equipment removal must be completed no later than 31 March 2025, pursuant to General Direction 833.</li> </ul>
<p><b>Duration:</b></p>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Removal activities are anticipated to take approximately 6 months to complete and GEP removal activities are anticipated to take approximately 2 months to complete.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>P&amp;A activities are anticipated to take approximately 6 – 9 months.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Removal activities are anticipated to take approximately 4-6 months to complete and DTM removal activities are anticipated to take approximately 1 month to complete.</li> </ul>
<p><b>Exclusionary/Cautious Zone:</b></p>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the equipment.</li> <li>A temporary 500 m exclusion zone will apply around the project vessels during removal and potential tow activities.</li> </ul>	<p><b>P&amp;A Activities</b></p> <ul style="list-style-type: none"> <li>The Operational Area includes the area encompassing an approximate 3,000 m radius around each of the four drill centres within WA-32-L.</li> <li>A temporary 500 m exclusion zone will apply around the MODU and the associated project vessels during P&amp;A activities.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the subsea infrastructure and wellheads.</li> <li>The DTM has an existing 1200 m radius petroleum safety zone which will continue to be in place until it is removed.</li> <li>A temporary 500 m exclusion zone will apply around the CSV and the associated project vessels during removal activities.</li> <li>A temporary 500 m exclusion zone will apply around the HLV and the associated project</li> </ul>

		vessels during the removal of the DTM.
<b>Vessels:</b>	<b>Removal Activities</b> <ul style="list-style-type: none"> <li>• Construction support vessel (CSV) and Heavy Lift Vessel (HLV) for recovery and pipeline removal activities.</li> <li>• An anchor handling tug (AHT) to support the towing of the RTM to sheltered water.</li> </ul>	<b>P&amp;A activities</b> <ul style="list-style-type: none"> <li>• Semi-Submersible Mobile Offshore Drilling Unit (MODU)</li> <li>• The MODU will be supported by 2 to 3 offshore support vessels.</li> </ul> <b>Removal Activities</b> <ul style="list-style-type: none"> <li>• CSV and HLV for recovery and activities.</li> <li>• AHTs to support the towing of the DTM to the shallower water location (if required).</li> </ul>

**Feedback:**

If you have any feedback on these activities, please respond to Woodside at: [Feedback@woodside.com.au](mailto:Feedback@woodside.com.au) or 1800 442 977.

Your feedback and our response will be included in our Environment Plan which will be submitted to 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.

Please provide your views by **17 March 2023**.

You can also subscribe on our website to receive Consultation Information Sheets for proposed activities: [www.woodside.com/sustainability/consultation-activities](http://www.woodside.com/sustainability/consultation-activities).

**3.23 Letter sent to Pilbara Line Fishery (9 licence holders), Pilbara Trap Fishery (6 licence holders) and Pilbara Trawl Fishery (7 licence holders) (17 February 2023)**

17 February 2023

Dear [REDACTED]

Woodside is providing this update on the progressive decommissioning of the Griffin and Stybarrow fields, previously operated by BHP Petroleum Pty Ltd (BHP).

We are providing this information to ensure relevant persons are informed about the status of proposed activities, as there have been changes to activity scope and supporting consultation information since consultation commenced for these decommissioning projects in 2021.

The Griffin Field is in Commonwealth waters in Petroleum Licence WA-10-L, 65 km northwest of Onslow and 94 km northeast of Exmouth, Western Australia and in water depths of approximately 120 m.

The Stybarrow Field is in Commonwealth waters in Petroleum Licence WA-32-L, approximately 53 km northwest of Exmouth, Western Australia and in water depths of approximately 810 – 850 m.

Please see the relevant QR codes below which link directly to consultation Information Sheets which provide 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 [www.woodside.com](http://www.woodside.com). You can also subscribe to receive updates on our consultation activities by subscribing through our Consultation Activities page.

Activity Update: Griffin Decommissioning EP



Activity Update: Stybarrow Decommissioning EP



Activity Update: Stybarrow Plug & Abandonment EP



Operational Areas and Exclusion Zones will apply around a range of vessels that will support plugging and abandonment and infrastructure recovery and removal activities, which are outlined in the activity summaries below.

A summary of proposed activities is outlined below and more detailed information is provided in the attached Consultation Information Sheets, including a summary of potential key risks and associated management measures. The Information Sheets are also available and be accessed via the QR Code in this letter.

Fisheries have been identified as being relevant based on fishing licence overlap with the activity area, assessment of government fishing effort data (including Fishcube and AFMA) from recent years, fishing methods and water depth.

Any feedback provided previously on proposed activities will remain current where Environment Plans are under assessment by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA). Please let us know if you would like to update previous feedback or have any additional views by 17 March 2023.

**Activity:**

	Griffin Field Decommissioning Activities	Stybarrow Field Decommissioning Activities
<b>Summary:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, distribution skids, risers, flexible flowlines, rigid flowlines, umbilicals, and the pipeline end module (PLEM)).</li> <li>• Removal of the Riser Turret Mooring (RTM) and its moorings. Depending on the vessel utilised, recovery of the RTM may require sections of it to be towed to shallower water out of the title.</li> <li>• Removal of an exploration wellhead (Ramillies-1 in neighbouring petroleum title WA-12-L).</li> <li>• Ongoing field management activities.</li> <li>• Pigging and subsequent removal of the 26 km of Griffin Gas Export Pipeline (GEP) within Commonwealth waters.</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>• Proposal to leave <i>in situ</i> 12 RTM drag anchors (buried), 6 concrete gravity bases and 5 piled foundations for the PLEM and 4 distribution skids.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>• Pre-execution activities associated with the well P&amp;A, such as barrier testing and removal of marine growth.</li> <li>• Well P&amp;A of the 10 productions/injection wells by placing cement plugs in the wells to permanently prevent hydrocarbon release.</li> <li>• Cutting and removal of the wellhead and subsea tree assembly.</li> <li>• Unblocking of the H4 flowline, if deemed feasible.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, manifolds, risers, flexible flowlines, and umbilicals).</li> <li>• Removal of the Disconnectable Turret Mooring (DTM) and its moorings. Recovery of the DTM may require it to be towed to shallower water outside of permit area WA-32-L to support the DTM removal from the marine environment.</li> <li>• Ongoing field management activities (equipment monitoring and inspection).</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>• Proposed leave <i>in situ</i> of the 9 DTM drag anchors (buried), nine suction piles for the riser holdbacks and the historical exploration wellhead, Eskdale-1, which was unable to be removed following its drilling and abandonment in 2003.</li> </ul>

<i>Location:</i>	<ul style="list-style-type: none"> <li>94 km northeast of Exmouth, Western Australia.</li> </ul>	<ul style="list-style-type: none"> <li>53 km northwest of Exmouth, Western Australia.</li> </ul>
<i>Approx. Water Depth (m):</i>	<ul style="list-style-type: none"> <li>Approx. 120 m.</li> </ul>	<ul style="list-style-type: none"> <li>Approx. 810 – 850 m.</li> </ul>
<i>Schedule:</i>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Earliest proposed removal activity start is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>Facilities removal must be completed no later than 31 December 2024, pursuant to General Direction 832.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>Earliest P&amp;A start is estimated to be Q4 2023, subject to approvals, MODU and vessel availability and weather constraints.</li> <li>P&amp;A activities must be completed no later than 30 September 2024, pursuant to General Direction 833.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Earliest facilities and DTM removal is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>Equipment removal must be completed no later than 31 March 2025, pursuant to General Direction 833.</li> </ul>
<i>Duration:</i>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Removal activities are anticipated to take approximately 6 months to complete and GEP removal activities are anticipated to take approximately 2 months to complete.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>P&amp;A activities are anticipated to take approximately 6 – 9 months.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Removal activities are anticipated to take approximately 4-6 months to complete and DTM removal activities are anticipated to take approximately 1 month to complete.</li> </ul>
<i>Exclusionary/Cautionary Zone:</i>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the equipment.</li> <li>A temporary 500 m exclusion zone will apply around the</li> </ul>	<p><b>P&amp;A Activities</b></p> <ul style="list-style-type: none"> <li>The Operational Area includes the area encompassing an approximate 3,000 m radius around each of the four drill centers within WA-32-L.</li> <li>A temporary 500 m exclusion zone will apply around the</li> </ul>



	<p>project vessels during removal and potential tow activities.</p>	<p>MODU and the associated project vessels during P&amp;A activities.</p> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the subsea infrastructure and wellheads.</li> <li>• The DTM has an existing 1200 m radius petroleum safety zone which will continue to be in place until it is removed.</li> <li>• A temporary 500 m exclusion zone will apply around the CSV and the associated project vessels during removal activities.</li> <li>• A temporary 500 m exclusion zone will apply around the HLV and the associated project vessels during the removal of the DTM.</li> </ul>
<p><b>Vessels:</b></p>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Construction support vessel (CSV) and Heavy Lift Vessel (HLV) for recovery and pipeline removal activities.</li> <li>• An anchor handling tug (AHT) to support the towing of the RTM to sheltered water.</li> </ul>	<p><b>P&amp;A activities</b></p> <ul style="list-style-type: none"> <li>• Semi-Submersible Mobile Offshore Drilling Unit (MODU)</li> <li>• The MODU will be supported by 2 to 3 offshore support vessels.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• CSV and HLV for recovery and activities.</li> <li>• AHTs to support the towing of the DTM to the shallower water location (if required).</li> </ul>

**State-managed fisheries implications:**

We note that there are 20 overlapping State managed fisheries in the EMBA listed below.

- Exmouth Gulf Beach Seine and Mesh Net Managed Fish
- Exmouth Gulf Prawn Managed Fishery
- Gascoyne Demersal Scalefish Managed Fishery
- Mackerel Managed Fishery (Area 2)
- Mackerel Managed Fishery (Area 3)
- Marine Aquarium Fish Managed Fishery
- Nickol Bay Prawn Managed Fishery



- Onslow Prawn Managed Fishery
- Pilbara Crab Managed Fishery
- Pilbara Fish Trawl (Interim) Managed Fishery
- Pilbara Line Fishery (Condition)
- Pilbara Trap Managed Fishery
- Shark Bay Crab Managed Fishery
- Shark Bay Prawn Managed Fishery
- Shark Bay Scallop Managed Fishery
- West Australian Sea Cucumber Fishery
- West Coast Deep Sea Crustacean Managed Fishery
- West Coast Demersal Scalefish (Interim) Managed Fishery
- West Coast Rock Lobster Managed Fishery

Of these State-managed fisheries, the following may have been active in the Operational Area in recent years.

Griffin Field Decommissioning	Stybarrow Field Decommissioning
<ul style="list-style-type: none"> <li>• Exmouth Gulf Prawn Managed Fishery</li> <li>• Mackerel Managed Fishery (Area 2)</li> <li>• Marine Aquarium Fish Managed Fishery</li> <li>• Onslow Prawn Managed Fishery</li> <li>• Pilbara Line Fishery (Condition)</li> <li>• Pilbara Trap Managed Fishery</li> <li>• Tour Operators</li> <li>• West Coast Deep Sea Crustacean Managed Fishery</li> </ul>	<ul style="list-style-type: none"> <li>• Tour Operators</li> <li>• West Coast Deep Sea Crustacean Managed Fishery</li> </ul>

**Feedback:**

If you have any feedback on these activities, please respond to Woodside at: [Feedback@woodside.com.au](mailto:Feedback@woodside.com.au) or 1800 442 977.

Your feedback and our response will be included in our Environment Plan which will be submitted to 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.

Please provide your views by 17 March 2023.

**Attachment A: Feedback Form**

**Attachment A: Feedback Form**

FEEDBACK	GRIFFIN DECOMMISSIONING EP	STYBARROW DECOMMISSIONING EP	STYBARROW PLUG & ABANDONMENT EP

**3.24 Email sent to Nganhurra Thanardi Garrbu Aboriginal Corporation (NTGAC) (21 February 2023)**

Dear [REDACTED]

Firstly, thank you for your assistance in arranging the meeting between NTGAC and Woodside on 16 February. It was a pleasure to meet the NTGAC Board and YMAC staff. We were most grateful for the opportunity to provide information about our plans and to learn of NTGAC's questions. We will write separately to thank the NTGAC Board for the meeting.

As was discussed during our meeting, please find attached information about Woodside's decommissioning and drilling activities. With the exception of removing the Nganhurra Riser Turret Mooring, for which Woodside seeks NTGAC's feedback soonest, Woodside is seeking feedback on these decommissioning and drilling activities by 17 March. The plain English summary of each of these activities is attached, and I have provided a link to the more detailed consultation information sheets below. To recap, these activities are:

Decommissioning Activities:

- Removal of the Nganhurra Riser Turret Mooring (RTM). Information about the RTM was previously emailed on 18 January. For ease of reference, the summary information is attached and the consultation information sheet for the RTM can be found at the link below.
  - [consultation-information-sheet---nganhurra-operations-cessation-environment-plan-revision.pdf \(woodside.com\)](#)
- Stybarrow. This involves two work activities that are subject to separate environment plans; plug and abandonment (P&A), and decommissioning.
  - [consultation-information-sheet---stybarrow-plug-and-abandonment-environment-plan.pdf \(woodside.com\)](#)
  - [Consultation Information Sheet - Stybarrow Decommissioning Environment Plans \(woodside.com\)](#)
- Griffin decommissioning.
  - [consultation-information-sheet---griffin-decommissioning-environment-plans.pdf \(woodside.com\)](#)

Drilling Activities:

- TPA03 Well Intervention.
  - [Consultation Information Sheet - TPA03 Well Intervention Environment Plan \(woodside.com\)](#)
- WA-34-L Pyxis Drilling and Subsea Installation.
  - [Consultation Information Sheet - WA-34-L Pyxis Drilling and Subsea Installation Environment Plan \(woodside.com\)](#)
- Julimar Appraisal Drilling.
  - [Consultation Information Sheet - Julimar Appraisal Drilling and Survey Environment Plan \(woodside.com\)](#)

Woodside also looks forward to receiving NTGAC's feedback on the four Scarborough project activities as soon as is possible.

In providing this information and requests for feedback, I acknowledge [REDACTED] email of 20 February outlining NTGAC's request of Woodside to provide funding for YMAC's in-house environmental scientist to undertake a review of the RTM environmental plan. [REDACTED] will be in contact with [REDACTED] directly about this in the coming days.

Thanks again [REDACTED] for your assistance last week, your consideration of these matters and for your work to progress these important consultations.

Yours sincerely

**3.25 Email sent to Buurabalayji Thalanyji Aboriginal Corporation (BTAC) (22 February 2023)**

Dear [REDACTED]

Firstly, thank you for your correspondence of 20 February regarding consultations about the Scarborough project. We will respond to this correspondence in the coming days and would be most grateful for the opportunity to meet with you to discuss the matters raised in your letter and our relationship more broadly.

Further to my correspondence of 18 January regarding Woodside's plan to remove the Nganhurra Riser Turret Mooring (RTM), and of 20 January regarding Woodside's Scarborough project, please find attached information about Woodside's decommissioning and drilling activities that we are seeking to consult with Buurabalayji Thalanyji Aboriginal Corporation (BTAC) about.

With the exception of removing the Nganhurra RTM and the Scarborough project, for which Woodside is seeking BTAC's feedback as soon as possible, Woodside is seeking BTAC's feedback on these decommissioning and drilling activities by 17 March. The plain English summary of each of these activities is attached, and I have provided a link to the more detailed consultation information sheets below. These activities are:

Decommissioning Activities:

- Removal of the Nganhurra Riser Turret Mooring (RTM). Information about the RTM was previously emailed on 18 January. For ease of reference, the summary information is attached and the consultation information sheet for the RTM can be found at the link below.
  - [consultation-information-sheet---nganhurra-operations-cessation-environment-plan-revision.pdf \(woodside.com\)](#)
- Stybarrow. This involves two work activities that are subject to separate environment plans; plug and abandonment (P&A) of the wells and decommissioning the infrastructure.
  - [consultation-information-sheet---stybarrow-plug-and-abandonment-environment-plan.pdf \(woodside.com\)](#)
  - [Consultation Information Sheet - Stybarrow Decommissioning Environment Plans \(woodside.com\)](#)
- Griffin decommissioning.
  - [consultation-information-sheet---griffin-decommissioning-environment-plans.pdf \(woodside.com\)](#)

Drilling Activities:

- TPA03 Well Intervention.
  - [Consultation Information Sheet - TPA03 Well Intervention Environment Plan \(woodside.com\)](#)
- WA-34-L Pyxis Drilling and Subsea Installation.
  - [Consultation Information Sheet - WA-34-L Pyxis Drilling and Subsea Installation Environment Plan \(woodside.com\)](#)
- Julimar Appraisal Drilling.
  - [Consultation Information Sheet - Julimar Appraisal Drilling and Survey Environment Plan \(woodside.com\)](#)

We look forward to meeting with you to discuss and respond to the matters raised in your letter, this correspondence, and to discuss other matters important to BTAC and Woodside.

Thank you, [REDACTED], for yours and [REDACTED] consideration and work to progress these important consultations. We are looking forward to working with BTAC.

As always, please feel free to contact me on the details below if you require further information or assistance.

Yours sincerely

[REDACTED]

**3.26 Email sent to Yinggarda Aboriginal Corporation (YAC) via Yamatji Marlpa Aboriginal Corporation (YMAC) (22 February 2023)**

Dear [REDACTED]

I hope this message finds you well.

Further to my correspondence of 18 January regarding Woodside's plan to remove the Nganhurra Riser Turret Mooring (RTM), and [REDACTED] correspondence of 20 January regarding Woodside's Scarborough project, please find attached information about Woodside's decommissioning and drilling activities that we are seeking to consult with Yinggarda Aboriginal Corporation (YAC) about.

With the exception of removing the Nganhurra RTM and the Scarborough project, for which Woodside is seeking YAC's feedback as soon as possible, Woodside is seeking YAC's feedback on these decommissioning and drilling activities by 17 March. The plain English summary of each of these activities is attached, and I have provided a link to the more detailed consultation information sheets below. These activities are:

Decommissioning Activities:

- Removal of the Nganhurra Riser Turret Mooring (RTM). Information about the RTM was previously emailed on 18 January. For ease of reference, the summary information is attached and the consultation information sheet for the RTM can be found at the link below.
  - o [consultation-information-sheet---nganhurra-operations-cessation-environment-plan-revision.pdf](#) (woodside.com)
- Stybarrow. This involves two work activities that are subject to separate environment plans; plug and abandonment (P&A) of the wells and decommissioning the infrastructure.
  - o [consultation-information-sheet---stybarrow-plug-and-abandonment-environment-plan.pdf](#) (woodside.com)
  - o Consultation Information Sheet - Stybarrow Decommissioning Environment Plans (woodside.com)
- Griffin decommissioning.

o consultation-information-sheet---griffin-decommissioning-environment-plans.pdf  
(woodside.com)

Drilling Activities:

- TPA03 Well Intervention.
- o Consultation Information Sheet - TPA03 Well Intervention Environment Plan (woodside.com)
- WA-34-L Pyxis Drilling and Subsea Installation.
- o Consultation Information Sheet - WA-34-L Pyxis Drilling and Subsea Installation Environment Plan (woodside.com)
- Julimar Appraisal Drilling.
- o Consultation Information Sheet - Julimar Appraisal Drilling and Survey Environment Plan (woodside.com)

In providing this information and requests for feedback, I acknowledge [REDACTED] correspondence of 6 February and my response of 10 February in which we discussed arrangements for a meeting between YAC and Woodside. Woodside would be most grateful for the opportunity to meet with YAC, at YAC's earliest convenience, and at a location suitable to YAC. Woodside would also be pleased to provide the resources necessary to hold this meeting and we look forward to receiving a budget for consideration. If there is anything else, we can do at this time to facilitate consultation about these planned work activities please let me know.

Thank you, [REDACTED] for yours, YAC's and YMAC's consideration of these matters and work to progress these important consultations.

As always, please feel free to contact me on the details below if you require further information or assistance.

**3.27 Email sent to Yamatji Marlpa Aboriginal Corporation (YMAC) (21 February 2023)**

Dear [REDACTED]

Firstly, thank you for your assistance in arranging the meeting between NTGAC and Woodside on 16 February. It was a pleasure to meet the NTGAC Board and YMAC staff. We were most grateful for the opportunity to provide information about our plans and to learn of NTGAC's questions. We will write separately to thank the NTGAC Board for the meeting.

As was discussed during our meeting, please find attached information about Woodside's decommissioning and drilling activities. With the exception of removing the Nganhurra Riser Turret Mooring, for which Woodside seeks NTGAC's feedback soonest, Woodside is seeking feedback on these decommissioning and drilling activities by 17 March. The plain English summary of each of

these activities is attached, and I have provided a link to the more detailed consultation information sheets below. To recap, these activities are:

Decommissioning Activities:

- Removal of the Nganhurra Riser Turret Mooring (RTM). Information about the RTM was previously emailed on 18 January. For ease of reference, the summary information is attached and the consultation information sheet for the RTM can be found at the link below.
  - [consultation-information-sheet---nganhurra-operations-cessation-environment-plan-revision.pdf \(woodside.com\)](#)
- Stybarrow. This involves two work activities that are subject to separate environment plans; plug and abandonment (P&A), and decommissioning.
  - [consultation-information-sheet---stybarrow-plug-and-abandonment-environment-plan.pdf \(woodside.com\)](#)
  - [Consultation Information Sheet - Stybarrow Decommissioning Environment Plans \(woodside.com\)](#)
- Griffin decommissioning.
  - [consultation-information-sheet---griffin-decommissioning-environment-plans.pdf \(woodside.com\)](#)

Drilling Activities:

- TPA03 Well Intervention.
  - [Consultation Information Sheet - TPA03 Well Intervention Environment Plan \(woodside.com\)](#)
- WA-34-L Pyxis Drilling and Subsea Installation.
  - [Consultation Information Sheet - WA-34-L Pyxis Drilling and Subsea Installation Environment Plan \(woodside.com\)](#)
- Julimar Appraisal Drilling.
  - [Consultation Information Sheet - Julimar Appraisal Drilling and Survey Environment Plan \(woodside.com\)](#)

Woodside also looks forward to receiving NTGAC's feedback on the four Scarborough project activities as soon as is possible.

In providing this information and requests for feedback, I acknowledge [REDACTED] email of 20 February outlining NTGAC's request of Woodside to provide funding for YMAC's in-house environmental scientist to undertake a review of the RTM environmental plan. [REDACTED] will be in contact with [REDACTED] directly about this in the coming days.

Thanks again [REDACTED] for your assistance last week, your consideration of these matters and for your work to progress these important consultations.

Yours sincerely

[REDACTED]

**3.28 Email sent to Commonwealth Scientific and Industrial Research Organisation (CSIRO) – 21 February 2023**

Dear [REDACTED]



Woodside is providing this update on the progressive decommissioning of the Griffin and Stybarrow fields, previously operated by BHP Petroleum Pty Ltd (BHP).

We are providing this information to ensure relevant persons are informed about the status of proposed activities, as there have been changes to activity scope and supporting consultation information since consultation commenced for these decommissioning projects in 2021.

The **Griffin Field** is in Commonwealth waters in Petroleum Licence WA-10-L, 65 km northwest of Onslow and 94 km northeast of Exmouth, Western Australia and in water depths of approximately 120 m.

The **Stybarrow Field** is in Commonwealth waters in Petroleum Licence WA-32-L, approximately 53 km northwest of Exmouth, Western Australia and in water depths of approximately 810 – 850 m.

A summary of proposed activities is outlined below, and more detailed information is provided in the attached Consultation Information Sheets. The Information Sheets provide details on activities proposed to be managed under a number of Environment Plans for each Field, including a summary of potential key risks and associated management measures. The Information Sheets are also available on our [website](#).

**Woodside is seeking your advice regarding any research activities that UWA may be undertaking that may overlap with our proposed activities.**

Any feedback provided previously on proposed activities will remain current where Environment Plans are under assessment by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

Please let us know if you would like to update previous feedback or have any additional views by **17 March 2023**.

**Activity:**

	<b>Griffin Field Decommissioning Activities</b>	<b>Stybarrow Field Decommissioning Activities</b>
<b>Summary:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, distribution skids, risers, flexible flowlines, rigid flowlines, umbilicals, and the pipeline end module (PLEM)).</li> <li>• Removal of the Riser Turret Mooring (RTM) and its moorings. Depending on the vessel utilised, recovery of the RTM may require sections of it to be towed to shallower water out of the title.</li> <li>• Removal of an exploration wellhead (Ramillies-1 in</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>• Pre-execution activities associated with the well P&amp;A, such as barrier testing and removal of marine growth.</li> <li>• Well P&amp;A of the 10 productions/injection wells by placing cement plugs in the wells to permanently prevent hydrocarbon release.</li> <li>• Cutting and removal of the wellhead and subsea tree assembly.</li> <li>• Unblocking of the H4 flowline, if deemed feasible.</li> </ul>

	<p>neighbouring petroleum title WA-12-L).</p> <ul style="list-style-type: none"> <li>• Ongoing field management activities.</li> <li>• Pigging and subsequent removal of the 26 km of Griffin Gas Export Pipeline (GEP) within Commonwealth waters.</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>• Proposal to leave in situ 12 RTM drag anchors (buried), 6 concrete gravity bases and 5 piled foundations for the PLEM and 4 distribution skids.</li> </ul>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, manifolds, risers, flexible flowlines, and umbilicals).</li> <li>• Removal of the Disconnectable Turret Mooring (DTM) and its moorings. Recovery of the DTM may require it to be towed to shallower water outside of permit area WA-32-L to support the DTM removal from the marine environment.</li> <li>• Ongoing field management activities (equipment monitoring and inspection).</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>• Proposed leave in situ of the 9 DTM drag anchors (buried), nine suction piles for the riser holdbacks and the historical exploration wellhead, Eskdale-1, which was unable to be removed following its drilling and abandonment in 2003.</li> </ul>
<p><b>Location:</b></p>	<ul style="list-style-type: none"> <li>• 94 km northeast of Exmouth, Western Australia.</li> </ul>	<ul style="list-style-type: none"> <li>• 53 km northwest of Exmouth, Western Australia.</li> </ul>
<p><b>Approx. Water Depth (m):</b></p>	<ul style="list-style-type: none"> <li>• Approx. 120 m.</li> </ul>	<ul style="list-style-type: none"> <li>• Approx. 810 – 850 m.</li> </ul>
<p><b>Schedule:</b></p>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Earliest proposed removal activity start is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>• Facilities removal must be completed no later than 31 December 2024, pursuant to General Direction 832.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>• Earliest P&amp;A start is estimated to be Q4 2023, subject to approvals, MODU and vessel availability and weather constraints.</li> <li>• P&amp;A activities must be completed no later than 30 September 2024, pursuant to General Direction 833.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Earliest facilities and DTM removal is estimated to be Q4 2023, subject to approvals,</li> </ul>

		<p>vessel availability and weather constraints.</p> <ul style="list-style-type: none"> <li>Equipment removal must be completed no later than 31 March 2025, pursuant to General Direction 833.</li> </ul>
<b>Duration:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Removal activities are anticipated to take approximately 6 months to complete and GEP removal activities are anticipated to take approximately 2 months to complete.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>P&amp;A activities are anticipated to take approximately 6 – 9 months.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Removal activities are anticipated to take approximately 4-6 months to complete and DTM removal activities are anticipated to take approximately 1 month to complete.</li> </ul>
<b>Exclusionary/Cautious Zone:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the equipment.</li> <li>A temporary 500 m exclusion zone will apply around the project vessels during removal and potential tow activities.</li> </ul>	<p><b>P&amp;A Activities</b></p> <ul style="list-style-type: none"> <li>The Operational Area includes the area encompassing an approximate 3,000 m radius around each of the four drill centres within WA-32-L.</li> <li>A temporary 500 m exclusion zone will apply around the MODU and the associated project vessels during P&amp;A activities.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the subsea infrastructure and wellheads.</li> <li>The DTM has an existing 1200 m radius petroleum safety zone which will continue to be in place until it is removed.</li> <li>A temporary 500 m exclusion zone will apply around the CSV and the associated project vessels during removal activities.</li> </ul>

		<ul style="list-style-type: none"> <li>A temporary 500 m exclusion zone will apply around the HLV and the associated project vessels during the removal of the DTM.</li> </ul>
<b>Vessels:</b>	<b>Removal Activities</b> <ul style="list-style-type: none"> <li>Construction support vessel (CSV) and Heavy Lift Vessel (HLV) for recovery and pipeline removal activities.</li> <li>An anchor handling tug (AHT) to support the towing of the RTM to sheltered water.</li> </ul>	<b>P&amp;A activities</b> <ul style="list-style-type: none"> <li>Semi-Submersible Mobile Offshore Drilling Unit (MODU)</li> <li>The MODU will be supported by 2 to 3 offshore support vessels.</li> </ul> <b>Removal Activities</b> <ul style="list-style-type: none"> <li>CSV and HLV for recovery and activities.</li> <li>AHTs to support the towing of the DTM to the shallower water location (if required).</li> </ul>

**Feedback:**

If you have any feedback on these activities, please respond to Woodside at: [Feedback@woodside.com.au](mailto:Feedback@woodside.com.au) or 1800 442 977.

Your feedback and our response will be included in our Environment Plan which will be submitted to 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.

Please provide your views by **17 March 2023**.

You can also subscribe on our website to receive Consultation Information Sheets for proposed activities: [www.woodside.com/sustainability/consultation-activities](http://www.woodside.com/sustainability/consultation-activities).

Australian institute of Marine Science (AIMS)

**3.29 Email sent to Australian institute of Marine Science (AIMS) – 21 February 2023**

Dear [REDACTED]

Woodside is providing this update on the progressive decommissioning of the Griffin and Stybarrow fields, previously operated by BHP Petroleum Pty Ltd (BHP).

We are providing this information to ensure relevant persons are informed about the status of proposed activities, as there have been changes to activity scope and supporting consultation information since consultation commenced for these decommissioning projects in 2021.

The **Griffin Field** is in Commonwealth waters in Petroleum Licence WA-10-L, 65 km northwest of Onslow and 94 km northeast of Exmouth, Western Australia and in water depths of approximately 120 m.

The **Stybarrow Field** is in Commonwealth waters in Petroleum Licence WA-32-L, approximately 53 km northwest of Exmouth, Western Australia and in water depths of approximately 810 – 850 m.

A summary of proposed activities is outlined below, and more detailed information is provided in the attached Consultation Information Sheets. The Information Sheets provide details on activities proposed to be managed under a number of Environment Plans for each Field, including a summary of potential key risks and associated management measures. The Information Sheets are also available on our [website](#).

**Woodside is seeking your advice regarding any research activities that AIMS may be undertaking that may overlap with our proposed activities.**

Any feedback provided previously on proposed activities will remain current where Environment Plans are under assessment by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

Please let us know if you would like to update previous feedback or have any additional views by **17 March 2023**.

**Activity:**

	<b>Griffin Field Decommissioning Activities</b>	<b>Stybarrow Field Decommissioning Activities</b>
<b>Summary:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, distribution skids, risers, flexible flowlines, rigid flowlines, umbilicals, and the pipeline end module (PLEM)).</li> <li>• Removal of the Riser Turret Mooring (RTM) and its moorings. Depending on the vessel utilised, recovery of the RTM may require sections of it to be towed to</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>• Pre-execution activities associated with the well P&amp;A, such as barrier testing and removal of marine growth.</li> <li>• Well P&amp;A of the 10 productions/injection wells by placing cement plugs in the wells to permanently prevent hydrocarbon release.</li> </ul>

	<p>shallower water out of the title.</p> <ul style="list-style-type: none"> <li>• Removal of an exploration wellhead (Ramillies-1 in neighbouring petroleum title WA-12-L).</li> <li>• Ongoing field management activities.</li> <li>• Pigging and subsequent removal of the 26 km of Griffin Gas Export Pipeline (GEP) within Commonwealth waters.</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>• Proposal to leave in situ 12 RTM drag anchors (buried), 6 concrete gravity bases and 5 piled foundations for the PLEM and 4 distribution skids.</li> </ul>	<ul style="list-style-type: none"> <li>• Cutting and removal of the wellhead and subsea tree assembly.</li> <li>• Unblocking of the H4 flowline, if deemed feasible.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, manifolds, risers, flexible flowlines, and umbilicals).</li> <li>• Removal of the Disconnectable Turret Mooring (DTM) and its moorings. Recovery of the DTM may require it to be towed to shallower water outside of permit area WA-32-L to support the DTM removal from the marine environment.</li> <li>• Ongoing field management activities (equipment monitoring and inspection).</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>• Proposed leave in situ of the 9 DTM drag anchors (buried), nine suction piles for the riser holdbacks and the historical exploration wellhead, Eskdale-1, which was unable to be removed following its drilling and abandonment in 2003.</li> </ul>
<b>Location:</b>	<ul style="list-style-type: none"> <li>• 94 km northeast of Exmouth, Western Australia.</li> </ul>	<ul style="list-style-type: none"> <li>• 53 km northwest of Exmouth, Western Australia.</li> </ul>
<b>Approx. Water Depth (m):</b>	<ul style="list-style-type: none"> <li>• Approx. 120 m.</li> </ul>	<ul style="list-style-type: none"> <li>• Approx. 810 – 850 m.</li> </ul>
<b>Schedule:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Earliest proposed removal activity start is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>• Facilities removal must be completed no later than 31 December 2024, pursuant to General Direction 832.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>• Earliest P&amp;A start is estimated to be Q4 2023, subject to approvals, MODU and vessel availability and weather constraints.</li> <li>• P&amp;A activities must be completed no later than 30 September 2024, pursuant to General Direction 833.</li> </ul>

		<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Earliest facilities and DTM removal is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>• Equipment removal must be completed no later than 31 March 2025, pursuant to General Direction 833.</li> </ul>
<b>Duration:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal activities are anticipated to take approximately 6 months to complete and GEP removal activities are anticipated to take approximately 2 months to complete.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>• P&amp;A activities are anticipated to take approximately 6 – 9 months.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal activities are anticipated to take approximately 4-6 months to complete and DTM removal activities are anticipated to take approximately 1 month to complete.</li> </ul>
<b>Exclusionary/Cautionary Zone:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the equipment.</li> <li>• A temporary 500 m exclusion zone will apply around the project vessels during removal and potential tow activities.</li> </ul>	<p><b>P&amp;A Activities</b></p> <ul style="list-style-type: none"> <li>• The Operational Area includes the area encompassing an approximate 3,000 m radius around each of the four drill centres within WA-32-L.</li> <li>• A temporary 500 m exclusion zone will apply around the MODU and the associated project vessels during P&amp;A activities.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the subsea infrastructure and wellheads.</li> <li>• The DTM has an existing 1200 m radius petroleum safety zone</li> </ul>

		<p>which will continue to be in place until it is removed.</p> <ul style="list-style-type: none"> <li>• A temporary 500 m exclusion zone will apply around the CSV and the associated project vessels during removal activities.</li> <li>• A temporary 500 m exclusion zone will apply around the HLV and the associated project vessels during the removal of the DTM.</li> </ul>
<b>Vessels:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Construction support vessel (CSV) and Heavy Lift Vessel (HLV) for recovery and pipeline removal activities.</li> <li>• An anchor handling tug (AHT) to support the towing of the RTM to sheltered water.</li> </ul>	<p><b>P&amp;A activities</b></p> <ul style="list-style-type: none"> <li>• Semi-Submersible Mobile Offshore Drilling Unit (MODU)</li> <li>• The MODU will be supported by 2 to 3 offshore support vessels.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• CSV and HLV for recovery and activities.</li> <li>• AHTs to support the towing of the DTM to the shallower water location (if required).</li> </ul>

**Feedback:**

If you have any feedback on these activities, please respond to Woodside at: [Feedback@woodside.com.au](mailto:Feedback@woodside.com.au) or 1800 442 977.

Your feedback and our response will be included in our Environment Plan which will be submitted to 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.

Please provide your views by **17 March 2023**.

You can also subscribe on our website to receive Consultation Information Sheets for proposed activities: [www.woodside.com/sustainability/consultation-activities](http://www.woodside.com/sustainability/consultation-activities).



**3.30 Email sent to Ningaloo Coast World Heritage Advisory Committee (NCWHAC) – 16 February 2023**

Dear Ningaloo World Heritage Area Committee

Woodside is providing this update on the progressive decommissioning of the Griffin and Stybarrow fields, previously operated by BHP Petroleum Pty Ltd (BHP).

We are providing this information to ensure relevant persons are informed about the status of proposed activities, as there have been changes to activity scope and supporting consultation information since consultation commenced for these decommissioning projects in 2021.

The **Griffin Field** is in Commonwealth waters in Petroleum Licence WA-10-L, 65 km northwest of Onslow and 94 km northeast of Exmouth, Western Australia and in water depths of approximately 120 m.

The **Stybarrow Field** is in Commonwealth waters in Petroleum Licence WA-32-L, approximately 53 km northwest of Exmouth, Western Australia and in water depths of approximately 810 – 850 m.

A summary of proposed activities is outlined below, and more detailed information is provided in the attached Consultation Information Sheets. The Information Sheets provide details on activities proposed to be managed under a number of Environment Plans for each Field, including a summary of potential key risks and associated management measures. The Information Sheets are also available on our [website](#).

Any feedback provided previously on proposed activities will remain current where Environment Plans are under assessment by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

Please let us know if you would like to update previous feedback or have any additional views by **17 March 2023**.

**Activity:**

	<b>Griffin Field Decommissioning Activities</b>	<b>Stybarrow Field Decommissioning Activities</b>
<b>Summary:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, distribution skids, risers, flexible flowlines, rigid flowlines, umbilicals, and the pipeline end module (PLEM)).</li> <li>• Removal of the Riser Turret Mooring (RTM) and its moorings. Depending on the vessel utilised, recovery of the RTM may require sections of it to be towed to</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>• Pre-execution activities associated with the well P&amp;A, such as barrier testing and removal of marine growth.</li> <li>• Well P&amp;A of the 10 productions/injection wells by placing cement plugs in the wells to permanently prevent hydrocarbon release.</li> <li>• Cutting and removal of the wellhead and subsea tree assembly.</li> </ul>

	<p>shallower water out of the title.</p> <ul style="list-style-type: none"> <li>• Removal of an exploration wellhead (Ramillies-1 in neighbouring petroleum title WA-12-L).</li> <li>• Ongoing field management activities.</li> <li>• Pigging and subsequent removal of the 26 km of Griffin Gas Export Pipeline (GEP) within Commonwealth waters.</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>• Proposal to leave in situ 12 RTM drag anchors (buried), 6 concrete gravity bases and 5 piled foundations for the PLEM and 4 distribution skids.</li> </ul>	<ul style="list-style-type: none"> <li>• Unblocking of the H4 flowline, if deemed feasible.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, manifolds, risers, flexible flowlines, and umbilicals).</li> <li>• Removal of the Disconnectable Turret Mooring (DTM) and its moorings. Recovery of the DTM may require it to be towed to shallower water outside of permit area WA-32-L to support the DTM removal from the marine environment.</li> <li>• Ongoing field management activities (equipment monitoring and inspection).</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>• Proposed leave in situ of the 9 DTM drag anchors (buried), nine suction piles for the riser holdbacks and the historical exploration wellhead, Eskdale-1, which was unable to be removed following its drilling and abandonment in 2003.</li> </ul>
<b>Location:</b>	<ul style="list-style-type: none"> <li>• 94 km northeast of Exmouth, Western Australia.</li> </ul>	<ul style="list-style-type: none"> <li>• 53 km northwest of Exmouth, Western Australia.</li> </ul>
<b>Approx. Water Depth (m):</b>	<ul style="list-style-type: none"> <li>• Approx. 120 m.</li> </ul>	<ul style="list-style-type: none"> <li>• Approx. 810 – 850 m.</li> </ul>
<b>Schedule:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Earliest proposed removal activity start is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>• Facilities removal must be completed no later than 31 December 2024, pursuant to General Direction 832.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>• Earliest P&amp;A start is estimated to be Q4 2023, subject to approvals, MODU and vessel availability and weather constraints.</li> <li>• P&amp;A activities must be completed no later than 30 September 2024, pursuant to General Direction 833.</li> </ul>

		<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Earliest facilities and DTM removal is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>• Equipment removal must be completed no later than 31 March 2025, pursuant to General Direction 833.</li> </ul>
<p><b>Duration:</b></p>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal activities are anticipated to take approximately 6 months to complete and GEP removal activities are anticipated to take approximately 2 months to complete.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>• P&amp;A activities are anticipated to take approximately 6 – 9 months.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal activities are anticipated to take approximately 4-6 months to complete and DTM removal activities are anticipated to take approximately 1 month to complete.</li> </ul>
<p><b>Exclusionary/Cautious Zone:</b></p>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the equipment.</li> <li>• A temporary 500 m exclusion zone will apply around the project vessels during removal and potential tow activities.</li> </ul>	<p><b>P&amp;A Activities</b></p> <ul style="list-style-type: none"> <li>• The Operational Area includes the area encompassing an approximate 3,000 m radius around each of the four drill centres within WA-32-L.</li> <li>• A temporary 500 m exclusion zone will apply around the MODU and the associated project vessels during P&amp;A activities.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the subsea infrastructure and wellheads.</li> <li>• The DTM has an existing 1200 m radius petroleum safety zone which will continue to be in place until it is removed.</li> </ul>

		<ul style="list-style-type: none"> <li>• A temporary 500 m exclusion zone will apply around the CSV and the associated project vessels during removal activities.</li> <li>• A temporary 500 m exclusion zone will apply around the HLV and the associated project vessels during the removal of the DTM.</li> </ul>
<b>Vessels:</b>	<b>Removal Activities</b> <ul style="list-style-type: none"> <li>• Construction support vessel (CSV) and Heavy Lift Vessel (HLV) for recovery and pipeline removal activities.</li> <li>• An anchor handling tug (AHT) to support the towing of the RTM to sheltered water.</li> </ul>	<b>P&amp;A activities</b> <ul style="list-style-type: none"> <li>• Semi-Submersible Mobile Offshore Drilling Unit (MODU)</li> <li>• The MODU will be supported by 2 to 3 offshore support vessels.</li> </ul> <b>Removal Activities</b> <ul style="list-style-type: none"> <li>• CSV and HLV for recovery and activities.</li> <li>• AHTs to support the towing of the DTM to the shallower water location (if required).</li> </ul>

**Feedback:**

If you have any feedback on these activities, please respond to Woodside at: [Feedback@woodside.com.au](mailto:Feedback@woodside.com.au) or 1800 442 977.

Your feedback and our response will be included in our Environment Plan which will be submitted to 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.

Please provide your views by **17 March 2023**.

You can also subscribe on our website to receive Consultation Information Sheets for proposed activities: [www.woodside.com/sustainability/consultation-activities](http://www.woodside.com/sustainability/consultation-activities).

### 3.31 Newspaper Advertisements in The Australian, The West Australian, North West Telegraph, Pilbara News, Midwest Times (15 February 2023) and the Geraldton Guardian (17 February 2023)

## ENVIRONMENT PLAN NOTICE

Woodside Energy (Australia) Pty Ltd (ACN 006 822 878) is proposing to conduct decommissioning activities in Commonwealth waters, as described below:

Geraldton Decommissioning and Field Management Environment Plan		Dybarrow Plug and Abandonment Environment Plan	
<b>Activity summary:</b>	Field management and removal of subsea infrastructure above the mudline, including the Deer Tunnel Mooring (OTM)	<b>Activity summary:</b>	The permanent plugging and abandonment of the ten Dybarrow subsea development wells by passing cement plugs to the well to prevent hydrocarbon release
<b>Location:</b>	~42 km northwest of Onslow	<b>Location:</b>	~42 km northwest of Onslow
<b>Commencement timing:</b>	Anticipated around second half of 2023, pending approvals, vessel availability and weather constraints	<b>Commencement timing:</b>	Anticipated around late 2023 or 2024, pending approvals, vessel availability and weather constraints
<b>Estimated duration:</b>	Approximately 6 months	<b>Estimated duration:</b>	~4 to 8 months
<b>Consultation commenced:</b>	Oct 2022 <b>First EP submission to NOPSEMA</b> Dec 2022	<b>Consultation commenced:</b>	May 2022 <b>First EP submission to NOPSEMA</b> Not yet submitted

Geraldton Gas Export Pipeline Environment Plan		Dybarrow Decommissioning and Field Management Environment Plan	
<b>Activity summary:</b>	Preparation for and subsequent removal of 36 km of gas export pipeline and associated stationing	<b>Activity summary:</b>	Field management and removal of subsea infrastructure above the mudline including the De-connectable Tunnel Mooring (OTM)
<b>Location:</b>	~39 km northwest of Onslow	<b>Location:</b>	~42 km northwest of Onslow
<b>Commencement timing:</b>	Anticipated around second half of 2023, pending approvals, vessel availability and weather constraints	<b>Commencement timing:</b>	Anticipated around late 2023, pending approvals, vessel availability and weather constraints
<b>Estimated duration:</b>	Approximately 7 months	<b>Estimated duration:</b>	~6 months
<b>Consultation commenced:</b>	Jan 2022 <b>First EP submission to NOPSEMA</b> Mar 2022	<b>Consultation commenced:</b>	Feb 2022 <b>First EP submission to NOPSEMA</b> Apr 2022

Geraldton Field Debris Environment Plan		Dybarrow Field Debris Environment Plan	
<b>Activity summary:</b>	Proposed waste in situ placed in place of, or non-biodegradable infrastructure embedded in the seabed to minimise seabed disturbance (anchors, piles, concrete gravity bases)	<b>Activity summary:</b>	Proposed waste in situ placed in place of, or non-biodegradable infrastructure embedded in the seabed to minimise seabed disturbance (anchors, piles)
<b>Location:</b>	~42 km northwest of Onslow	<b>Location:</b>	~42 km northwest of Onslow
<b>Commencement timing:</b>	Upon environmental plan acceptance and following completion of removal activities	<b>Commencement timing:</b>	Upon environmental plan acceptance and following completion of removal activities
<b>Estimated duration:</b>	No duration - infrastructure to be left in situ	<b>Estimated duration:</b>	No duration - infrastructure to be left in situ
<b>Consultation commenced:</b>	Jan 2022 <b>First EP submission to NOPSEMA</b> Feb 2022	<b>Consultation commenced:</b>	May 2022 <b>First EP submission to NOPSEMA</b> Jun 2022

**Figure 1: Dybarrow and Figure 2: Geraldton** Describe the Operational Area and the Environment that May be Affected (EMAs) based on a composite of many diverse paths and to that end distance where a highly unlikely, unpaired event could have an impact based on weather and ocean conditions.

Woodside has undertaken 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 identified and are contained in the relevant EP.

Impacts associated with marine decommissioning activities include the physical presence of subsea Christmas Treeing Unit (XTCU) and risers, interaction with other marine users, decommissioning discharges (planned), seismicity, hydrocarbon, seabed disturbance, emissions from barging and other vessel impacts (noise, light, air emissions and marine discharges). Impacts that could occur due to an unplanned event include hydrocarbon releases (oil/gas), marine debris or other vessel injury, vessel collisions with marine users, additional seabed disturbance, introduced marine species, acidification or waste or other discharges.

**Figure 1 and Figure 2** illustrate indicative EMAs to support persons or organisations understanding if whether their functions, interests or activities may be affected by the proposed activities, with detailed information found in Woodside's Consultation Information Sheets.

**Consultation Participation and Feedback**

Woodside seeking to consult with relevant persons to inform the preparation of Environment Plans (EPs) for the Dybarrow and Geraldton decommissioning activities. Consultations designed to identify and obtain input from relevant persons to assist Woodside identify measures to avoid 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 National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) under the Offshore Petroleum and Greenhouse Gas Storage Act 2006 (OPGGSA) and support other regulatory submissions associated with the planned activities.

Detailed consultation information sheets are available at: [www.woodside.com.au/australia/consultation-activities](http://www.woodside.com.au/australia/consultation-activities) you would like additional information about Dybarrow and Geraldton decommissioning activities. You can also subscribe to our website to receive future information on proposed activities.

If you would like to comment on the proposed activities outlined above, please contact Woodside between Friday, 17 March 2023 to:

**E: Feedback@woodside.com**  
**Tel: 1800 442 877**

**Figure 1: Dybarrow and Figure 2: Geraldton** Describe the Operational Area and the Environment that May be Affected (EMAs) based on a composite of many diverse paths and to that end distance where a highly unlikely, unpaired event could have an impact based on weather and ocean conditions.

Woodside has undertaken 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 identified and are contained in the relevant EP.

Impacts associated with marine decommissioning activities include the physical presence of subsea Christmas Treeing Unit (XTCU) and risers, interaction with other marine users, decommissioning discharges (planned), seismicity, hydrocarbon, seabed disturbance, emissions from barging and other vessel impacts (noise, light, air emissions and marine discharges). Impacts that could occur due to an unplanned event include hydrocarbon releases (oil/gas), marine debris or other vessel injury, vessel collisions with marine users, additional seabed disturbance, introduced marine species, acidification or waste or other discharges.

**Figure 1 and Figure 2** illustrate indicative EMAs to support persons or organisations understanding if whether their functions, interests or activities may be affected by the proposed activities, with detailed information found in Woodside's Consultation Information Sheets.

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Consultation will inform the development of each EP in accordance with environmental regulations administered by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) under the Offshore Petroleum and Greenhouse Gas Storage Act 2006 (OPGGSA) and support other regulatory submissions associated with the planned activities.

Detailed consultation information sheets are available at: [www.woodside.com.au/australia/consultation-activities](http://www.woodside.com.au/australia/consultation-activities) you would like additional information about Dybarrow and Geraldton decommissioning activities. You can also subscribe to our website to receive future information on proposed activities.

If you would like to comment on the proposed activities outlined above, please contact Woodside between Friday, 17 March 2023 to:

**E: Feedback@woodside.com**  
**Tel: 1800 442 877**

# ENVIRONMENT PLAN NOTICE

Woodside Energy (Australia) Pty Ltd (ACN 006 92 217 9) is proposing to conduct decommissioning activities in Commonwealth waters, as described below:

## 0419a Decommissioning of a Field Management Environment Plan

<b>Activity summary:</b>	Field management and removal of subsurface infrastructure above the mudline, including the Bior-Turret Mooring (BTM)
<b>Location:</b>	~62 km northwest of Onslow
<b>Commencement if any:</b>	Anticipated around second half of 2023, pending approvals, vessel availability and weather constraints
<b>Estimated duration:</b>	Approximately 6 months
<b>Commencement:</b>	Oct 2023 <b>First EP in Intention to HOPS/DNA</b> Dec 2023

## 0419b Gas Export Pipeline Environment Plan

<b>Activity summary:</b>	Preparation for and subsequent removal of ~36 km of gas export pipeline and associated stabilised
<b>Location:</b>	~30-65 km north west of Onslow
<b>Commencement if any:</b>	Anticipated around second half of 2023, pending approvals, vessel availability and weather constraints
<b>Estimated duration:</b>	Approximately 3 months
<b>Commencement:</b>	Jan 2022 <b>First EP in Intention to HOPS/DNA</b> Mar 2022

## 0419c Field Decommission Environment Plan

<b>Activity summary:</b>	Proposed leave in situ (leave in place) of inert, non-toxic infrastructure embedded in the seabed to minimise seabed disturbance (anchors, piles, concrete gravity bases)
<b>Location:</b>	~62 km northwest of Onslow
<b>Commencement if any:</b>	Upon agreement in principle acceptance and following completion of other activities
<b>Estimated duration:</b>	No duration - infrastructure to be left in situ
<b>Commencement:</b>	Jan 2022 <b>First EP in Intention to HOPS/DNA</b> Feb 2022

## Sylberwee Plug and Abandonment Environment Plan

<b>Activity summary:</b>	The permanent plugging and abandonment of the ten Sylberwee subsurface development wells by placing cement plugs in the wells to prevent hydrocarbon release
<b>Location:</b>	~42 km northwest of Denmark
<b>Commencement if any:</b>	Anticipated around late 2022 or 2023, pending approvals, vessel availability and weather constraints
<b>Estimated duration:</b>	~6 to 9 months
<b>Commencement:</b>	May 2022 <b>First EP in Intention to HOPS/DNA</b> Not yet submitted

## Sylberwee Decommissioning of a Field Management Environment Plan

<b>Activity summary:</b>	Field management and removal of subsurface infrastructure above the mudline including the On-connectable Turret Mooring (OTM)
<b>Location:</b>	~62 km northwest of Denmark
<b>Commencement if any:</b>	Anticipated around Q4 2023, pending approvals, vessel availability and weather constraints
<b>Estimated duration:</b>	~6 months
<b>Commencement:</b>	Feb 2022 <b>First EP in Intention to HOPS/DNA</b> Apr 2022

## Sylberwee Field Decommission Environment Plan

<b>Activity summary:</b>	Proposed leave in situ (leave in place) of infrastructure embedded in the seabed to minimise seabed disturbance (anchors, piles)
<b>Location:</b>	~42 km northwest of Denmark
<b>Commencement if any:</b>	Upon agreement in principle acceptance and following completion of other activities
<b>Estimated duration:</b>	No duration - infrastructure to be left in situ
<b>Commencement:</b>	May 2022 <b>First EP in Intention to HOPS/DNA</b> Jul 2022

**Figure 1 (Sylberwee) and Figure 2 (0419a):** Describe the Operational Area and the Environment that May be Affected (DMA) based on a composite of many different paths and further distance where highly unlikely, significant worst conditions are impacted 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 identified and will be outlined in the final EP. Impacts associated with routine decommissioning activities include the physical presence of a Mobile Offshore Drilling Unit (MODU) and vessels.



Figure 1 Sylberwee Field

Risks associated with other marine users, decommissioning discharges (potential chemical, hydrocarbon), seabed disturbance, emissions from flaring, venting and other vessel impacts (noise, light, air emissions and marine discharge), impacts that could occur during an unplanned event including hydrocarbon release (gas/liquid), marine diesel (or other vessel fuel), vessel collisions with marine fauna, additional seabed disturbance, introduced marine species, accidental loss of waste or other discharges.

**Figure 1 and Figure 2:** Illustrate and describe the DMA 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 2 Griffin Field

### Consultation Participation and Feedback

Woodside is seeking to consult with relevant persons to inform the preparation of Environment Plans (EPs) for the Sylberwee and Griffin decommissioning 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 obligations administered by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) under the Offshore Petroleum and Geotechnical Storage Act 2016 (OPGSA) and support other regulatory submissions associated with the planned activities.

Detailed consultation information sheets are available at: [www.woodside.com.au/about-us/consultation](http://www.woodside.com.au/about-us/consultation) activities if you require the additional information about the plan and Griffin decommissioning activities. You can also subscribe to our website to receive future information on proposed activities.

If you would like to comment on the proposed activities outlined above, please contact Woodside before Friday, 17 March 2023 at:

**E-Post:** [epc@woodside.com.au](mailto:epc@woodside.com.au)  
**Telephone:** 9118 66177

### EMPLOYMENT

### Administration and Finance

**LEGAL SECRETARY**  
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**Application:** Please e-mail CV to [recruitment@businesscentre.com.au](mailto:recruitment@businesscentre.com.au)

### Building and Construction

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### Education and Teaching

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Interested applicants should send their resumes to: [recruitment@businesscentre.com.au](mailto:recruitment@businesscentre.com.au)

**THE MANAGING DIRECTOR**  
 218 DUNDAS STREET SOUTH  
 PERTH WA 6000  
 Email: [recruitment@businesscentre.com.au](mailto:recruitment@businesscentre.com.au)

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**SHEARER, PREMIER AND WOOL - CLEANER, WALTERS**  
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### Trades and Technical

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### Local Gov Vacancies

**City of Melville**

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### Local Gov. Tenders

**City of Joondalup**

**PROVISION OF ROAD WORKS AND SERVICES**

Expressions of interest are invited for the provision of road works and services. For more details visit [www.businesscentre.com.au](http://www.businesscentre.com.au)

**Expressions of Interest**

**COMPANY SERVICES RECRUITMENT PROCESS**

Expressions of interest are invited for the recruitment process. For more details visit [www.businesscentre.com.au](http://www.businesscentre.com.au)

**City of Stirling**

**INVITATION FOR TENDERS**

Expressions of Interest (EOI) for Road Light Control System. For more details visit [www.businesscentre.com.au](http://www.businesscentre.com.au)

**Shire of Murray**

**Invitation to Tender**

Tenders are invited from registered contractors for the supply and installation of road works. For more details visit [www.businesscentre.com.au](http://www.businesscentre.com.au)

**Shire of East Pilbara**

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The Shire of East Pilbara is seeking quotes for the supply and installation of road works. For more details visit [www.businesscentre.com.au](http://www.businesscentre.com.au)

**City of Cambridge**

**REQUEST FOR TENDER**

The City of Cambridge is seeking quotes for the supply and installation of road works. For more details visit [www.businesscentre.com.au](http://www.businesscentre.com.au)

**City of Joondalup**

**PROVISION OF ROAD WORKS AND SERVICES**

Expressions of interest are invited for the provision of road works and services. For more details visit [www.businesscentre.com.au](http://www.businesscentre.com.au)

**Expressions of Interest**

**COMPANY SERVICES RECRUITMENT PROCESS**

Expressions of interest are invited for the recruitment process. For more details visit [www.businesscentre.com.au](http://www.businesscentre.com.au)

# ENVIRONMENT PLAN NOTICE

Woodside Energy (Australia) Pty Ltd (ACN 004 923 676) is preparing to conduct decommissioning activities in Commonwealth waters, as described below:

### G4 Offshore Decommissioning and Field Management Control Plan

<b>Activity summary:</b>	Field management and removal of subsurface infrastructure above the mudline, including the River Tunnel Hoisting (RTM)
<b>Location:</b>	~45 km northwest of Onslow
<b>Commenced start date:</b>	Anticipated around second half of 2023, pending approvals, vessel availability and weather constraints
<b>Estimated duration:</b>	Approximately 6 months
<b>Consent table commencement:</b>	Oct 2021 <b>First EP submission to NOPSONA:</b> Dec 2021

### G4 Offshore Gas Export Pipeline Decommission Plan

<b>Activity summary:</b>	Preparation for and subsequent removal of ~26 km of gas export pipeline and associated stabilisation
<b>Location:</b>	~39-62 km northwest of Onslow
<b>Commenced start date:</b>	Anticipated around second half of 2023, pending approvals, vessel availability and weather constraints
<b>Estimated duration:</b>	Approximately 2 months
<b>Consent table commencement:</b>	Jan 2022 <b>First EP submission to NOPSONA:</b> Mar 2022

### G4 Offshore Field Decommission Control Plan

<b>Activity summary:</b>	Proposed leave in situ (leave in place) of in situ infrastructure embedded in the seabed to minimise seabed disturbance (grubbers, piles, concrete gravity bases)
<b>Location:</b>	~45 km northwest of Onslow
<b>Commenced start date:</b>	Upon environmental plan acceptance and following completion of removal activities
<b>Estimated duration:</b>	No duration - infrastructure to be left in situ
<b>Consent table commencement:</b>	Jan 2022 <b>First EP submission to NOPSONA:</b> Feb 2022

### Shibrow Field and Area Decommission Control Plan

<b>Activity summary:</b>	The permanent plugging and abandonment of the Shibrow subsurface development wells by placing cement plugs in the wells to prevent hydrocarbon release
<b>Location:</b>	~32 km northwest of Onslow
<b>Commenced start date:</b>	Anticipated around late 2022 or 2023, pending approvals, vessel availability and weather constraints
<b>Estimated duration:</b>	~4 to 6 months
<b>Consent table commencement:</b>	May 2022 <b>First EP submission to NOPSONA:</b> Not yet submitted

### Shibrow Field Decommissioning and Field Management Environment Plan

<b>Activity summary:</b>	Field management and removal of subsurface infrastructure above the mudline, including the Dis-connectable Tunnel Hoisting (DTM)
<b>Location:</b>	~32 km northwest of Onslow
<b>Commenced start date:</b>	Anticipated around Q4 2022, pending approvals, vessel availability and weather constraints
<b>Estimated duration:</b>	~4 months
<b>Consent table commencement:</b>	Feb 2022 <b>First EP submission to NOPSONA:</b> Apr 2022

### Shibrow Field Decommission Environment Plan

<b>Activity summary:</b>	Proposed leave in situ (leave in place) of infrastructure embedded in the seabed to minimise seabed disturbance (grubbers, piles)
<b>Location:</b>	~32 km northwest of Onslow
<b>Commenced start date:</b>	Upon environmental plan acceptance and following completion of removal activities
<b>Estimated duration:</b>	No duration - infrastructure to be left in situ
<b>Consent table commencement:</b>	May 2022 <b>First EP submission to NOPSONA:</b> Jul 2022

**Figure 1 (Shibrow) and Figure 2 (Griffin)** Describe the Operational Areas and the Environment That May Be Affected (ETMA) based on a composite of many different paths and further distance where a highly unlikely, explained event could have an impact 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 identified and will be outlined in the relevant EP.



Interaction with other marine users, decommissioning discharges (pressure, density, turbidity, hydrocarbons), seabed disturbance, emissions from flaring/venting and other vessel impacts (noise, light, air emissions and marine discharges) impacts that could occur due to an unplanned event include hydrocarbon releases (crude/oil/gas), marine diesel or other vessel fuels, vessel collisions with marine fauna, additional seabed disturbance, introduced marine species, accidental loss of waste or other discharges.

**Figure 1 and Figure 2** illustrate indicative ETMAs for 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.



### Consultation Participation and Feedback

Woodside is seeking to consult with relevant persons to inform the preparation of Environment Plans (EPs) for the Shibrow and Griffin decommissioning activities. Consultation is designed to identify and obtain input from relevant persons to assist Woodside to 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 National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) under the Offshore Petroleum and Greenhouse Gas Storage Act 2020 (OPGSA) and support other regulatory submissions associated with the planned activities.

Detailed consultation information sheets are available at [www.woodside.com.au/sustainability/consultation-activities](http://www.woodside.com.au/sustainability/consultation-activities) if you would like additional information about Shibrow and Griffin decommissioning activities. You can also subscribe via our website to receive future information on proposed activities.

If you would like to comment on the proposed activities outlined above, please contact Woodside before Friday, 17 March 2023 via:

**E-Feedback@woodside.com**

Tel: 1800 440 877

## PUBLIC NOTICES



The Law Reform Commission of Western Australia

### Call for submissions – review of Western Australia's sexual offence laws

The Attorney General, the Hon. John Quigley MLA, asked the Law Reform Commission of Western Australia (LRC) to review WA's sexual offence laws.

The LRC is examining issues including the definition of consent, the defence of mistaken belief in consent, the directions given to juries in sexual offence trials, our substantive sexual offences and their maximum penalties.

The LRC is to provide advice and recommend any necessary reforms to the Attorney General.

The LRC has published Volumes 1 and 2 of a Discussion Paper and a Background Paper. The Discussion Paper outlines options and poses questions about changing our sexual offence laws. The LRC commissioned the Background Paper from experts to help the LRC and the public understand the issues in this area of law. Volumes 1 and 2 of the Discussion Paper and the Background Paper are both available on the LRC's website: [www.lrc.justice.wa.gov.au](http://www.lrc.justice.wa.gov.au)

Individuals and organisations can provide a submission on one or more of the options and questions in the Discussion Paper and Background Paper. Submissions on Volume 1 close on 17 March 2023. Submissions on Volume 2 close on 6 April 2023. For information about the various ways to make a submission please visit [www.lrc.justice.wa.gov.au](http://www.lrc.justice.wa.gov.au)

The Commission will hold consultations with reference groups and any organisation or person who wishes to contribute to the review in this area. To register your interest in attending a consultation please email [lawref@justice.wa.gov.au](mailto:lawref@justice.wa.gov.au) before 20 February 2023.

For more information visit [www.lrc.justice.wa.gov.au](http://www.lrc.justice.wa.gov.au)

ESL\_1874

## TENDERS



### REQUEST FOR QUOTE RFQ 07/2023 Supply and Construction of Works Depot Storage Shed

The Shire of Exmouth is seeking suitably qualified and experienced builder for the supply and install of a 3 x 4 M storage shed at 17 Welch Street (Works Depot).

A copy of the RFO document is available from TenderLink, no other provision of documentation is available. Submissions must be lodged via TenderLink Portal – [portal.tenderlink.com/exmouth](http://portal.tenderlink.com/exmouth) – by Monday 27th February 2023, 2:00pm.

## AUCTIONS

### REGISTER AND START BIDDING

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EMPLOYMENT



About Us

Boeing Defence Australia is shaping the future of aerospace and delivering some of the nation's most important programs for the Australian Defence Industry.

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The Opportunity

We are seeking Multiple Skillsets to support data centre, satellite services and facilities infrastructure as a part of the Maintenance and Support Services team located at our Geraldton site. Current Opportunities include:

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We're committed to building a diverse and inclusive workplace. Female applicants, people of Aboriginal or Torres Strait Island descent and veterans are encouraged to apply.

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Security Clearance

Applicants must be Australian Citizens to meet Australian Government security requirements. You will be required to successfully undergo an Australian Government positive vetting (PV) security clearance.

More information on the security clearance vetting process is available on the Australian Government Security Vetting Agency (AGSVA) website (<https://www.defence.gov.au/secureclearance>).

Equal Opportunity Employer

Boeing is an Equal Opportunity Employer. Employment decisions are made without regard to race, colour, religion, national origin, gender, sexual orientation, gender identity, age, physical or mental disability, genetic factors, military/veteran status or other characteristics protected by law.

If you are ready to join an innovative industry leader and would like to register your interest in working for Boeing, go to the Boeing Defence Australia Careers web page to apply.

<https://jobs.boeing.com/> (search city: Geraldton, Western Australia)

**Government of Western Australia**  
Legal Aid WA

**Solicitor – Carnarvon Satellite Office**  
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- Deliver a range of services across civil, family and criminal law areas.

If you want to know more go to [www.jobs.wa.gov.au](http://www.jobs.wa.gov.au) and search for job vacancy no. LA23028.  
CLOSING DATE: 4pm, 20/2/23.

LEGAL AID WA

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ENVIRONMENT PLANS NOTICE

Woodside Energy (Australia) Pty Ltd (ACN 016 823 878), Woodside Energy Julara Pty Ltd (ACN 010 330 332) and Woodside Damp Pty Ltd (ACN 010 27 416) are proposing to conduct activities in Commonwealth waters as described below:

**TRAD Well Intervention Corework Plan** (Woodside Energy Ltd)

<b>Activity summary:</b>	Activities on the TRAD production well to remediate down-hole valve and continue production from the lower reservoir
<b>Location:</b>	-18 km north-west of Dampier
<b>Commencement timing:</b>	Anticipated around mid 2023 pending approvals, vessel availability and weather constraints
<b>Estimated duration:</b>	-5 to 10 days and will take place 24 hours, 7 days a week
<b>Consultation commenced:</b>	June 2022
<b>Final EIP submission to NOPPSMA:</b>	August 2022

**Julara 1 Drilling and Seismic Corework Plan** (Woodside Energy Julara Pty Ltd)

<b>Activity summary:</b>	Geotechnical and geophysical surveys, drilling and appraisal of the Julara South-1 well and plugging abandonment of Julara South-1 if required
<b>Location:</b>	-82 km east-north-west of Dampier
<b>Commencement timing:</b>	Anticipated around mid 2023 pending approvals, vessel availability and weather constraints
<b>Estimated duration:</b>	-40 days for drilling and appraisal, -45 days geophysical and geotechnical surveys and -25 for decommissioning of the Julara South-1 well. Activities will be conducted 24 hours per day, seven days per week
<b>Consultation commenced:</b>	August 2022
<b>Final EIP submission to NOPPSMA:</b>	Not yet submitted

**WA-34-L-1 Well Drilling and Seismic Corework Plan** (Woodside Damp Pty Ltd)

<b>Activity summary:</b>	Drilling and subsurface infrastructure installation activities for one well (PLA06) and contingent well intervention activities for current production wells
<b>Location:</b>	-70 km north-west of Dampier
<b>Commencement timing:</b>	Anticipated around mid 2023 pending approvals, vessel availability and weather constraints
<b>Estimated duration:</b>	-20 days for the PLA06 well, -20 days per well for well intervention activities and -20 days for subsurface infrastructure activities. Activities will be conducted 16.26 hours per day, 7 days per week
<b>Consultation commenced:</b>	June 2022
<b>Final EIP submission to NOPPSMA:</b>	Not yet submitted



Figure 1

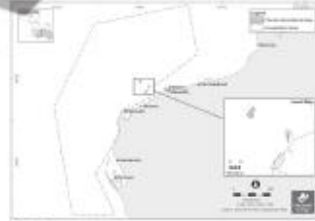


Figure 2



Figure 3

**Figure 1 (TRAD), Figure 2 (Julara 1) and Figure 3 (WA-34-L-1):** Display the Operational Area and the Environment that May be Affected (EMBA) based on a composite of many different paths and for the distance where a highly unlikely unplanned event could have an impact 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 identified and will be outlined in the relevant EIP. Impacts associated with the planned activities include the physical presence of a Mobile Offshore Drilling Unit (MODU) and vessels, interaction with other marine users, seabed disturbance such as infrastructure placement and other vessel churning and construction impacts such as noise, light, air emissions and marine discharges. Impacts that could occur due to an unplanned event include hydrocarbon releases, container falls, marine diesel or other vessel fuel, vessel collisions with marine fauna, additional tracked data base, introduced marine species, accident loss of waste or other discharges.

**Figure 1, Figure 2 and Figure 3:** Illustrate the EMBA 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.

**Consultation Participants and Feedback**

Woodside is seeking to consult with relevant persons to inform the 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 National Offshore Petroleum Safety and Environmental Management Authority (NOPPSMA) under the Offshore Petroleum and Greenhouse Gas Storage Act 2016 (OPGSA) and support other regulatory submissions associated with the proposed activities. Detailed consultation information sheets are available at: [www.woodside.com.au/sustainability/consultation-activities](http://www.woodside.com.au/sustainability/consultation-activities) if you would like additional information about these activities. You can also subscribe to our website to receive future information on proposed activities.

If you would like to comment on the proposed activities outlined above, please contact Woodside before Friday, 17 March 2023 via:  
**E. Feedback@woodside.com.au**  
Tel/Fax: 1800 462 877



# ENVIRONMENT PLAN NOTICE

Woodside Energy (Australia) Pty Ltd (ACN004 923 976) is preparing to conduct decommissioning activities in Commonwealth waters, as described below.

## G4 Field Decommissioning and Field Management Controls Plan

<b>Activity summary:</b>	Field management and removal of subsea infrastructure above the mudline, including the River Tunnel Mooring (RTM)
<b>Location:</b>	~45 km northwest of Ormeau
<b>Commencement of activity:</b>	Anticipated around second half of 2023, pending approvals, vessel availability and weather constraints
<b>Estimated duration:</b>	Approximately 6 months
<b>Commencement of</b>	Oct 2021
<b>First EPA submission to NOPS/DMA</b>	Dec 2021

## G4 Field Gas Export Pipeline Decommissioning Plan

<b>Activity summary:</b>	Preparation for and subsequent removal of ~26 km of gas export pipeline and associated stabilisation
<b>Location:</b>	~38-45 km northwest of Ormeau
<b>Commencement of activity:</b>	Anticipated around second half of 2023, pending approvals, vessel availability and weather constraints
<b>Estimated duration:</b>	Approximately 2 months
<b>Commencement of</b>	Jan 2022
<b>First EPA submission to NOPS/DMA</b>	Mar 2022

## G4 Field Drilling Services Decommissioning Plan

<b>Activity summary:</b>	Proposed leave in situ (place in place) of inert, non-toxic infrastructure embedded in the seabed to minimise seabed disturbance (anchors, piles, concrete gravity bases)
<b>Location:</b>	~45 km northwest of Ormeau
<b>Commencement of activity:</b>	Upon environment plan acceptance and following completion of removal activities
<b>Estimated duration:</b>	No duration - infrastructure to be left in situ
<b>Commencement of</b>	Jan 2022
<b>First EPA submission to NOPS/DMA</b>	Feb 2022

## Sylbarrow Plug and Abandonment Controls Plan

<b>Activity summary:</b>	The permanent plugging and abandonment of the Sylbarrow subsea development wells by placing cement plugs in the wells to prevent hydrocarbon release
<b>Location:</b>	~32 km northwest of Ormeau
<b>Commencement of activity:</b>	Anticipated around late 2022 or 2024, pending approvals, vessel availability and weather constraints
<b>Estimated duration:</b>	4 to 6 months
<b>Commencement of</b>	May 2022
<b>First EPA submission to NOPS/DMA</b>	Not yet submitted

## Sylbarrow Decommissioning and Field Management Controls Plan

<b>Activity summary:</b>	Field management and removal of subsea infrastructure above the mudline including the Sea-connectable Tunnel Mooring (STM)
<b>Location:</b>	~32 km northwest of Ormeau
<b>Commencement of activity:</b>	Anticipated around Q4 2022, pending approvals, vessel availability and weather constraints
<b>Estimated duration:</b>	4 months
<b>Commencement of</b>	Feb 2022
<b>First EPA submission to NOPS/DMA</b>	Apr 2022

## Sylbarrow Field Drilling Services Decommissioning Plan

<b>Activity summary:</b>	Proposed leave in situ (place in place) of infrastructure embedded in the seabed to minimise seabed disturbance (anchors, piles)
<b>Location:</b>	~32 km northwest of Ormeau
<b>Commencement of activity:</b>	Upon environment plan acceptance and following completion of removal activities
<b>Estimated duration:</b>	No duration - infrastructure to be left in situ
<b>Commencement of</b>	May 2022
<b>First EPA submission to NOPS/DMA</b>	Jul 2022

**Figure 1 (Sylbarrow) and Figure 2 (Griffin):** Describe the Operational Area and the Decommissioning Activity Area (DMA) based on a composite of many delineations and have a bearing on the highly variable, regional winds could have an impact 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 activities identified and will be applied in the relevant EPA.



Figure 1 Sylbarrow Field

Interaction with other marine users, decommissioning discharges (planned) or spills (unplanned) by fire, explosion, vessel disturbance, emissions from flaring, lifting and other vessel impacts (noise, light, air emissions and marine discharges) impacts that could occur due to an unplanned event including: hydrocarbon releases (crude) gas, marine diesel or other vessel fuel, vessel collisions with marine fauna, additional seabed disturbance, introduced marine species, accidental releases of water or other discharges.

**Figure 1 and Figure 2:** Illustrate indicative DMA 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 2 Griffin Field

## Consultation Participation and Feedback

Woodside is seeking to connect with relevant persons to inform the preparation of Environment Plans (EPs) for the Sylbarrow and Griffin decommissioning activities. Consultation is designed to notify and obtain input from relevant persons to assist Woodside identify measures to assess 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 National Offshore Petroleum Safety and Environmental Management Authority (NOPS/DMA) under the Offshore Petroleum and Greenhouse Gas Storage Act 2004 (OPGSA) and support other regulatory submissions associated with the planned activities.

Detailed consultation information sheets are available at: [www.woodside.com.au/australia/industry/consultation](http://www.woodside.com.au/australia/industry/consultation) or e-mail if you would like additional information about Sylbarrow and Griffin decommissioning activities. You can also subscribe via our website to receive future information on proposed activities.

If you would like to comment on the proposed activities outlined above, please contact Woodside before Friday, 17 March 2023 via:  
**E: Feedback@woodside.com.au**  
**Toll-free: 1800 440 477**

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# ENVIRONMENT PLAN NOTICE

Woodside Energy (Australia) Pty Ltd (ACN004 823 876) proposing to conduct decommissioning activities in Commonwealth waters, as described below:

## G416 Decommissioning as a Field Management: Onshore well Plan

<b>Activity summary:</b>	Field management and removal of subsurface infrastructure above the seabed, including the River Torus Mooring (RTM)
<b>Location:</b>	~45 km northwest of Onslow
<b>Commencement date:</b>	Anticipated around second half of 2023, pending approvals, vessel availability and weather constraints
<b>Estimated duration:</b>	Approximately 4 months
<b>Consent commencement date:</b>	Oct 2021
<b>First EPA submission to NORSQA:</b>	Dec 2021

## G416 Gas Escape Pipelays Onshore well Plan

<b>Activity summary:</b>	Preparation for and subsequent removal of ~26 km of gas export pipelines and associated stabilisation
<b>Location:</b>	~39-65 km northwest of Onslow
<b>Commencement date:</b>	Anticipated around second half of 2023, pending approvals, vessel availability and weather constraints
<b>Estimated duration:</b>	Approximately 2 months
<b>Consent commencement date:</b>	Jan 2022
<b>First EPA submission to NORSQA:</b>	Mar 2022

## G416 Field Debris Onshore well Plan

<b>Activity summary:</b>	Proposed leave in situ (leave in place) of inert, non-toxic infrastructure embedded in the seabed to minimise seabed disturbance (anchors, piles, concrete gravity bases)
<b>Location:</b>	~45 km northwest of Onslow
<b>Commencement date:</b>	Upon environmental plan acceptance and following completion of removal activities
<b>Estimated duration:</b>	No duration - infrastructure to be left in situ
<b>Consent commencement date:</b>	Jan 2022
<b>First EPA submission to NORSQA:</b>	Feb 2022

## Sylbarre Plug and Abandonment Onshore well Plan

<b>Activity summary:</b>	Therapeutic plugging and abandonment of the Sylbarre subsurface development wells by placing cement plugs in the wells to prevent hydrocarbon release
<b>Location:</b>	~33 km northwest of Onslow
<b>Commencement date:</b>	Anticipated around late 2022 or 2023, pending approvals, vessel availability and weather constraints
<b>Estimated duration:</b>	4 to 8 months
<b>Consent commencement date:</b>	May 2022
<b>First EPA submission to NORSQA:</b>	Not yet submitted

## Sylbarre Decommissioning as a Field: No onshore Environment Plan

<b>Activity summary:</b>	Field management and removal of subsurface infrastructure above the seabed, including the On-connected Torus Mooring (OTM)
<b>Location:</b>	~33 km northwest of Onslow
<b>Commencement date:</b>	Anticipated around Q4 2022, pending approvals, vessel availability and weather constraints
<b>Estimated duration:</b>	4 months
<b>Consent commencement date:</b>	Feb 2022
<b>First EPA submission to NORSQA:</b>	Apr 2022

## Sylbarre Field Debris Onshore well Plan

<b>Activity summary:</b>	Proposed leave in situ (leave in place) of infrastructure embedded in the seabed to minimise seabed disturbance (anchors, piles)
<b>Location:</b>	~33 km northwest of Onslow
<b>Commencement date:</b>	Upon environmental plan acceptance and following completion of removal activities
<b>Estimated duration:</b>	No duration - infrastructure to be left in situ
<b>Consent commencement date:</b>	May 2022
<b>First EPA submission to NORSQA:</b>	Jun 2022

**Figure 1 (Onshore) and Figure 2 (Offshore)** describe the Operational Areas and the Environment Study Area (ESA) based on a composite of many different wells and subsea infrastructure. A highly visible, unlit structure could have an impact based on weather and vessel movements.

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 identified and will be outlined in the relevant EP (EIS).

Impacts associated with the decommissioning activities include the physical presence of a Mobile Offshore Drilling Unit (MODU) and vessel.



Figure 1: Sylbarre Field

In addition with other mariners, decommissioning discharges (generally directly to the seabed), vessel disturbance, emissions from flaring/burning and other vessel impacts (noise, light, air emissions and marine discharges) impacts that could occur due to an unplanned event include hydrocarbon releases (product gas, marine diesel or other vessel fuel), vessel collisions with marine fauna, additional seabed disturbance, introduced marine species, accidental loss of waste or other discharges.

**Figure 1 and Figure 2** illustrate indicative DMSAs 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 2: Griffin Field

**Consultation Participation and Feedback**

Woodside is seeking to consult with relevant persons to inform the preparation of Environment Plans (EPs) for the Sylbarre and Griffin decommissioning 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 National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) under the Offshore Petroleum and Greenhouse Gas Storage Act 2020 (OPGSA) and support other regulatory submissions associated with the planned activities.

Detailed consultation information sheets are available at [www.woodside.com.au/sustainability/consultation-activities](http://www.woodside.com.au/sustainability/consultation-activities) if you would like additional information about Sylbarre and Griffin decommissioning activities. You can also subscribe via our website to receive future information on proposed activities.

If you would like to comment on the proposed activities outlined above, please contact Woodside before Friday, 17 March 2023 at:

**C. Feedback@woodside.com**  
 Toll free: 1800 448 177

## PUBLIC NOTICES



Planning and Development Act 2005

### LOCAL PLANNING SCHEME AMENDMENT AVAILABLE FOR INSPECTION STANDARD AMENDMENT

Shire of Northampton Local Planning Scheme No. 10 – Amendment No. 8  
 Notice is hereby given that the local government of the Shire of Northampton has prepared the above mentioned planning scheme amendment for the purpose of:

- Amending the Scheme Maps as follows:
  - Re zoning a portion of Lot 254 Ganes Street, Harrocks from "Commercial" zone to "Residential R20" zone;
  - Re zoning a portion of Lot 1 Hoon Way, Harrocks from "Rural" zone to "Residential R20" zone;
  - Re zoning Lots 20, 21 and 47 Mitchell Street, Harrocks from "Local Scheme Reserve – Public Open Space" zone to "Residential R1.5";
  - Modifying a portion of Lot 10 Grace Street, Harrocks from "Additional Use 3" (AU3) to "Additional Use 4" (AU4);
  - Re zoning Lots 24 and 22 Mary Street, Northampton from "Special Use 2 to Public Purpose – Emergency Services";
  - Re zoning Lots 555 and 19 North West Coastal Highway Alcoa, from "Special Use" zone to "Rural – Additional Use 2" (AU2) zone; and
  - Remove the SCA3 Public Drinking Water Source Protection over Yelina Springs, Northampton and Port Gregory

Plans and documents setting out and explaining the scheme amendment have been deposited at the Shire of Northampton Council Offices, Hampton Road, Northampton and the Alcoa Centre, Gray Street, Kalbarri and will be open for inspection during office hours up to and including Friday 7<sup>th</sup> April 2023. Details are also available via the Northampton website [www.shireofnorthampton.com.au](http://www.shireofnorthampton.com.au)

Submissions on the planning scheme amendment may be lodged in writing and should include the amendment number, the property affected and details of the submission and lodged with the undersigned or by email to 4.00pm Friday 7<sup>th</sup> April 2023.

IANA ROSE DAVILLAMA  
 ACTING CHIEF EXECUTIVE OFFICER  
 POLICING, NORTHAMPTON WA 6503



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### 3.32 Activity Update Consultation Information Sheet sent to relevant persons



# ACTIVITY UPDATE – GRIFFIN DECOMMISSIONING ENVIRONMENT PLANS

## NORTHERN CANARVON 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 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 of an acceptable level. We want relevant persons whose functions, interests or activities 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 planning to undertake subsea decommissioning activities for the Griffin field (previously operated by BHP Petroleum Pty Ltd (BHP)), which is located in Commonwealth waters in permit area WA-10-L, 65 km northwest of Onslow and 94 km north east of Exmouth and in water depths of approximately 120 m (Figure 1).

Regulatory approvals are being sought for the following activities:

#### Griffin Decommissioning and Field Management EP

- Removal of subsea equipment (wellheads, trees, distribution skids, risers, flexible flowlines, rigid flowlines, umbilicals, pipeline end module (PLEM)).
- Removal of the Riser Turret Mooring (RTM) and its moorings. Depending on the vessel utilised, Recovery of the RTM may require sections of it to be towed to shallower water out of the title. Recovery activities will include:
  - Toppling and sectioning of the RTM by Construction Support Vessel (CSV) using a diamond wire saw on the seafloor. The number of cuts of the RTM structure will depend on which vessel is used for the recovery – Heavy Lift Vessel (HLV) or CSV.
  - If a CSV is used, two RTM sections will be towed 18 km to sheltered water location out of title. The remainder of the smaller sections will be recovered in the title.
  - If a HLV is used, there will be no tow out of title. All sections will be recovered in the title.

The number of cuts of the RTM structure will depend on which vessel is utilised for the recovery

- Cuts will be positioned to avoid the potential release of materials such as polyurethane buoyancy foam.
- Cutting activities will result in a short-term localised seabed impact.

- Removal of exploration wellhead (Ramillies-1 in neighbouring petroleum title WA-12-L).
- Ongoing field management activities.

#### Griffin Gas Export Pipeline EP (GEP EP)

- Pigging and subsequent removal of the ~26 km of Griffin Gas Export Pipeline (GEP) within Commonwealth waters.
- Decommissioning of the WA State waters section of the GEP and related onshore infrastructure is subject to separate approvals under the jurisdiction of the Department of Mines, Industry Regulation and Safety (DMIRS).
- Previous consultation materials had proposed a clean and leave in situ option for the GEP. The GEP EP is being updated to enable removal activities, given regulatory feedback relating to the long-term fate of the pipeline and the time constraints of the General Direction.

#### Griffin Field Deviation EP

- Proposal to leave in situ 12 RTM drag anchors (buried), 6 concrete gravity bases and 5 piled foundations for the PLEM and 4 distribution skids, to minimise seabed disturbance.

Decommissioning of the Griffin field is planned to start following acceptance of its EP with work anticipated to start around Q4 2023, pending approvals, vessel availability and weather constraints.

Subsea infrastructure removal activities are anticipated to take approximately six months to complete and the GEP removal is anticipated to take approximately two months to complete.

Following removal activities, Woodside proposes to dispose of equipment onshore in accordance with applicable requirements, assessing all options to reduce waste through reuse or recycling of recovered equipment.

The equipment removal is required to be completed by 31 December 2024, as per NOPSEMA General Direction 832.

The equipment locations and proposed activity or end state is summarised in **Table 2**.

EPs for these activities have previously been submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for assessment under the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009*.

This Activity Update provides an overview of proposed activities, as well as additional information or changes to information previously provided.

Feedback from relevant persons as part of current consultation activities will be included in revisions to the EPs, which will be submitted to NOPSEMA for further assessment.



Technip FMC Daap Orient, Construction vessel for Griffin decommissioning



Typical subsea equipment recovery

#### Griffin Decommissioning Background

The Griffin field comprises 12 former subsea production wells, which ceased production in 2009 and were permanently plugged in 2017, as well as subsea infrastructure which has previously been flushed of hydrocarbons.

The GEP extends from the field through Commonwealth (pipeline licence WA-3PL) and State waters (licence TPL-10) to the former Griffin Gas Export Facility, west of Onslow.

Since the cessation of production, the following activities have been completed:

- The Griffin Venture FPSO was disconnected from the RTM and demobilised from the field.
- Flowlines were flushed and filled with treated seawater.
- The GEP was purged and positively pressured with inert gas.
- The RTM structure unintentionally sank to the seabed in 2013, where it remains in an upright orientation.
- All wells were plugged and abandoned (P&A) in 2017, with Xmas trees removed and placed on mud mats adjacent to the wells.
- Mid depth buoys were removed and recovered to eliminate buoyant risk in 2018.

#### Communications with mariners

An approximate 1,500m radius temporary Operational Area (precautionary) will be in place around the subsea infrastructure and GEP.

A temporary 500 m exclusion zone will apply around the project vessels during removal and potential tow activities.

Commercial fishers and other marine users are permitted to use but should take care when entering the Operational Area and remain clear of the Exclusion Zone.

There is no Operational Area or exclusion zones for the Griffin Field Deviation EP as infrastructure is proposed to be left in situ and therefore there are no activities.

It is intended that subsea infrastructure which is proposed to be left in situ will continue to be marked on navigation charts, and infrastructure proposed to be removed will continue to be marked on navigation charts until it is removed.

It is anticipated that vessels will operate 24 hours per day for the duration of the activities. The duration of these activities is subject to change due to project schedule requirements, vessel availability, weather or unforeseen circumstances.

#### Decommissioning assessment

Woodside has undertaken an assessment to identify potential risks to the marine environment and relevant persons, considering timing, duration, location and potential impacts arising from the planned activities. A number of mitigation and management measures will be implemented and are summarised in **Table 3**. Further details will be provided in the revised EPs.

In preparing the EP revisions, Woodside's intent is to minimise environmental and social impacts associated with the proposed activities, and we are seeking comments and input from relevant persons to inform our decision making and for the intended outcome of consultation (see above).

#### Joint Venture

Woodside Energy (Australia) Pty Ltd is operator of WA-10-L on behalf of the Joint Venture with joint venture partners INPEX Alpha Ltd and Mobil Exploration and Producing Pty Ltd.

Woodside Energy (Australia) Pty Ltd is operator of WA-12-L on behalf of the Joint Venture with joint venture partner Mobil Australia Resources Company Pty Ltd.

**We welcome your feedback by 17 March 2023.**

Table 1. Activity summary

Griffin Decommissioning activities	Facilities Removal	GEP Removal	Leave In Situ
<b>Summary</b>	<p>Removal of the following equipment:</p> <ul style="list-style-type: none"> <li>RTM and mooring lines</li> <li>Disconnection of risers and moorings, toppling, sectioning of RTM by CSV</li> <li>Potential 18 km tow of two large RTM sections to sheltered water location out of title, if CSV used for recovery.</li> </ul> <p>or</p> <ul style="list-style-type: none"> <li>Recovery in title by HLV.</li> </ul>	Pigging and removal of the -26 km of gas export pipeline in Commonwealth waters.	Proposal to leave in situ 12 RTM drag anchors (buried), 6 concrete gravity bases and 5 piled foundations for the PLEM and 4 distribution skids.
<b>Commencement date</b>	Earliest proposed removal activity start is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints. Facilities removal must be completed no later than 31 December 2024, pursuant to General Direction B32.		
<b>Simultaneous Operations (SIMOPS)</b>	Potential SIMOPS may occur with removal of subsea infrastructure and the RTM if a HLV is used for the RTM recovery. This is subject to vessel availability, timing of activities and weather constraints.		
<b>Petroleum Title</b>	WA-10-L, WA-12-L	WA-10-L, WA-3PL	WA-10-L
<b>Operational Area</b>	An approximate 1,500m radius temporary Operational Area (precautionary) around the equipment.		N/A (no activities)
<b>Exclusion Zones</b>	A temporary 500 m exclusion zone will apply around the project vessels during removal and potential tow activities.		
<b>Estimated duration</b>	-6 months	-2 months	N/A
<b>Approximate location and Water depth</b>	-65 km northwest of Onslow and -94 km northeast of Exmouth, 120m water depth  Tow/recovery location -4km to the east of Bessieres Island, water depth -13 m	-39-65 km northwest of Onslow and -94 km northeast of Exmouth, -120 m water depth	-65 km northwest of Onslow and -94 km northeast of Exmouth, -120 m water depth
<b>Infrastructure</b>	<p>RTM and moorings</p> <p>13 wellheads</p> <p>12 Xmas trees</p> <p>47km of flexible flowlines</p> <p>9 flexible risers</p> <p>22km of umbilicals</p> <p>1 Pipeline End Module</p> <p>6 Mid depth buoy mooring chains</p> <p>4 distribution skids</p> <p>Mud mat structures (heat exchanger, choke skid, 3 UTAs, 17 anode skids)</p> <p>The EP includes ongoing field management activities, as required, until the equipment is removed.</p>	<p>Installation of pig launcher and pigging of the pipeline to sweep clear of any debris.</p> <p>Pigging refers to the practice of using internal devices known as 'pigs' to perform various cleaning, inspection and testing operations on pipelines</p> <p>Deburial of -3 km of buried pipeline.</p> <p>Removal of -26 km of gas export pipeline (GEP) and associated stabilisation (mattresses, rock anchors).</p>	<p>Leave in situ proposed for:</p> <p>6 concrete gravity bases (embedded in seabed)</p> <p>12 drag anchors (buried)</p> <p>5 cement and steel piles (buried)</p> <p>Contaminant assessments have been conducted for the materials within these items (steel, concrete, cement) and they pose no short term or long-term risk to the environment.</p>
<b>Vessels</b>	<p>Construction support vessel (CSV) for disconnection, toppling and cutting activities.</p> <p>Construction support or Heavy Lift Vessel (HLV) with dynamic positioning (DP) for recovery activity.</p> <p>An anchor handling tug (AHT) will be required to support the towing of the RTM to sheltered water location (if required), to support the CSV.</p> <p>Offshore support vessels, such as general support/supply vessels, construction support/installation vessels. Typically two (but up to six) project vessels may be in the Operational Area during subsea infrastructure removal activities</p>	Construction support vessel (CSV) for pipeline removal activities.	No vessels.
<b>Distance to nearest marine park/mature reserve</b>	<p>-76 km to Gascoyne Commonwealth Marine Park</p> <p>-59 km to Ningaloo Marine Park (Commonwealth)</p> <p>-41 km to Ningaloo Marine Park (State)</p> <p>- 42km to Murion Islands Marine Management Area</p>		

**Table 2. Approximate location and activity/end state**

Subsea Infrastructure	Easting	Northing	Activity/End State
RTM	255645	7651464	Remove
RTM Mooring lines	Between RTM and mooring points		Remove
Flexible production flowlines	Between wells and RTM		Remove
Flexible Risers			Remove
Rigid production flowlines			Remove
Electrohydraulic umbilicals			Remove
Pipeline End Module (PLEM)	256393	7650218	Remove
Distribution skids			Remove
Mud mat structures (UTAs, anode skids, choke skid, subsea heat exchanger)			Remove
Griffin-1 wellhead (Including Xmas tree)	253118	7650063	Remove
Griffin-2 wellhead (Including Xmas tree)	253393	7651284	Remove
Griffin-3 wellhead (Including Xmas tree)	252287	7649169	Remove
Griffin-4 wellhead (Including Xmas tree)	254762	7652917	Remove
Griffin-5 wellhead (Including Xmas tree)	254767	7652947	Remove
Griffin-6 wellhead (Including Xmas tree)	252915	7651139	Remove
Griffin-8 wellhead (Including Xmas tree)	253365	7651266	Remove
Griffin-9 wellhead (Including Xmas tree)	254738	7652874	Remove
Chinook-1 wellhead (Including Xmas tree)	260964	7657437	Remove
Scindian-2 wellhead (Including Xmas tree)	260560	7653499	Remove
Scindian-3 wellhead (Including Xmas tree)	261007	7654897	Remove
Scindian-4 wellhead (Including Xmas tree)	260982	7654905	Remove
Ramillies-1 wellhead	251254	7647511	Remove
Gas export pipeline within WA-3PL	Start: 256393 (PLEM, KP61) End: 268769 (KP36)	Start: 7650218 End: 7627374	Remove
RTM anchor pair 1	255639	7652302	Leave in situ, remove chain where unburied
RTM anchor pair 2	256634	7651890	
RTM anchor pair 3	256388	7651058	
RTM anchor pair 4	255671	7650628	
RTM anchor pair 5	254930	7651040	
RTM anchor pair 6	254934	7651863	
PLEM pile foundation	256393	7650218	Cut at the seabed, leaving buried section in situ
Distribution skid 1 / 2 pile foundation	260535	7653488	
Distribution skid 4 pile foundation	253150	7650065	Piles are of steel and cement construction, 30" diameter and -20m long
Distribution skid 5 pile foundation	253418	7651297	
Distribution skid 6 pile foundation	254782	7652896	
Concrete gravity base 1	255714	7651571	
Concrete gravity base 2	255779	7651463	Concrete gravity bases are constructed of concrete and reinforcing steel.
Concrete gravity base 3	255716	7651352	
Concrete gravity base 4	255589	7651351	
Concrete gravity base 5	255524	7651460	
Concrete gravity base 6	255587	7651567	

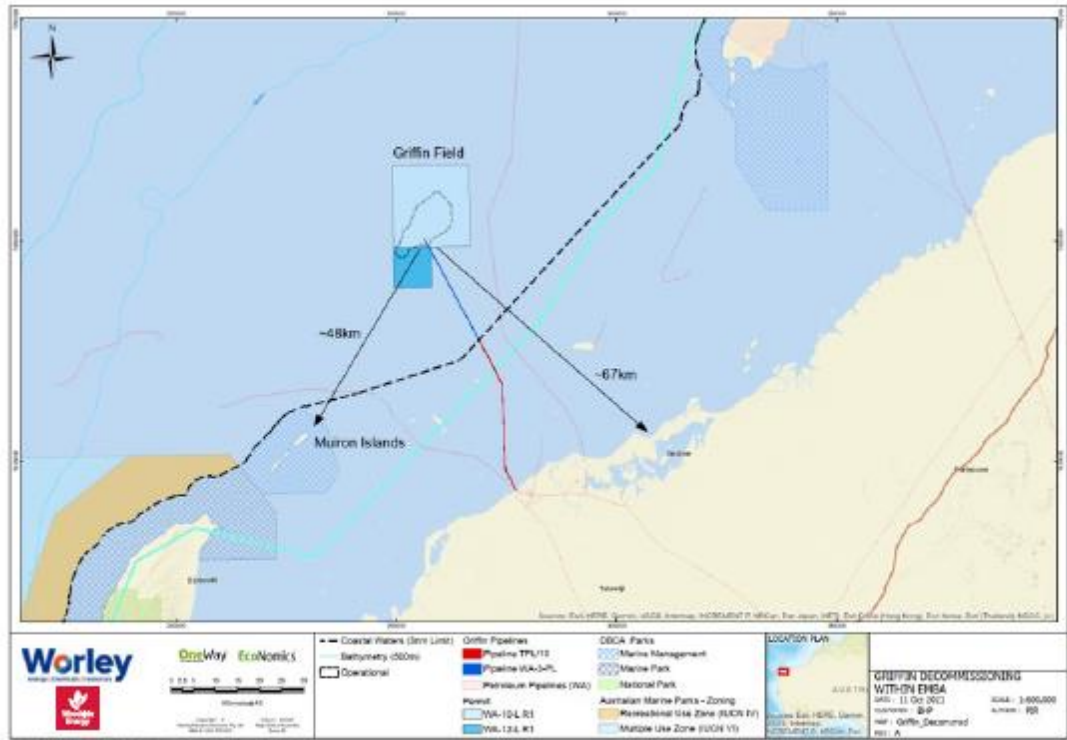


Figure 1. Griffin Field and Operational Area

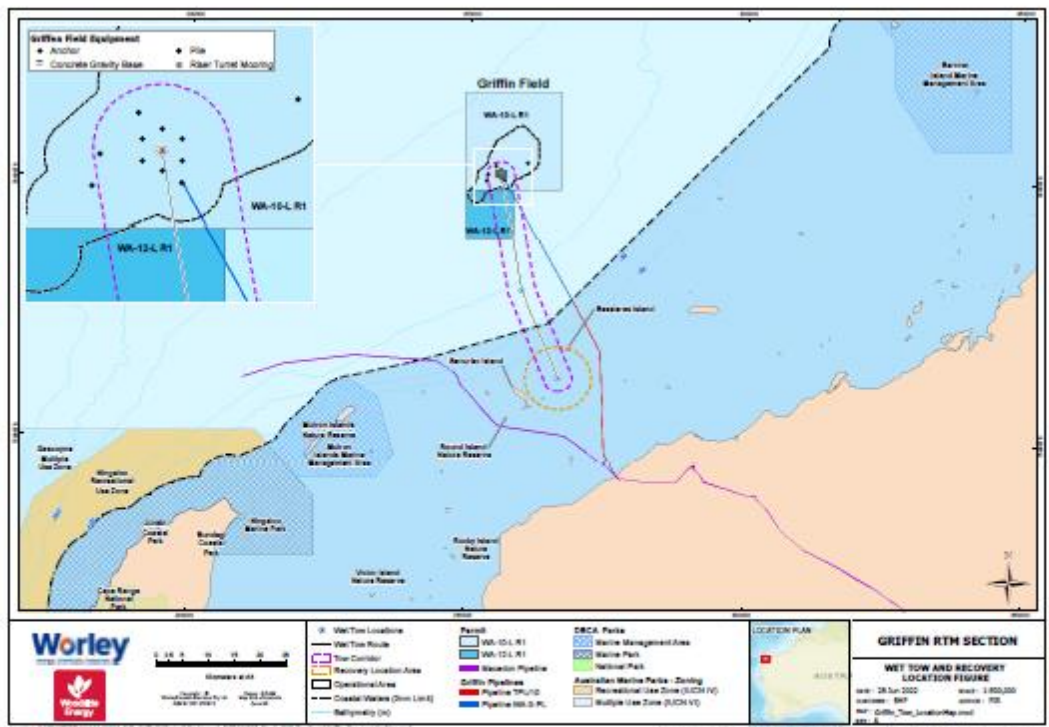


Figure 2. Griffin RTM Tow and Lift Area

**Environment That May Be Affected (EMBA)**

The environment that may be affected (EMBA) is the largest spatial extent where unplanned events could potentially have an environmental consequence. For this EP, the broadest extent of the EMBA has been determined by the highly unlikely event of a hydrocarbon release from both the direct and indirect activities the subject of the EP. The worst-case credible spill scenario for these EPs is a release of diesel of up to 1000m<sup>3</sup> due to a vessel collision.

The EMBA does not represent the predicted impact of the highly unlikely hydrocarbon release. Rather, the EMBA represents the merged area of many possible paths that a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release.

This means that in the highly unlikely event that 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.

There are three very similar EMBA's for this EP, reflecting the activities and the different locations that the activity could occur, with the worst case EMBA presented in **Figure 2** below. The scenarios it covers are:

- **Facilities Equipment Removal EMBA:** Primary activity for the Griffin Decommissioning and Field Management EP – Recovery of subsea infrastructure using a CSV, RTM recovery by HLV
- **GEP Equipment Removal EMBA:** Primary activity for the Griffin Gas Export Pipeline EP – Recovery of pipeline using a CSV, 26 km away from the epicenter of the Griffin field
- **RTM Tow Location EMBA:** Option for the removal of the RTM, an activity within the Griffin Decommissioning and Field Management EP – 2 RTM sections towed from its current location approximately -10 Nm to 2 Nm east of Bessieres Island for recovery in sheltered water.

Given the buried nature of the infrastructure proposed to remain in situ and the absence of related activities for the infrastructure, the EMBA is the anticipated footprint of the equipment.

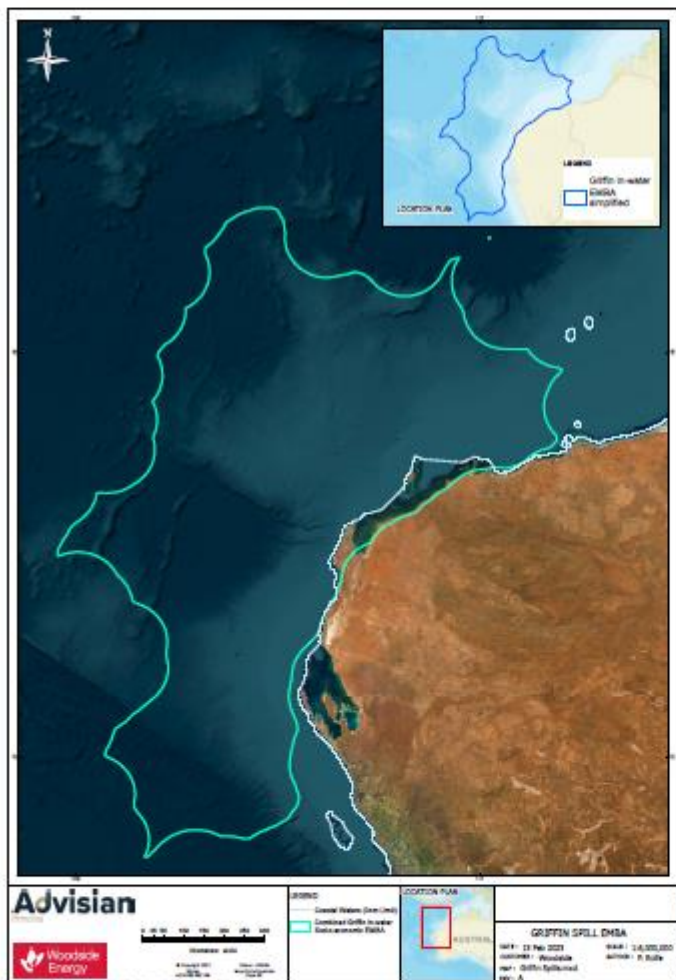


Figure 2. Environment that may be affected (EMBA) for the proposed activity.



**Mitigation and Management Measures**

Woodside has undertaken an assessment to identify potential impacts and risks to the marine environment arising from the decommissioning activities considering timing, duration, location.

A number of mitigation and management measures for the removal of the RTM are outlined in **Table 2**. Further details will be provided in the EP.

**Table 2. Summary of key risks and/or Impacts and management measures for Griffin Decommissioning activities. Key risks and/or Impacts and management measure apply to activities occurring within the title area and tow location.**

Potential Impact/ Risk	Description of Source of Potential Impact/ Risk	Description of Potential Impacts	Proposed Mitigation and/ or Management Measure
<b>Planned</b>			
<b>Physical presence and interactions with other marine users</b>	<ul style="list-style-type: none"> <li>The activities will be undertaken using a range of project vessels, namely a CSV and potentially a HLV, along with general support project vessels. A 500 m petroleum safety zone will apply around the equipment locations. If the RTM is towed out of title, a 500 m exclusion zone will apply to the RTM and project vessels during tow and lifting.</li> <li>Presence of vessels in the safety and exclusion zones has the potential to result in interaction with third-party marine users.</li> </ul>	<ul style="list-style-type: none"> <li>Interference with commercial shipping.</li> <li>Interference with commercial fishing activity.</li> <li>Displacement of recreational fishing activity.</li> <li>Interaction with existing oil and gas infrastructure.</li> </ul>	<ul style="list-style-type: none"> <li>500 m petroleum safety zone maintained around equipment until removal.</li> <li>500 m exclusion zone established around the project vessels.</li> <li>Activity support vessel(s) to communicate with third-party vessels to assist in maintaining the petroleum safety zone/ exclusion zones.</li> <li>Consultation with relevant persons for the consultation outcomes.</li> </ul>
<b>Physical presence of infrastructure on seabed causing seabed disturbance Interference and displacement of other marine users</b>	<ul style="list-style-type: none"> <li>Excess marine growth may need to be removed from the equipment prior to removal using high-pressure water jetting.</li> <li>Equipment deburial and short term wet parking may be required.</li> </ul>	<ul style="list-style-type: none"> <li>Removal activities may result in localised, temporary seabed disturbance from resuspension of sediments.</li> <li>Marine growth removal may result in highly localized seabed disturbance as debris deposits on the seabed.</li> <li>Interference or displacement of commercial fishing activity.</li> <li>Displacement of recreational fishing activity.</li> </ul>	<ul style="list-style-type: none"> <li>Use controlled recovery techniques to limit seabed disturbance.</li> <li>Equipment to be marked on navigational charts until removal.</li> </ul>
<b>Discharges: Project Vessels</b>	<ul style="list-style-type: none"> <li>Sewage, greywater and putrescible waste will be discharged from project vessels.</li> <li>Bilge water, deck drainage and brine and cooling water may also be discharged.</li> </ul>	<ul style="list-style-type: none"> <li>Short-term, localised impacts to water quality i.e. eutrophication from the addition of nutrients from these discharge fluids.</li> </ul>	<ul style="list-style-type: none"> <li>All routine marine discharges will be managed according to legislative and regulatory requirements.</li> </ul>

Potential Impact/ Risk	Description of Potential Source of Potential Impact/ Risk	Description of Potential Impacts	Proposed Mitigation and/ or Management Measure
<b>Discharges: Decommissioning Activities</b>	<ul style="list-style-type: none"> <li>During equipment removal, small volumes of treated seawater within the equipment will be released into the surrounding environment.</li> <li>Chemical use may be required to remove marine growth.</li> </ul>	<ul style="list-style-type: none"> <li>Localised short-term impacts to water quality from the release of seawater ballast and residual chemicals and hydrocarbons.</li> </ul>	<ul style="list-style-type: none"> <li>Chemical reviews performed on all previously approved chemicals to confirm potential impacts are reduced to as low as reasonably practicable (ALARP).</li> </ul>
<b>Light Emissions</b>	<ul style="list-style-type: none"> <li>Project vessels and MODU will use external lighting to navigate and conduct safe operations at night.</li> <li>Vessel lighting will also be used to communicate the vessel's presence to other marine users (i.e. navigation/ warning lights).</li> </ul>	<ul style="list-style-type: none"> <li>Light emissions have the potential to affect fauna such as marine turtles and birds by influencing changes in behaviour or impacting their orientation.</li> </ul>	<ul style="list-style-type: none"> <li>Implement relevant controls in the National Light Pollution Guidelines for Wildlife including Marine Turtles, Seabirds and Migratory Shorebirds (2020).</li> <li>Lighting will be limited to the minimum required for navigational and safety requirements except in emergency circumstances.</li> <li>Maintain a 12 km buffer from turtle nesting beaches during towing and lifting activities to avoid impacts to turtle hatchlings.</li> </ul>
<b>Noise Emissions</b>	<ul style="list-style-type: none"> <li>Project vessels will generate noise both in the air and underwater due to the operation or thruster engines, propellers, and the use of cutting tools subsea.</li> </ul>	<ul style="list-style-type: none"> <li>Noise from project vessels will contribute to ambient noise levels.</li> <li>Elevated underwater noise has the potential to affect marine fauna.</li> </ul>	<ul style="list-style-type: none"> <li>Maintain a 12 km buffer from turtle nesting beaches during towing and lifting activities to avoid impacts to turtles.</li> <li>Compliance with legislative and regulatory requirements for interactions with marine fauna to prevent adverse interactions.</li> </ul>
<b>Atmospheric Emissions</b>	<ul style="list-style-type: none"> <li>Atmospheric emissions will be generated by the project vessels from internal combustion engines and incineration activities.</li> </ul>	<ul style="list-style-type: none"> <li>Emissions from project vessels could result in temporary, localised reductions in air quality in the immediate vicinity of the vessels.</li> </ul>	<ul style="list-style-type: none"> <li>Compliance with legislative and regulatory requirements for marine air pollution.</li> </ul>

Potential Impact/ Risk	Description of Source of Potential Impact/ Risk	Description of Potential Impacts	Proposed Mitigation and/ or Management Measure
<b>Unplanned</b>			
<b>Unplanned Hydrocarbon Release – vessel collision</b>	<ul style="list-style-type: none"> <li>Project vessels will use marine diesel fuel.</li> <li>In the unlikely event of a vessel collision involving a project vessel or third-party vessels during the activity, there is potential for a release of marine diesel fuel if the collision has enough force to penetrate the vessel hull in the exact location of the fuel tank.</li> </ul>	<ul style="list-style-type: none"> <li>In the highly unlikely event of a vessel collision causing a release of hydrocarbons, impacts to water quality and marine ecosystems could occur.</li> </ul>	<p><b>Preventing Vessel Collision:</b></p> <ul style="list-style-type: none"> <li>500 m exclusion zone established around the equipment and project vessels during removal activities.</li> <li>Compliance with legislative and regulatory requirements for the prevention of vessel collisions and safety and emergency arrangements.</li> <li>Consultation with relevant persons to ensure other marine users are informed and aware, reducing the likelihood of a collision.</li> <li>Develop a management plan for simultaneous operations where multiple campaigns occur concurrently in the same Operational Area.</li> </ul> <p><b>Spill Response Arrangements:</b></p> <ul style="list-style-type: none"> <li>Arrangements supporting the Oil Pollution Emergency Preparation document (OPEP) will be tested to ensure the OPEP can be implemented as planned.</li> <li>Emergency response activities would be implemented in line with the OPEP.</li> </ul>
<b>Deck Spills and Bunkering</b>	<ul style="list-style-type: none"> <li>Accidental deck spills from project vessels can include stored hydrocarbons, chemicals or equipment.</li> </ul>	<ul style="list-style-type: none"> <li>Deck spills could result in short term, localised impacts to water quality or marine fauna in the immediate area surrounding the spill.</li> </ul>	<ul style="list-style-type: none"> <li>Compliance with legislative and regulatory requirements for the prevention of marine pollution.</li> <li>Liquid chemical and fuel storage areas banded or secondarily contained when they are not being handled or temporarily moved.</li> <li>Maintain and locate spill kits in close proximity to hydrocarbon storage and deck areas for use to contain and recover deck spills.</li> <li>Appropriate bunkering equipment kept and maintained, and contractors to follow procedures and requirements for bunkering and refuelling to reduce the likelihood of a spill.</li> </ul>

Potential Impact/ Risk	Description of Source of Potential Impact/ Risk	Description of Potential Impacts	Proposed Mitigation and/ or Management Measure
<b>Unplanned Discharge of Solid Hazardous/ Non-Hazardous Wastes</b>	<ul style="list-style-type: none"> <li>Accidental, unplanned loss of hazardous solid wastes such as oily rags or paint cans from the project vessels.</li> </ul>	<ul style="list-style-type: none"> <li>Short term, localised impacts to water quality or marine fauna in the area surrounding the release.</li> <li>Incorrect classification of waste can also result in inappropriate disposal of hazardous decommissioning wastes.</li> </ul>	<ul style="list-style-type: none"> <li>Compliance with legislative and regulatory requirements for the prevention of marine pollution and handling of hazardous wastes.</li> <li>Project vessel waste arrangements to ensure waste is recorded and segregated and that all non-putrescible waste (excludes all food, greywater or sewage waste) to be disposed of onshore.</li> <li>Lost waste and dropped objects will be recovered, where safe and practicable.</li> <li>Waste contractors engaged to identify potential waste disposal pathways.</li> <li>Infrastructure and resource recovery strategy that ensures waste is handled and disposed of in accordance with applicable legislation, monitors and tracks waste and sets KPIs for recycling and reuse of decommissioned infrastructure.</li> </ul>
<b>Vessel Collision with Marine Fauna</b>	<ul style="list-style-type: none"> <li>Vessel movements have the potential to result in collisions between the vessel (hull and propellers) and marine fauna.</li> </ul>	<ul style="list-style-type: none"> <li>Vessel disturbance presents a potential threat to marine mammals, marine reptiles and fish, sharks and rays.</li> </ul>	<ul style="list-style-type: none"> <li>Compliance with legislative and regulatory requirements for interactions with marine fauna to reduce the likelihood of a collision occurring.</li> </ul>
<b>Disturbance to Seabed from Dropped Objects</b>	<ul style="list-style-type: none"> <li>Accidental, unplanned dropping of objects overboard from project vessels during recovery operations.</li> </ul>	<ul style="list-style-type: none"> <li>Short term, localised impacts to sediment quality and benthic habitats.</li> </ul>	<ul style="list-style-type: none"> <li>Project vessel inductions include control measures and training for crew in dropped object prevention.</li> <li>Lost waste/ dropped objects will be recovered where safe and practicable to do so.</li> <li>Procedures for lifts, bulk transfers and cargo loading if an unplanned object release does occur.</li> </ul>
<b>Accidental Introduction of Invasive Marine Species</b>	<ul style="list-style-type: none"> <li>Vessels transiting to the Operational Area may be subject to marine fouling whereby organisms attach to the vessel hull.</li> <li>Organisms can also be drawn into ballast tanks during onboarding of ballast water.</li> <li>IMS could also be present as biofouling on subsea structures.</li> </ul>	<ul style="list-style-type: none"> <li>It is not credible for IMS to be introduced and establish on the seabed or subsea structures in the Operational Area as these deep waters are not conducive to the settlement and establishment of IMS.</li> <li>There is potential for the transfer of IMS between the project vessels and RTM while in its currently location within the Operational Area, or for IMS to be established in the shallower waters of the potential tow route and lift location.</li> </ul>	<ul style="list-style-type: none"> <li>Ballast water will be managed according to legislative and regulatory requirements.</li> <li>Application of Woodside's IMS risk assessment and appropriate management measures to the RTM, project vessels and relevant immersible equipment such as Remotely Operated Vehicles (ROVs), unless exempt.</li> </ul>

Potential Impact/ Risk	Description of Source of Potential Impact/ Risk	Description of Potential Impacts	Proposed Mitigation and/ or Management Measure
<b>Indirect</b>			
<b>Waste generation</b>	<ul style="list-style-type: none"> <li>Removal of the subsea equipment will result in the generation of waste products.</li> </ul>	<ul style="list-style-type: none"> <li>Generation of waste products that require appropriate management.</li> </ul>	<ul style="list-style-type: none"> <li>Recovered equipment will be transported onshore by a licensed waste contractor for disposal including recycling and reuse opportunities.</li> <li>Waste generated on the vessels will be managed in accordance with legislative requirements.</li> <li>Wastes will be managed and disposed of in a safe and environmentally responsible manner that prevents accidental loss to the environment.</li> </ul>

### Feedback

If you would like to comment on the proposed activities outlined in this information sheet, or would like additional information, please contact Woodside before 17 March 2023 via:

**E: [Feedback@woodside.com.au](mailto: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](http://www.woodside.com/sustainability/consultation-activities).

Please note that stakeholder feedback will be communicated to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) as required under legislation. Woodside will communicate any material changes to the proposed activity to affected stakeholders as they arise.

Please note that your feedback and our response will be included in our EP for the proposed activity, which will be submitted to 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 EP in order for this information to remain confidential to NOPSEMA.

3.33 Activity Update Summary Information Sheet



# GRIFFIN DECOMMISSIONING – SUMMARY INFORMATION SHEET

This is a summary of the activity in plain English. More detailed information is included in the Griffin Decommissioning Environment Plan (EP) Information Sheet.

**Overview**

Woodside is planning to decommission subsea equipment in the Griffin field, which has finished production. The decommissioning activities will be divided into the following parts, each with its own Environment Plan:

1. Removal of subsea equipment and the Riser Turret Mooring (RTM)
2. Cleaning out and removal of a section of a pipeline
3. Leaving certain equipment in place

When the Griffin field stopped production in 2009, the subsea equipment was flushed out with treated seawater as much as practical and the Griffin Venture facility departed. The riser turret mooring, which the facility attached to, later unintentionally lowered to the seabed in 2013. It is currently standing upright on the seabed.

This work will take place in Commonwealth waters, approximately 65km North West of Onslow in title area WA-10-L and at a water depth of approximately 120m.

A map showing the location of this work is below.

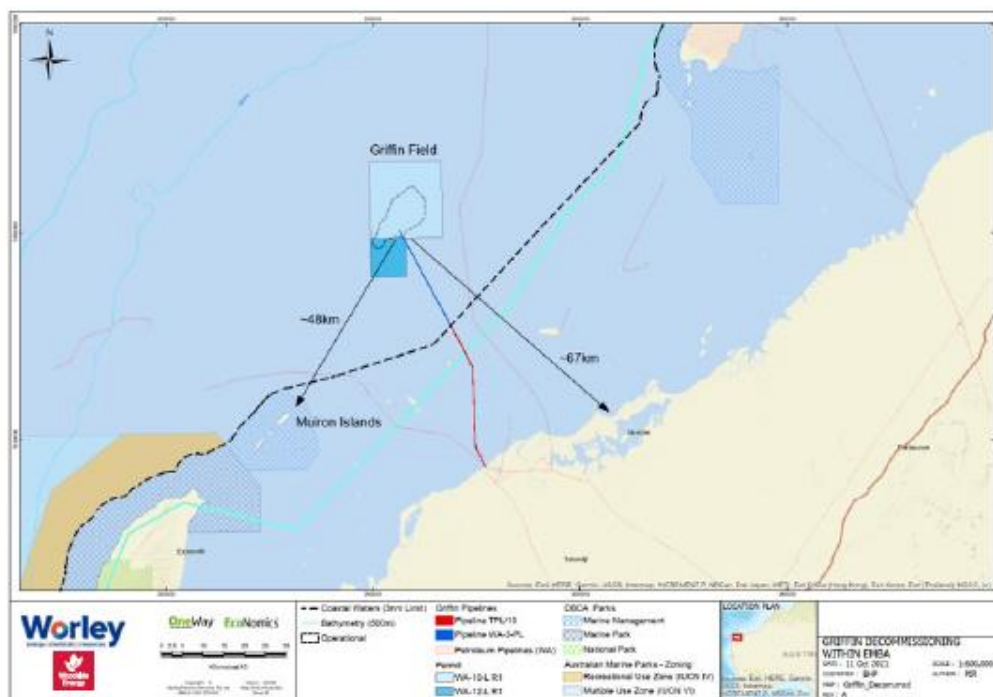


Figure 1. Griffin Field and Operational Area

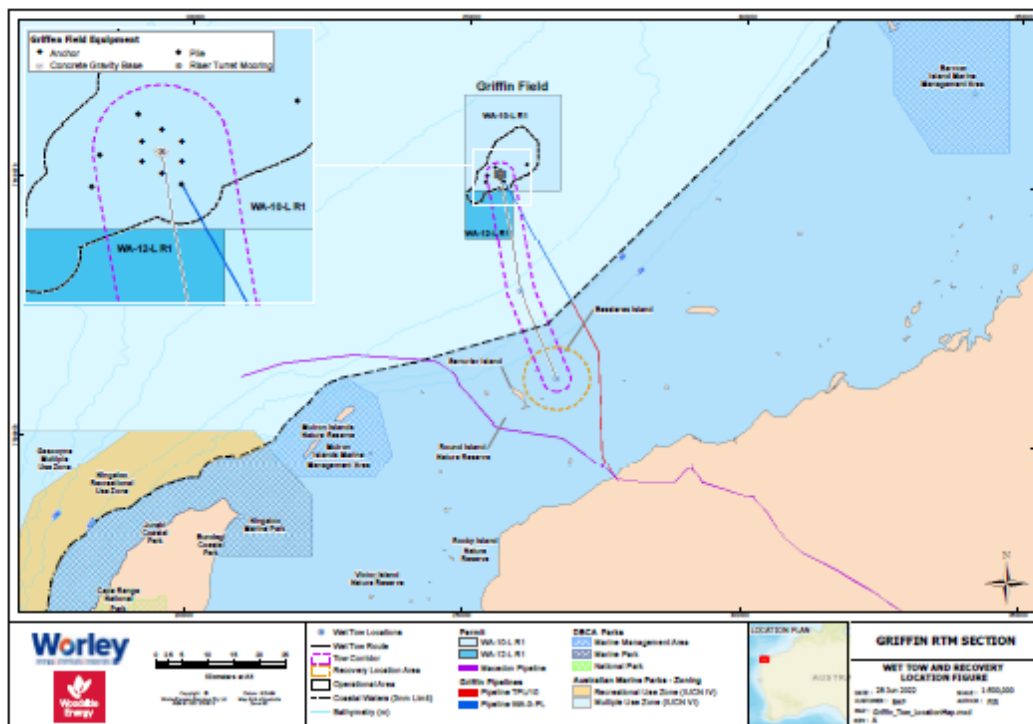


Figure 2. Griffin RTM Tow and Lift Area

## Work Method

### Removal of subsea equipment and the RTM

#### Griffin Decommissioning and Field Management EP

Taking out subsea equipment which was used to produce oil and gas from the field, and the RTM which is standing on the seabed. The plan is to lay the RTM on its side on the seabed and then cut into smaller pieces so it can be removed. The number of pieces depends on the size of the vessel that will be used for the recovery:

1. If a heavy lift vessel is used, it will be cut into smaller sections.
2. If a heavy lift vessel is unavailable, a construction vessel (which has a smaller lifting capacity than the heavy lift vessel) will be used which means there will be more, smaller sections. As part of this, two of the bigger sections of the RTM will be towed out of the title into shallower water for recovery.

All the other subsea equipment in the Griffin field will be cut and recovered by a construction vessel. Woodside is planning to start this work upon acceptance of the EP and the aim is to start work in around the second half of 2023. The activity is expected to take up to about 6 months.

### Cleaning out and removal of a section of a pipeline

#### Griffin Gas Export Pipeline EP

Additional equipment will be put in place on the end of this export pipeline, allowing an internal cleaning device to be put into it. The device is sent down the pipeline to clear out any debris. The pipeline and any structures holding it in place will then be removed. A section of the pipeline which is in the seabed will be uncovered to enable removal. About 26km of pipeline will be removed as part of this EP.

Woodside is planning to start this work upon acceptance of the EP and the aim is to start work in around the second half of 2023. This work is expected to take up to about 2 months.

### Leaving certain equipment in place

#### Griffin Field Deviation EP

Woodside is proposing to leave some equipment in place rather than removing it. This includes some concrete structures which are embedded in the seabed, already buried anchors and piles. These items are made of steel and cement and are non-toxic, and not harmful to the environment.

### Environmental Impacts and Management

This work program includes Planned Activities but may also result in Unplanned Activities. Both Planned and Unplanned Activities may impact the environment. Woodside manages the work program to reduce impacts and risks to as low as practical.

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 disturbance to the seabed. Marine vessels used for the work may generate underwater noise, light emissions, atmospheric emissions, and routine discharges (such as sewage, waste, and deck drainage), and other authorised waste. Some seawater with approved chemicals will be released from equipment being removed.

Unplanned Activities are not planned as part of the work program, but may be the result of an accident, incident, or emergency situation. It is highly unlikely that there will be an Unplanned Activity. Unplanned Activities might include a spill of fuel or oil from a vessel collision, a spill

on the deck of a vessel (such as during refuelling), unplanned seabed disturbance, accidental collision with marine animals, waste entering the environment and accidental introduction of invasive species from outside the region. Management measures will be in place to reduce the probability and impacts of these unplanned activities to as low as practical.

A table showing all planned and unplanned activities, potential impacts, and management measures for each is included in the attached Information Sheet, **Table 2**.

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). The location in which the Griffin Decommissioning activities will occur, known as the Operational Area, is also shown on the map below. In the highly unlikely event such as a fuel spill from a vessel collision, the entire EMBA will not be affected. The part of the EMBA that is affected will only be known at the time of the event.

### 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 or have any concerns, you can tell Woodside by calling **1800 442 977** or sending an email to **Feedback@woodside.com.au**. Please contact Woodside before **17th March 2023** so your questions or concerns can be considered during the environmental approval process.

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.gov.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 projects 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 <https://www.woodside.com/sustainability/environment>.

### Further Information

You can find the detailed Consultation Information Sheet for proposed activity on our website: <https://www.woodside.com/sustainability/consultation-activities>.



#### 4. Follow up (March 2023)

##### 4.1 Email sent to the DCCEEW and DAFF (10 March 2023)

Dear DCCEEW and DAFF

Woodside previously consulted you (see email below) on Woodside's proposed activities for the progressive decommissioning of the Griffin and Stybarrow fields.

We provided this information to ensure relevant persons are informed about the status of proposed activities, as there have been changes to activity scope and supporting consultation information since consultation commenced for these decommissioning projects in 2021.

We would appreciate any feedback you may have by **17 March 2023** to support the development of our proposed Environment Plans.

Any feedback provided previously on proposed activities will remain current where Environment Plans are under assessment by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

For reference:

- The **Griffin Field** is in Commonwealth waters in Petroleum Licence WA-10-L, 65 km northwest of Onslow and 94 km northeast of Exmouth, Western Australia and in water depths of approximately 120 m.
- The **Stybarrow Field** is in Commonwealth waters in Petroleum Licence WA-32-L, approximately 53 km northwest of Exmouth, Western Australia and in water depths of approximately 810 – 850 m.

Consultation Information Sheets for the proposed activities are attached, which provide a summary of potential key risks and associated management measures. The Information Sheets are also available on our [website](#).

Regards

Woodside Feedback

##### 4.2 Email sent to the MUA (10 March 2023)

Dear [REDACTED]

Woodside previously consulted you (see email below) on Woodside's proposed activities for the progressive decommissioning of the Griffin and Stybarrow fields.

We provided this information to ensure relevant persons are informed about the status of proposed activities, as there have been changes to activity scope and supporting consultation information since consultation commenced for these decommissioning projects in 2021.

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Consultation Information Sheets for the proposed activities are attached, which provide a summary of potential key risks and associated management measures. The Information Sheets are also available on our [website](#).

Regards

Woodside Feedback

#### 4.3 Email sent to the WAMSI (10 March 2023)

Dear [REDACTED]

Woodside previously consulted you (see email below) on Woodside's proposed activities for the progressive decommissioning of the Griffin and Stybarrow fields.

We provided this information to ensure relevant persons are informed about the status of proposed activities, as there have been changes to activity scope and supporting consultation information since consultation commenced for these decommissioning projects in 2021.

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Consultation Information Sheets for the proposed activities are attached, which provide a summary of potential key risks and associated management measures. The Information Sheets are also available on our [website](#).

Regards

### **Woodside Feedback**

#### **4.4 Email sent to UWA (10 March 2023)**

Dear ■■■

Woodside previously consulted you (see email below) on Woodside's proposed activities for the progressive decommissioning of the Griffin and Stybarrow fields.

We provided this information to ensure relevant persons are informed about the status of proposed activities, as there have been changes to activity scope and supporting consultation information since consultation commenced for these decommissioning projects in 2021.

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Consultation Information Sheets for the proposed activities are attached, which provide a summary of potential key risks and associated management measures. The Information Sheets are also available on our [website](#).

Regards

### **Woodside Feedback**

#### 4.5 Email sent to Protect Ningaloo (10 March 2023)

Dear Stakeholder

Woodside previously consulted you (see email below) on Woodside's proposed activities for the progressive decommissioning of the Griffin and Stybarrow fields.

We provided this information to ensure relevant persons are informed about the status of proposed activities, as there have been changes to activity scope and supporting consultation information since consultation commenced for these decommissioning projects in 2021.

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For reference:

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Consultation Information Sheets for the proposed activities are attached, which provide a summary of potential key risks and associated management measures. The Information Sheets are also available on our [website](#).

Regards

#### Woodside Feedback

#### 4.6 Email sent to the following persons or organisations (10 March 2023)

- *Australian Border Force*
- *Department of Industry, Science and Resources (DISR)*

- *Department of Mines, Industry, Regulation and Safety (DMIRS)*
- *Australian Petroleum Production and Exploration Association (APPEA)*
- *Marine Tourism Association of Western Australia*
- *Pearl Producers Association (PPA)*
- *Recfishwest*
- *Western Australian (WA) Game Fishing Association*

Dear Stakeholder

Woodside previously consulted you (see email below) on Woodside's proposed activities for the progressive decommissioning of the Griffin and Stybarrow fields.

We provided this information to ensure relevant persons are informed about the status of proposed activities, as there have been changes to activity scope and supporting consultation information since consultation commenced for these decommissioning projects in 2021.

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Consultation Information Sheets for the proposed activities are attached, which provide a summary of potential key risks and associated management measures. The Information Sheets are also available on our [website](#).

Regards

**Woodside Feedback**

#### **4.7 Email sent to CCWA (10 March 2023)**

Dear Conservation Council of WA

Woodside previously consulted you (see email below) on Woodside's proposed activities for the progressive decommissioning of the Griffin and Stybarrow fields.

We provided this information to ensure relevant persons are informed about the status of proposed activities, as there have been changes to activity scope and supporting consultation information since consultation commenced for these decommissioning projects in 2021.

We would appreciate any feedback you may have by **17 March 2023** to support the development of our proposed Environment Plans.

Any feedback provided previously on proposed activities will remain current where Environment Plans are under assessment by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

For reference:

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- The **Stybarrow Field** is in Commonwealth waters in Petroleum Licence WA-32-L, approximately 53 km northwest of Exmouth, Western Australia and in water depths of approximately 810 – 850 m.

Consultation Information Sheets for the proposed activities are attached, which provide a summary of potential key risks and associated management measures. The Information Sheets are also available on our [website](#).

Regards

**Woodside Feedback**

#### **4.8 Email sent to ACF (10 March 2023)**

Dear Australian Conservation Foundation

Woodside previously consulted you (see email below) on Woodside's proposed activities for the progressive decommissioning of the Griffin and Stybarrow fields.

We provided this information to ensure relevant persons are informed about the status of proposed activities, as there have been changes to activity scope and supporting consultation information since consultation commenced for these decommissioning projects in 2021.

We would appreciate any feedback you may have by **17 March 2023** to support the development of our proposed Environment Plans.

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- The **Stybarrow Field** is in Commonwealth waters in Petroleum Licence WA-32-L, approximately 53 km northwest of Exmouth, Western Australia and in water depths of approximately 810 – 850 m.

Consultation Information Sheets for the proposed activities are attached, which provide a summary of potential key risks and associated management measures. The Information Sheets are also available on our [website](#).

Regards

## **Woodside Feedback**

### **4.9 Email sent to WAFIC (10 March 2023)**

Dear [REDACTED]

Woodside previously consulted you (see email below) on Woodside's proposed activities for the progressive decommissioning of the Griffin and Stybarrow fields.

We provided this information to ensure relevant persons are informed about the status of proposed activities, as there have been changes to activity scope and supporting consultation information since consultation commenced for these decommissioning projects in 2021.

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Any feedback provided previously on proposed activities will remain current where Environment Plans are under assessment by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

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Consultation Information Sheets for the proposed activities are attached, which provide a summary of potential key risks and associated management measures. The Information Sheets are also available on our [website](#).

Regards

### **Woodside Feedback**

#### **4.10 Email sent to CFA (10 March 2023)**

Dear [REDACTED]

Woodside previously consulted you (see email below) on Woodside's proposed activities for the progressive decommissioning of the Griffin and Stybarrow fields.

We provided this information to ensure relevant persons are informed about the status of proposed activities, as there have been changes to activity scope and supporting consultation information since consultation commenced for these decommissioning projects in 2021.

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Consultation Information Sheets for the proposed activities are attached, which provide a summary of potential key risks and associated management measures. The Information Sheets are also available on our [website](#).

Regards

#### **Woodside Feedback**

#### **4.11 Email sent to Tuna Australia (10 March 2023)**

Dear [REDACTED]

Woodside previously consulted you (see email below) on Woodside's proposed activities for the progressive decommissioning of the Griffin and Stybarrow fields.

We provided this information to ensure relevant persons are informed about the status of proposed activities, as there have been changes to activity scope and supporting consultation information since consultation commenced for these decommissioning projects in 2021.

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- The **Griffin Field** is in Commonwealth waters in Petroleum Licence WA-10-L, 65 km northwest of Onslow and 94 km northeast of Exmouth, Western Australia and in water depths of approximately 120 m.
- The **Stybarrow Field** is in Commonwealth waters in Petroleum Licence WA-32-L, approximately 53 km northwest of Exmouth, Western Australia and in water depths of approximately 810 – 850 m.

Consultation Information Sheets for the proposed activities are attached, which provide a summary of potential key risks and associated management measures. The Information Sheets are also available on our [website](#).

Regards

#### **Woodside Feedback**

#### **4.12 Email sent to AFMA (10 March 2023)**

Dear AFMA

Woodside previously consulted you (see email below) on Woodside's proposed activities for the progressive decommissioning of the Griffin and Stybarrow fields.

We provided this information to ensure relevant persons are informed about the status of proposed activities, as there have been changes to activity scope and supporting consultation information since consultation commenced for these decommissioning projects in 2021.

We would appreciate any feedback you may have by **17 March 2023** to support the development of our proposed Environment Plans.

Any feedback provided previously on proposed activities will remain current where Environment Plans are under assessment by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

For reference:

- The **Griffin Field** is in Commonwealth waters in Petroleum Licence WA-10-L, 65 km northwest of Onslow and 94 km northeast of Exmouth, Western Australia and in water depths of approximately 120 m.
- The **Stybarrow Field** is in Commonwealth waters in Petroleum Licence WA-32-L, approximately 53 km northwest of Exmouth, Western Australia and in water depths of approximately 810 – 850 m.

Consultation Information Sheets for the proposed activities are attached, which provide a summary of potential key risks and associated management measures. The Information Sheets are also available on our [website](#).

Regards

### Woodside Feedback

#### 4.13 Email sent to DPIRD (10 March 2023)

Dear [REDACTED]

Woodside previously consulted you (see email below) on Woodside's proposed activities for the progressive decommissioning of the Griffin and Stybarrow fields.

We provided this information to ensure relevant persons are informed about the status of proposed activities, as there have been changes to activity scope and supporting consultation information since consultation commenced for these decommissioning projects in 2021.

We would appreciate any feedback you may have by **17 March 2023** to support the development of our proposed Environment Plans.

Any feedback provided previously on proposed activities will remain current where Environment Plans are under assessment by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

For reference:

- The **Griffin Field** is in Commonwealth waters in Petroleum Licence WA-10-L, 65 km northwest of Onslow and 94 km northeast of Exmouth, Western Australia and in water depths of approximately 120 m.

- The **Stybarrow Field** is in Commonwealth waters in Petroleum Licence WA-32-L, approximately 53 km northwest of Exmouth, Western Australia and in water depths of approximately 810 – 850 m.

Consultation Information Sheets for the proposed activities are attached, which provide a summary of potential key risks and associated management measures. The Information Sheets are also available on our [website](#).

Regards

### Woodside Feedback

#### 4.14 Email sent to Director of National Parks (10 March 2023)

Dear DNP

Woodside previously consulted you (see email below) on Woodside's proposed activities for the progressive decommissioning of the Griffin and Stybarrow fields.

We provided this information to ensure relevant persons are informed about the status of proposed activities, as there have been changes to activity scope and supporting consultation information since consultation commenced for these decommissioning projects in 2021.

We would appreciate any feedback you may have by **17 March 2023** to support the development of our proposed Environment Plans.

Any feedback provided previously on proposed activities will remain current where Environment Plans are under assessment by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

For reference:

- The **Griffin Field** is in Commonwealth waters in Petroleum Licence WA-10-L, 65 km northwest of Onslow and 94 km northeast of Exmouth, Western Australia and in water depths of approximately 120 m.
- The **Stybarrow Field** is in Commonwealth waters in Petroleum Licence WA-32-L, approximately 53 km northwest of Exmouth, Western Australia and in water depths of approximately 810 – 850 m.

Consultation Information Sheets for the proposed activities are attached, which provide a summary of potential key risks and associated management measures. The Information Sheets are also available on our [website](#).

Regards

### **Woodside Feedback**

#### **4.15 Email sent to DBCA - (10 March 2023)**

Dear DBCA

Woodside previously consulted you (see email below) on Woodside's proposed activities for the progressive decommissioning of the Griffin and Stybarrow fields.

We provided this information to ensure relevant persons are informed about the status of proposed activities, as there have been changes to activity scope and supporting consultation information since consultation commenced for these decommissioning projects in 2021.

We would appreciate any feedback you may have by **17 March 2023** to support the development of our proposed Environment Plans.

Any feedback provided previously on proposed activities will remain current where Environment Plans are under assessment by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

For reference:

- The **Griffin Field** is in Commonwealth waters in Petroleum Licence WA-10-L, 65 km northwest of Onslow and 94 km northeast of Exmouth, Western Australia and in water depths of approximately 120 m.
- The **Stybarrow Field** is in Commonwealth waters in Petroleum Licence WA-32-L, approximately 53 km northwest of Exmouth, Western Australia and in water depths of approximately 810 – 850 m.

Consultation Information Sheets for the proposed activities are attached, which provide a summary of potential key risks and associated management measures. The Information Sheets are also available on our [website](#).

Regards

## **Woodside Feedback**

### **4.16 Email sent to AIMS (10 March 2023)**

Dear [REDACTED]

Woodside previously consulted you (see email below) on Woodside's proposed activities for the progressive decommissioning of the Griffin and Stybarrow fields.

We provided this information to ensure relevant persons are informed about the status of proposed activities, as there have been changes to activity scope and supporting consultation information since consultation commenced for these decommissioning projects in 2021.

We would appreciate any feedback you may have by **17 March 2023** to support the development of our proposed Environment Plans.

Any feedback provided previously on proposed activities will remain current where Environment Plans are under assessment by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

For reference:

- The **Griffin Field** is in Commonwealth waters in Petroleum Licence WA-10-L, 65 km northwest of Onslow and 94 km northeast of Exmouth, Western Australia and in water depths of approximately 120 m.
- The **Stybarrow Field** is in Commonwealth waters in Petroleum Licence WA-32-L, approximately 53 km northwest of Exmouth, Western Australia and in water depths of approximately 810 – 850 m.

Consultation Information Sheets for the proposed activities are attached, which provide a summary of potential key risks and associated management measures. The Information Sheets are also available on our [website](#).

Regards

## **Woodside Feedback**

### **4.17 Email sent to Exmouth Community Liaison Group (10 March 2023)**

Dear Exmouth Community Liaison Group

Woodside previously consulted you (see email below) on Woodside's proposed activities for the progressive decommissioning of the Griffin and Stybarrow fields.

We provided this information to ensure relevant persons are informed about the status of proposed activities, as there have been changes to activity scope and supporting consultation information since consultation commenced for these decommissioning projects in 2021.

We would appreciate any feedback you may have by **17 March 2023** to support the development of our proposed Environment Plans.

Any feedback provided previously on proposed activities will remain current where Environment Plans are under assessment by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

For reference:

- The **Griffin Field** is in Commonwealth waters in Petroleum Licence WA-10-L, 65 km northwest of Onslow and 94 km northeast of Exmouth, Western Australia and in water depths of approximately 120 m.
- The **Stybarrow Field** is in Commonwealth waters in Petroleum Licence WA-32-L, approximately 53 km northwest of Exmouth, Western Australia and in water depths of approximately 810 – 850 m.

Consultation Information Sheets for the proposed activities are attached, which provide a summary of potential key risks and associated management measures. The Information Sheets are also available on our [website](#).

Regards

██████████

████████████████████

**4.18 Email sent to the Cape Conservation Group (10 March 2023)**

Dear ██████████

Woodside previously consulted you (see email below) on Woodside's proposed activities for the progressive decommissioning of the Griffin and Stybarrow fields.

We provided this information to ensure relevant persons are informed about the status of proposed activities, as there have been changes to activity scope and supporting consultation information since consultation commenced for these decommissioning projects in 2021.

We would appreciate any feedback you may have by **17 March 2023** to support the development of our proposed Environment Plans.

Any feedback provided previously on proposed activities will remain current where Environment Plans are under assessment by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

For reference:

- The **Griffin Field** is in Commonwealth waters in Petroleum Licence WA-10-L, 65 km northwest of Onslow and 94 km northeast of Exmouth, Western Australia and in water depths of approximately 120 m.
- The **Stybarrow Field** is in Commonwealth waters in Petroleum Licence WA-32-L, approximately 53 km northwest of Exmouth, Western Australia and in water depths of approximately 810 – 850 m.



Consultation Information Sheets for the proposed activities are attached, which provide a summary of potential key risks and associated management measures. The Information Sheets are also available on our [website](#).

Regards

#### **4.19 Email sent to AHO and AMSA – Marine Safety (15 March 2023)**

Dear AMSA and AHO

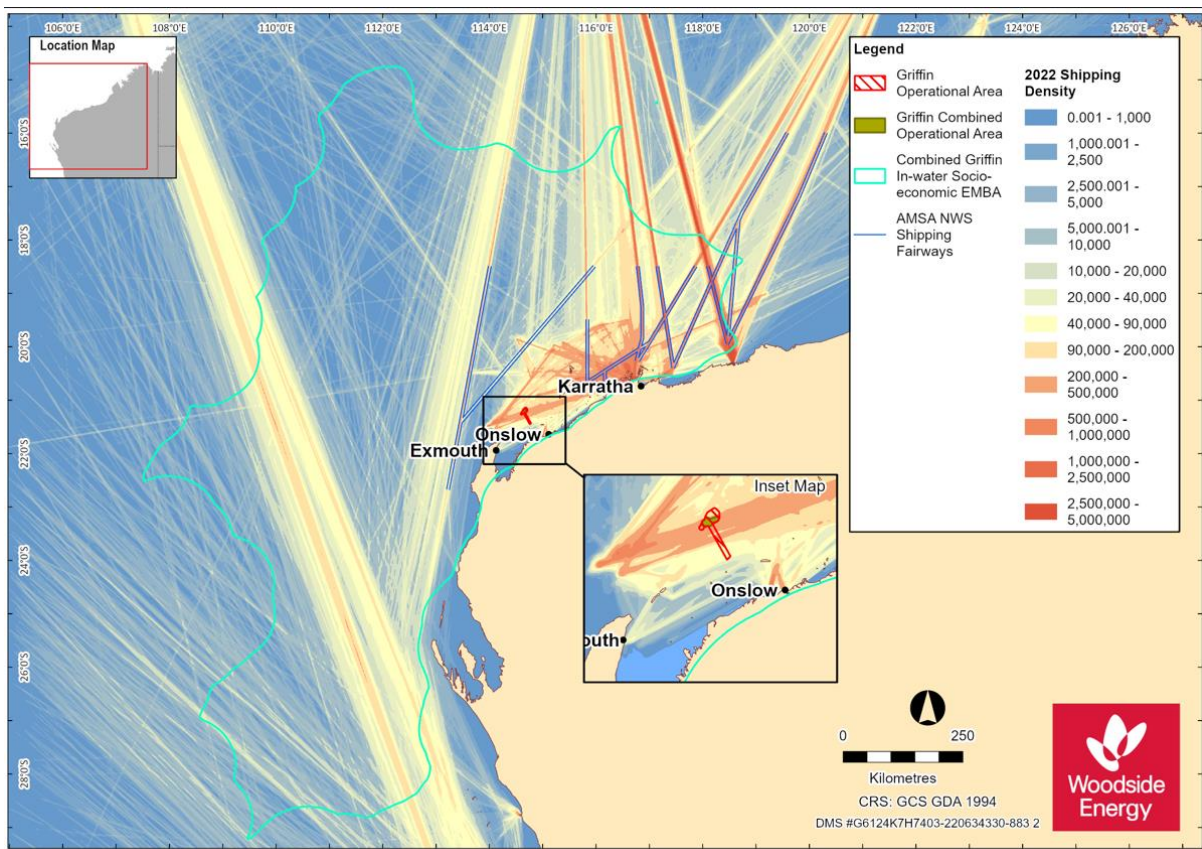
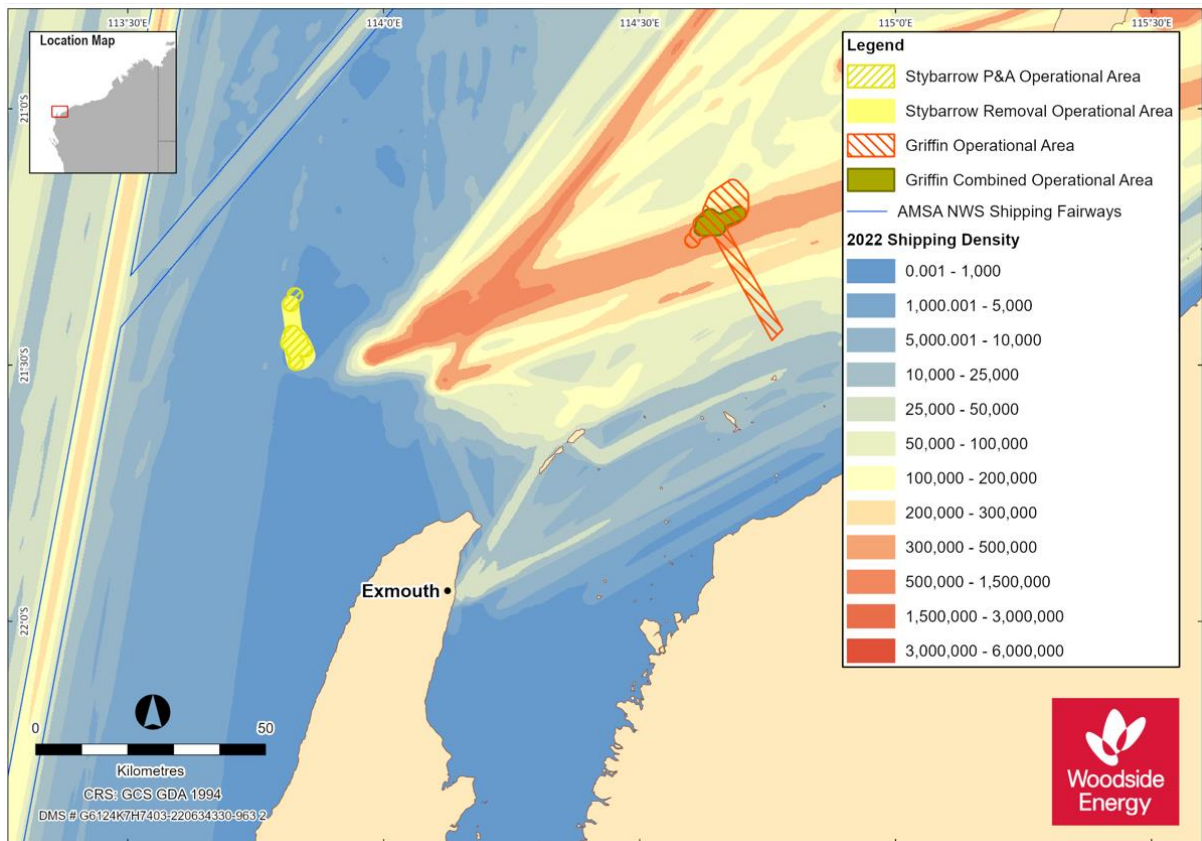
Woodside previously consulted you (email below) on its plans for the progressive decommissioning of the Griffin and Stybarrow fields, previously operated by BHP Petroleum Pty Ltd (BHP).

The Shipping Lane figures for the proposed activities Operational Areas are attached. Separate figures showing the Environment that May Be Affected (EMBA) for the proposed activities are also attached for reference.

Please let us know should you have any feedback relating to the proposed activities by 17 March 2023.

Regards

Griffin Field Decommissioning (End State) Environment Plan



**4.20 Email sent to DoD (8 March 2023)**

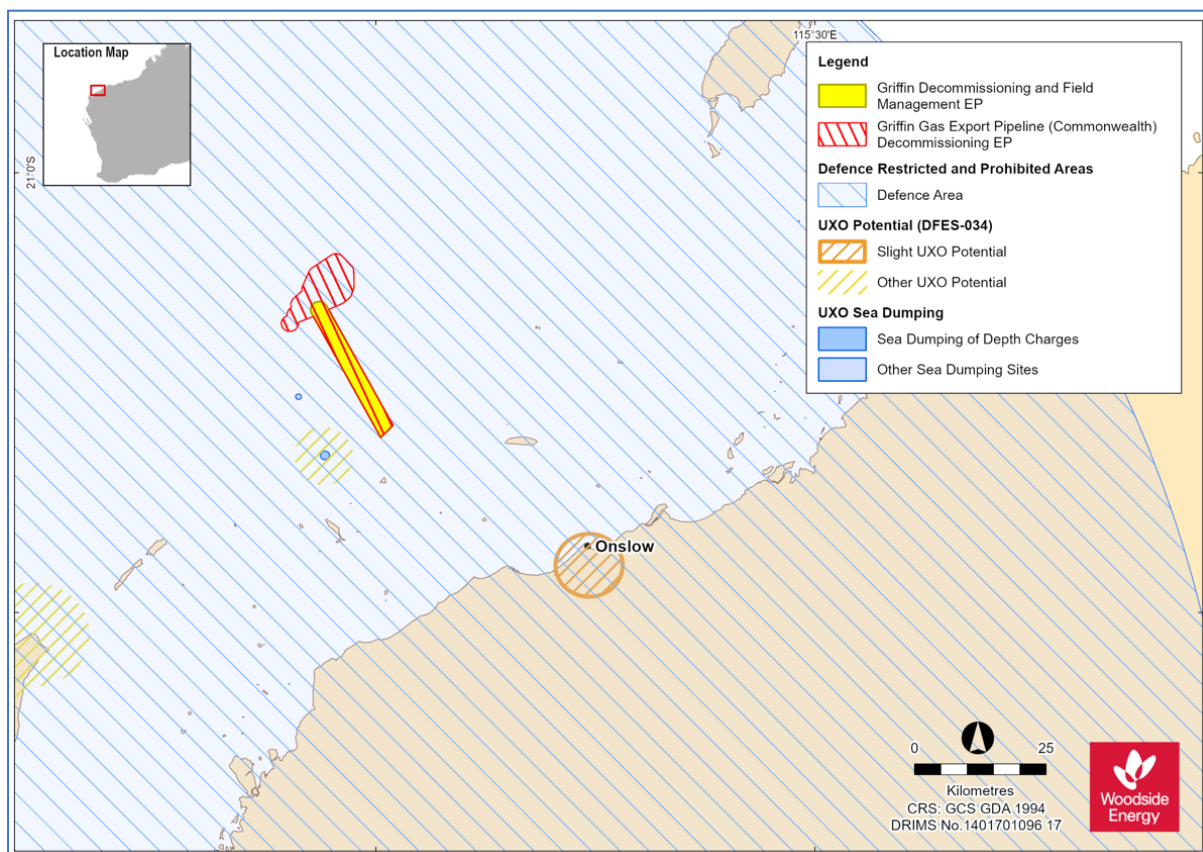
Dear Department of Defence

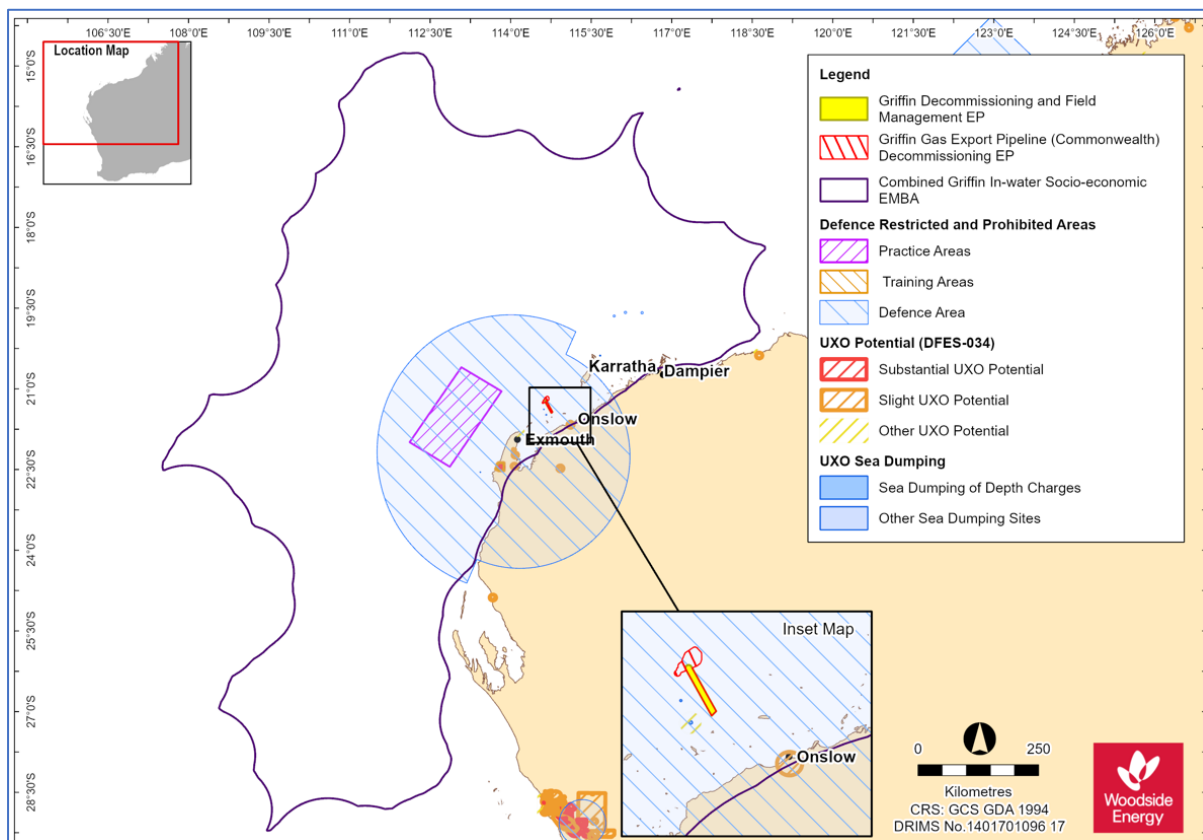
Woodside previously consulted you (email below) on its plans for the progressive decommissioning of the Griffin and Stybarrow fields, previously operated by BHP Petroleum Pty Ltd (BHP).

The Defence Area figures for the proposed Griffin and Stybarrow Operational Areas are attached. Separate figures showing the Environment that May Be Affected (EMBA) for the proposed activities are also attached for reference.

Please let us know should you have any feedback relating to the proposed activities by **17 March 2023**.

Regards





**4.21 Letter sent to Gascoyne Recreational Marine Users (65 licence holders), Pilbara Line Fishery (9 licence holders), Pilbara Trap Fishery (6 licence holders) and Pilbara Trawl Fishery (7 licence holders) (9 March 2023)**

Please direct all responses/queries to:  
Woodside Feedback  
T: 1800 442 977  
E: feedback@woodside.com

08 March 2023

Attn: [Stakeholder]  
[Company]  
[Address]

Dear Stakeholder


Woodside previously consulted you (correspondence dated 17 February 2023) on Woodside's proposed activities for the decommissioning of the Griffin and Stybarrow fields.

The **Griffin Field** is in Commonwealth waters in Petroleum Licence WA-10-L, 65 km northwest of Onslow and 94 km northeast of Exmouth, Western Australia and in water depths of approximately 120 m.


The **Stybarrow Field** is in Commonwealth waters in Petroleum Licence WA-32-L, approximately 53 km northwest of Exmouth, Western Australia and in water depths of approximately 810 – 850 m.

The below QR codes link to our Consultation Information Sheets for the proposed activities, which provide a summary of potential key risks and associated management measures. Should the information be easier for you to access, the Information Sheets are also available on our [website](#).


**Activity Update: Griffin  
Decommissioning EP**



**Activity Update:  
Stybarrow  
Decommissioning EP**



**Activity Update:  
Stybarrow Plug &  
Abandonment EP**




We would appreciate any feedback you may have by **17 March 2023** to support the development of our proposed environment plans.

You can also subscribe on our website to receive Consultation Information Sheets for proposed activities: [www.woodside.com/sustainability/consultation-activities](http://www.woodside.com/sustainability/consultation-activities).

Kind 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](http://www.woodside.com)


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Pty Ltd**  
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11 Mount Street  
Perth WA 6000  
Australia  
T +61 8 9348 4000  
[www.woodside.com](http://www.woodside.com)

4.22 Email sent to CSIRO (4 June 2023)

414

Dear ■■■

Woodside previously consulted you (see email below) on Woodside's proposed activities for the progressive decommissioning of the Griffin and Stybarrow fields.

Any feedback provided previously on proposed activities will remain current where Environment Plans are under assessment by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

For reference:

- The **Griffin Field** is in Commonwealth waters in Petroleum Licence WA-10-L, 65 km northwest of Onslow and 94 km northeast of Exmouth, Western Australia and in water depths of approximately 120 m.
- The **Stybarrow Field** is in Commonwealth waters in Petroleum Licence WA-32-L, approximately 53 km northwest of Exmouth, Western Australia and in water depths of approximately 810 – 850 m.

Consultation Information Sheets for the proposed activities are attached, which provide a summary of potential key risks and associated management measures. The Information Sheets are also available on our [website](#).

Should CSIRO have any feedback on the proposed activities, please let us know.

Regards

#### 4.23 Email sent to ASBTIA (1 June 2023)

Dear Stakeholder

Woodside is providing this update on the progressive decommissioning of the Griffin and Stybarrow fields, previously operated by BHP Petroleum Pty Ltd (BHP).

We are providing this information to ensure relevant persons are informed about the status of proposed activities, as there have been changes to activity scope and supporting consultation information since consultation commenced for these decommissioning projects in 2021.

The **Griffin Field** is in Commonwealth waters in Petroleum Licence WA-10-L, 65 km northwest of Onslow and 94 km northeast of Exmouth, Western Australia and in water depths of approximately 120 m.

The **Stybarrow Field** is in Commonwealth waters in Petroleum Licence WA-32-L, approximately 53 km northwest of Exmouth, Western Australia and in water depths of approximately 810 – 850 m.

A summary of proposed activities is outlined below, and more detailed information is provided in the attached Consultation Information Sheets. The Information Sheets provide details on activities proposed to be managed under a number of environment plans (EPs) for each field, including a summary of potential key risks and associated management measures. The Information Sheets are also available on our [website](#).

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting stakeholders whom are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

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.

Any feedback provided previously on proposed activities will remain current where EPs are under assessment by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

Please let us know if you would like to update previous feedback or have any additional views by **1 July 2023**.

**Activity:**

	<b>Griffin Field Decommissioning Activities</b>	<b>Stybarrow Field Decommissioning Activities</b>
<b>Summary:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, distribution skids, risers, flexible flowlines, rigid flowlines, umbilicals, and the pipeline end module (PLEM)).</li> <li>• Removal of the Riser Turret Mooring (RTM) and its moorings. Depending on the vessel utilised, recovery of the RTM may require sections of it to be towed to shallower water out of the title.</li> <li>• Removal of an exploration wellhead (Ramillies-1 in neighbouring petroleum title WA-12-L).</li> <li>• Ongoing field management activities.</li> <li>• Pigging and subsequent removal of the 26 km of Griffin Gas Export Pipeline (GEP) within Commonwealth waters.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>• Pre-execution activities associated with the well P&amp;A, such as barrier testing and removal of marine growth.</li> <li>• Well P&amp;A of the 10 productions/injection wells by placing cement plugs in the wells to permanently prevent hydrocarbon release.</li> <li>• Cutting and removal of the wellhead and subsea tree assembly.</li> <li>• Unblocking of the H4 flowline, if deemed feasible.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, manifolds, risers, flexible flowlines, and umbilicals).</li> <li>• Removal of the Disconnectable Turret Mooring (DTM) and its moorings. Recovery of the DTM may require it to be towed to shallower water outside of permit</li> </ul>

	<p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>Proposal to leave in situ 12 RTM drag anchors (buried), 6 concrete gravity bases and 5 piled foundations for the PLEM and 4 distribution skids.</li> </ul>	<p>area WA-32-L to support the DTM removal from the marine environment.</p> <ul style="list-style-type: none"> <li>Ongoing field management activities (equipment monitoring and inspection).</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>Proposed leave in situ of the 9 DTM drag anchors (buried), nine suction piles for the riser holdbacks and the historical exploration wellhead, Eskdale-1, which was unable to be removed following its drilling and abandonment in 2003.</li> </ul>
<b>Location:</b>	<ul style="list-style-type: none"> <li>94 km northeast of Exmouth, Western Australia.</li> </ul>	<ul style="list-style-type: none"> <li>53 km northwest of Exmouth, Western Australia.</li> </ul>
<b>Approx. Water Depth (m):</b>	<ul style="list-style-type: none"> <li>Approx. 120 m.</li> </ul>	<ul style="list-style-type: none"> <li>Approx. 810 – 850 m.</li> </ul>
<b>Schedule:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Earliest proposed removal activity start is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>Facilities removal must be completed no later than 31 December 2024, pursuant to General Direction 832.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>Earliest P&amp;A start is estimated to be Q4 2023, subject to approvals, MODU and vessel availability and weather constraints.</li> <li>P&amp;A activities must be completed no later than 30 September 2024, pursuant to General Direction 833.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Earliest facilities and DTM removal is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>Equipment removal must be completed no later than 31 March 2025, pursuant to General Direction 833.</li> </ul>
<b>Duration:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Removal activities are anticipated to take approximately 6 months to</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p>



	<p>complete and GEP removal activities are anticipated to take approximately 2 months to complete.</p>	<ul style="list-style-type: none"> <li>P&amp;A activities are anticipated to take approximately 6 – 9 months.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Removal activities are anticipated to take approximately 4-6 months to complete and DTM removal activities are anticipated to take approximately 1 month to complete.</li> </ul>
<b>Exclusionary/Cautious Zone:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the equipment.</li> <li>A temporary 500 m exclusion zone will apply around the project vessels during removal and potential tow activities.</li> </ul>	<p><b>P&amp;A Activities</b></p> <ul style="list-style-type: none"> <li>The Operational Area includes the area encompassing an approximate 3,000 m radius around each of the four drill centers within WA-32-L.</li> <li>A temporary 500 m exclusion zone will apply around the MODU and the associated project vessels during P&amp;A activities.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the subsea infrastructure and wellheads.</li> <li>The DTM has an existing 1200 m radius petroleum safety zone which will continue to be in place until it is removed.</li> <li>A temporary 500 m exclusion zone will apply around the CSV and the associated project vessels during removal activities.</li> <li>A temporary 500 m exclusion zone will apply around the HLV and the associated project vessels during the removal of the DTM.</li> </ul>
<b>Vessels:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Construction support vessel (CSV) and Heavy Lift Vessel (HLV) for recovery and pipeline removal activities.</li> </ul>	<p><b>P&amp;A activities</b></p> <ul style="list-style-type: none"> <li>Semi-Submersible Mobile Offshore Drilling Unit (MODU)</li> <li>The MODU will be supported by 2 to 3 offshore support vessels.</li> </ul>

	<ul style="list-style-type: none"><li>An anchor handling tug (AHT) to support the towing of the RTM to sheltered water.</li></ul>	<b>Removal Activities</b> <ul style="list-style-type: none"><li>CSV and HLV for recovery and activities.</li><li>AHTs to support the towing of the DTM to the shallower water location (if required).</li></ul>
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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](mailto:Feedback@woodside.com.au) or 1800 442 977 by **1 July 2023**.

Your feedback and our response will be included in our Environment Plan which will be submitted to 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.

You can also subscribe on our website to receive Consultation Information Sheets for proposed activities: [www.woodside.com/sustainability/consultation-activities](http://www.woodside.com/sustainability/consultation-activities).

Regards,

#### 4.24 Email sent to Shire of Exmouth (10 March 2023)

Dear [REDACTED]

Woodside previously consulted you (see email below) on Woodside's proposed activities for the progressive decommissioning of the Griffin and Stybarrow fields.

We provided this information to ensure relevant persons are informed about the status of proposed activities, as there have been changes to activity scope and supporting consultation information since consultation commenced for these decommissioning projects in 2021.

We would appreciate any feedback you may have by **17 March 2023** to support the development of our proposed Environment Plans.

Any feedback provided previously on proposed activities will remain current where Environment Plans are under assessment by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

For reference:

- The **Griffin Field** is in Commonwealth waters in Petroleum Licence WA-10-L, 65 km northwest of Onslow and 94 km northeast of Exmouth, Western Australia and in water depths of approximately 120 m.

- The **Stybarrow Field** is in Commonwealth waters in Petroleum Licence WA-32-L, approximately 53 km northwest of Exmouth, Western Australia and in water depths of approximately 810 – 850 m.

Consultation Information Sheets for the proposed activities are attached, which provide a summary of potential key risks and associated management measures. The Information Sheets are also available on our [website](#).

Regards



#### 4.25 Email sent to Ningaloo Coast World Heritage Advisory Committee (10 March 2023)

Dear Ningaloo Coast World Heritage Area Advisory Committee

Woodside previously consulted you (see email below) on Woodside's proposed activities for the progressive decommissioning of the Griffin and Stybarrow fields.

We provided this information to ensure relevant persons are informed about the status of proposed activities, as there have been changes to activity scope and supporting consultation information since consultation commenced for these decommissioning projects in 2021.

We would appreciate any feedback you may have by **17 March 2023** to support the development of our proposed Environment Plans.

Any feedback provided previously on proposed activities will remain current where Environment Plans are under assessment by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

For reference:

- The **Griffin Field** is in Commonwealth waters in Petroleum Licence WA-10-L, 65 km northwest of Onslow and 94 km northeast of Exmouth, Western Australia and in water depths of approximately 120 m.
- The **Stybarrow Field** is in Commonwealth waters in Petroleum Licence WA-32-L, approximately 53 km northwest of Exmouth, Western Australia and in water depths of approximately 810 – 850 m.

Consultation Information Sheets for the proposed activities are attached, which provide a summary of potential key risks and associated management measures. The Information Sheets are also available on our [website](#). Regards

#### 4.26 Geotargeted social media campaign

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)

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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](https://www.woodside.com/consultation-activities).

Alternatively, you can contact us at  
[Feedback@woodside.com.au](mailto:Feedback@woodside.com.au)  
or on 1800 442 977.



Learn more



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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](https://www.woodside.com/consultation-activities).

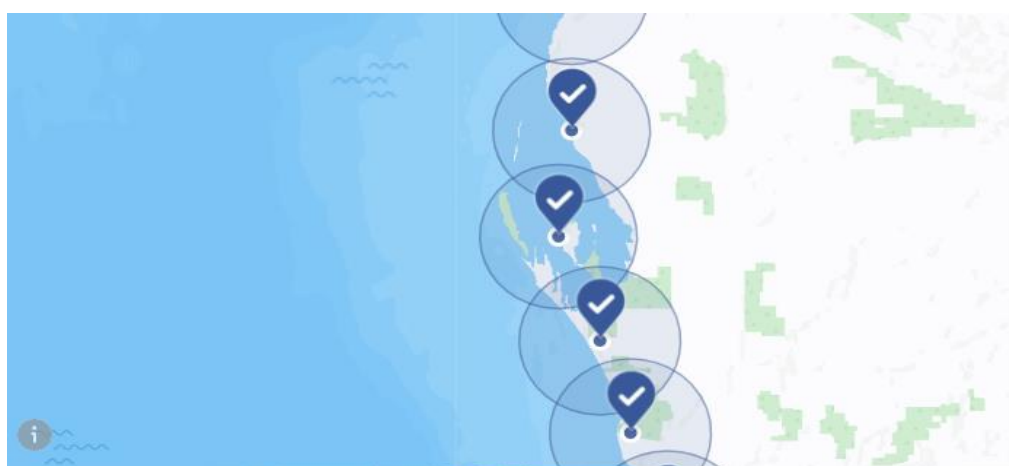
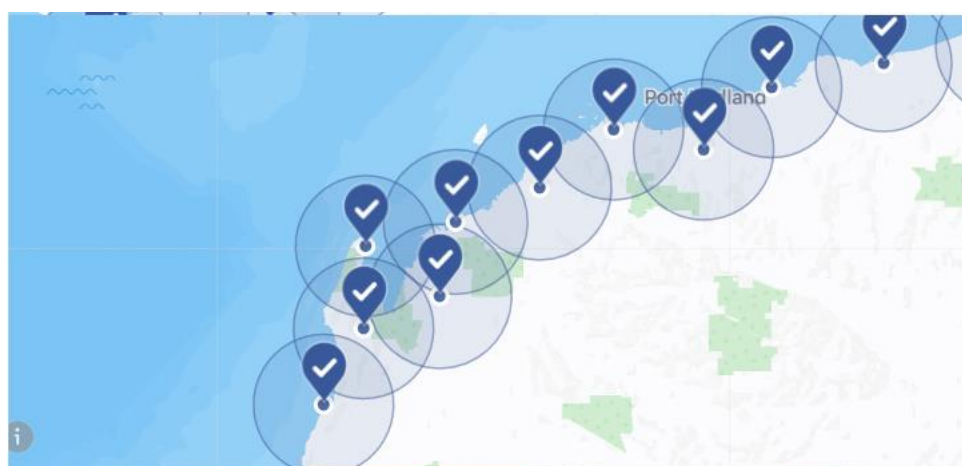
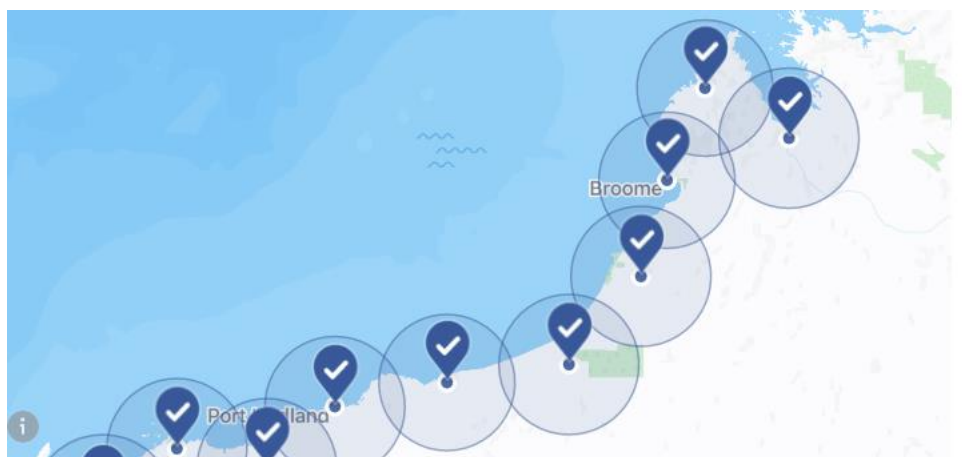
Alternatively, you can contact us at  
[Feedback@woodside.com.au](mailto:Feedback@woodside.com.au) or on 1800 442 977.

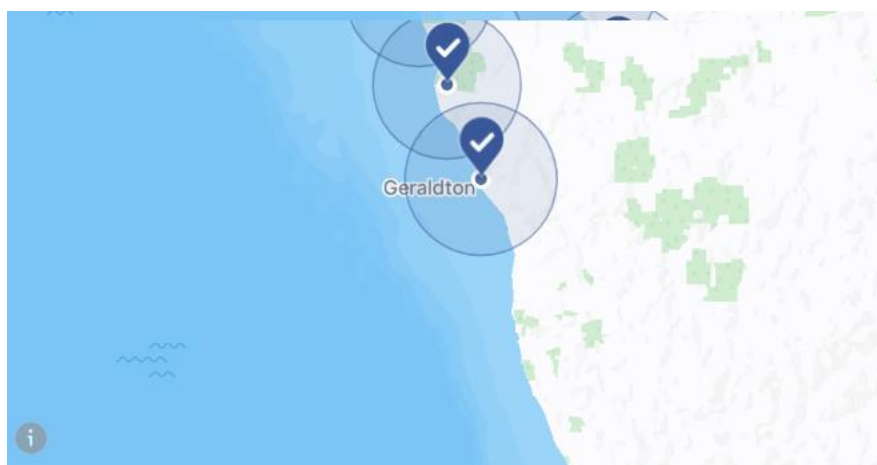
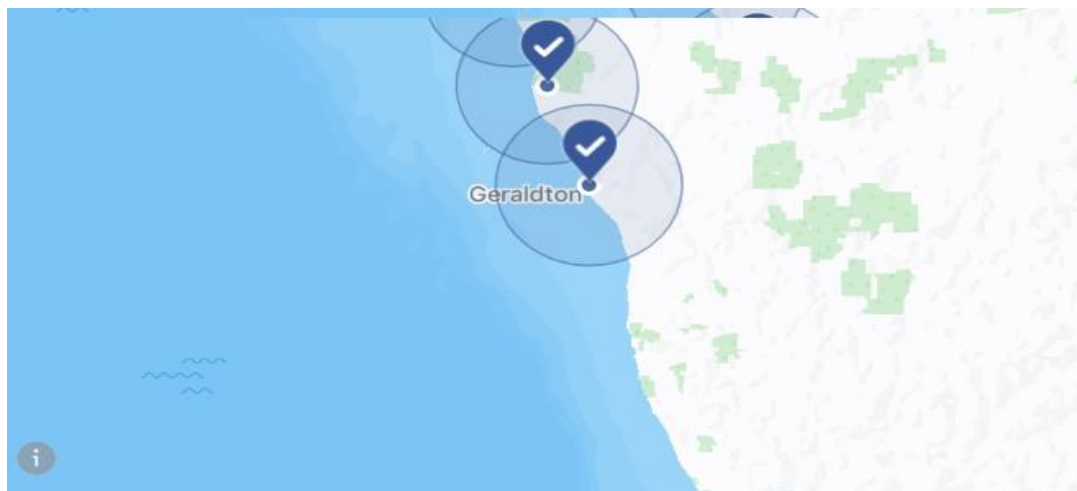


[woodside.com](https://www.woodside.com)  
**Woodside's consultation activities**

Learn more







#### **4.27 Exmouth Community Information Session geotargeted social media campaign (15-17 June, 2023)**

A Facebook information campaign was targeted in Exmouth to ensure it reached communities where the Consultation Information Session was planned to be held. 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.

**Dates:** 15 June 2023 – 17 June 2023

**Platform:** Facebook



**Ad type/placement:** Feed tile and story

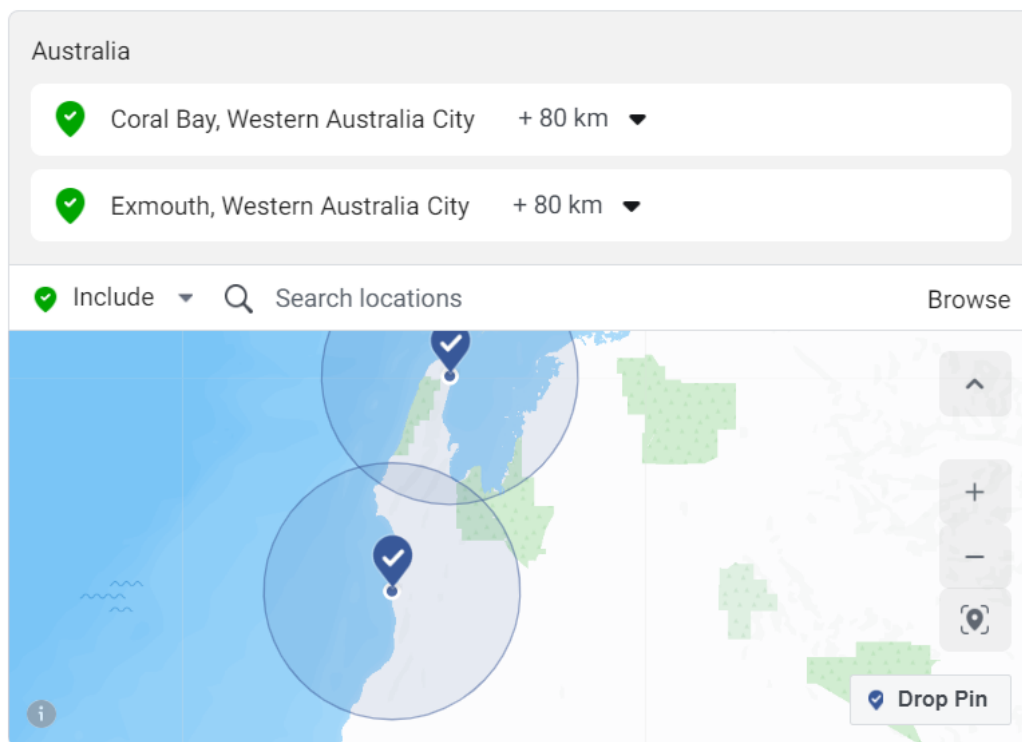
**Reach:** 6,801

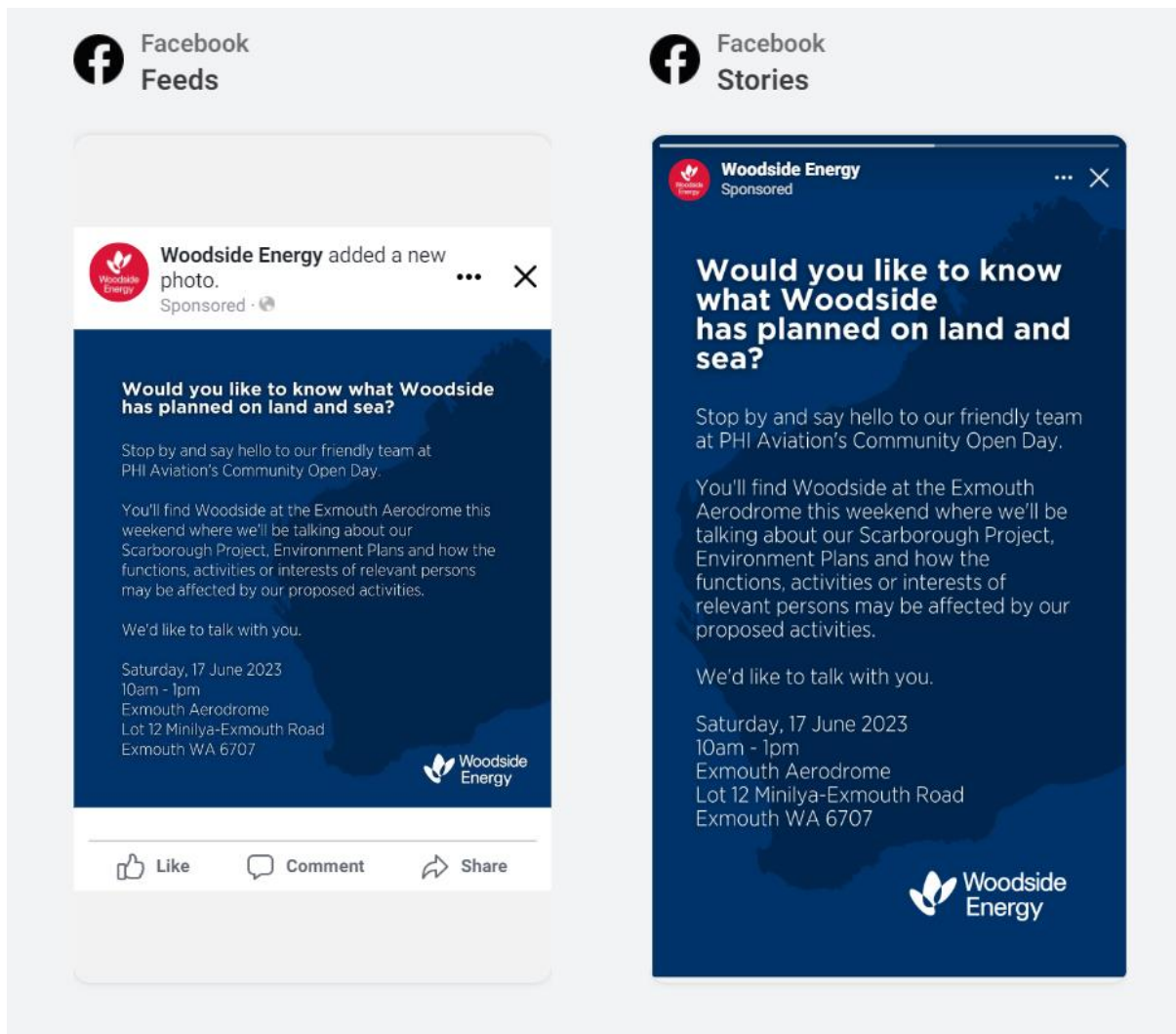
**Impressions:** 8,237

**Geotargeting (see below)**

- 80km radius around Exmouth
- 80km radius around Coral Bay

Reach people living in or recently in this location. ⓘ





#### 4.28 Roebourne Community Information Session poster (22 June and 19 July 2023)

On 22 June 2023, Woodside held a consultation information session at its Roebourne office. 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.

Woodside distributed posters advertising the community information session locally, including:

- 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:

- Ngarluma and Yindjibarndi Foundation Ltd (NYFL)

- Ngarliyarndu Bindirri Aboriginal Corporation
- Yinjaai-Barni Art
- Foundation Foods



## 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



## **Posters for Community Information Session, Roebourne – 19 July 2023**

On 19 July 2023, Woodside held a Consultation Information Session at its Roebourne office. The 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 EPs and proposed and planned activities.

Woodside distributed posters advertising the session locally, including:

- 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 Leramugadu 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:

- 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.

The posters were physically posted up on community boards in Roebourne on 14 July 2023 at:

- Roebourne CRC
- Pilbara Community Legal Service
- NBAC
- WAPOL
- BP

- Cossack.

Posters were delivered to:

- Yinjaai-Barni Art Group
- Yandi for Change
- NYFL
- WY Program
- Roebourne Library
- Yindjibarndi Ranger office
- Ashburton Aboriginal Corporation.



## 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



Griffin Field Decommissioning (End State) Environment Plan



4.29 Karratha Community Information Session newspaper advertisement – Pilbara News (28 June 2023)

**Pilbara NEWS**  
Wednesday, June 28, 2023

**NEWS 7**

# 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 Paraburadoo mining hub as the Eastern Range project develops.

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, \$504m with Indigenous companies across WA, and \$438m 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](https://careers.pilbaraports.com.au)

**PILBARA PORTS AUTHORITY**

**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.

**Woodside Energy**

4.30 Karratha Community Information Session (28 June 2023) Facebook post

Griffin Field Decommissioning (End State) Environment Plan

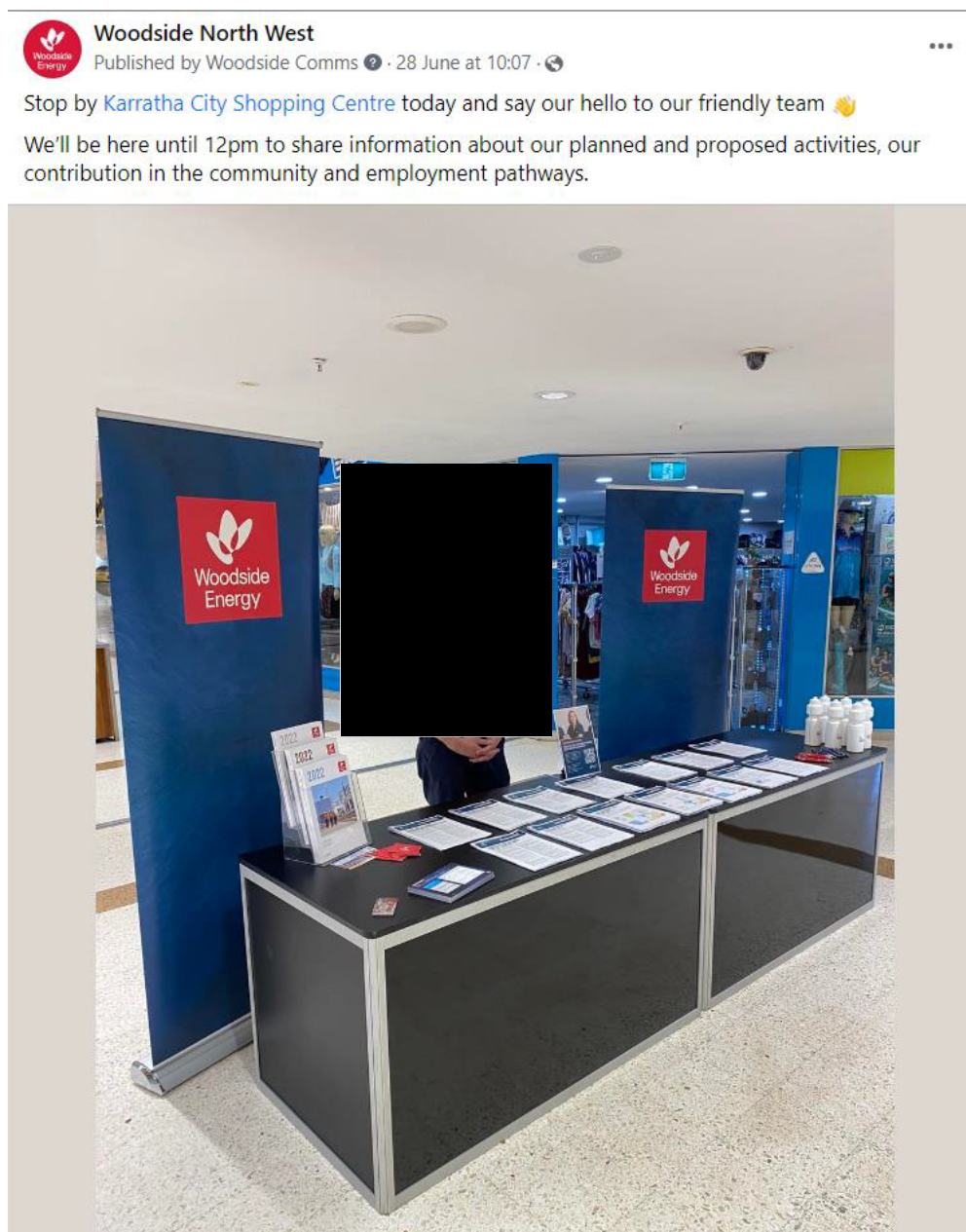
On 28 June 2023, Woodside posted a story on its Woodside North West Facebook account, sharing details of its shopping centre stand where Consultation Information Sheets regarding is planned and proposed activities were available, including the activities proposed under this EP.

Platform/channel: Woodside North West (Facebook)

Date: 28 June 2023

Reach: 1,464 viewers

Impressions: 1,464 views





### 4.31 Karratha Community Information Session (29 June 2023) Geotargeted Social Media Campaign

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.

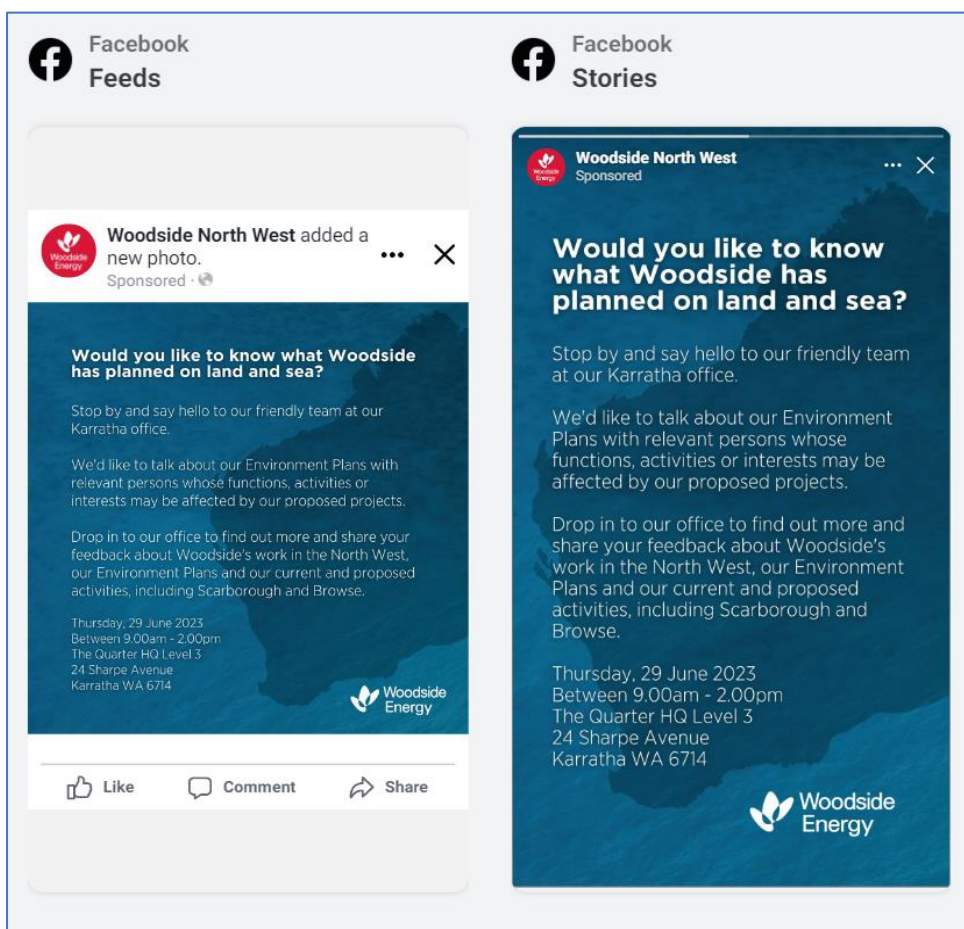
Dates: 26 June 2023 – 29 June 2023

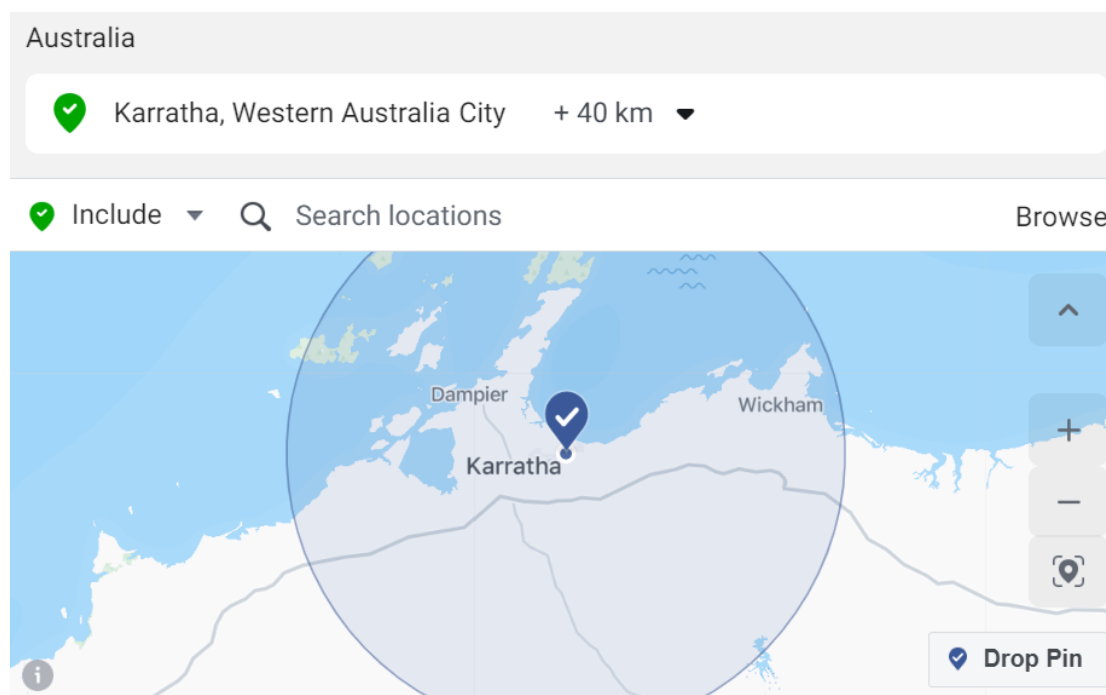
Geotargeting: 40km radius around Karratha

Reach: 19,240 viewers

Impressions: 22,931 views

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



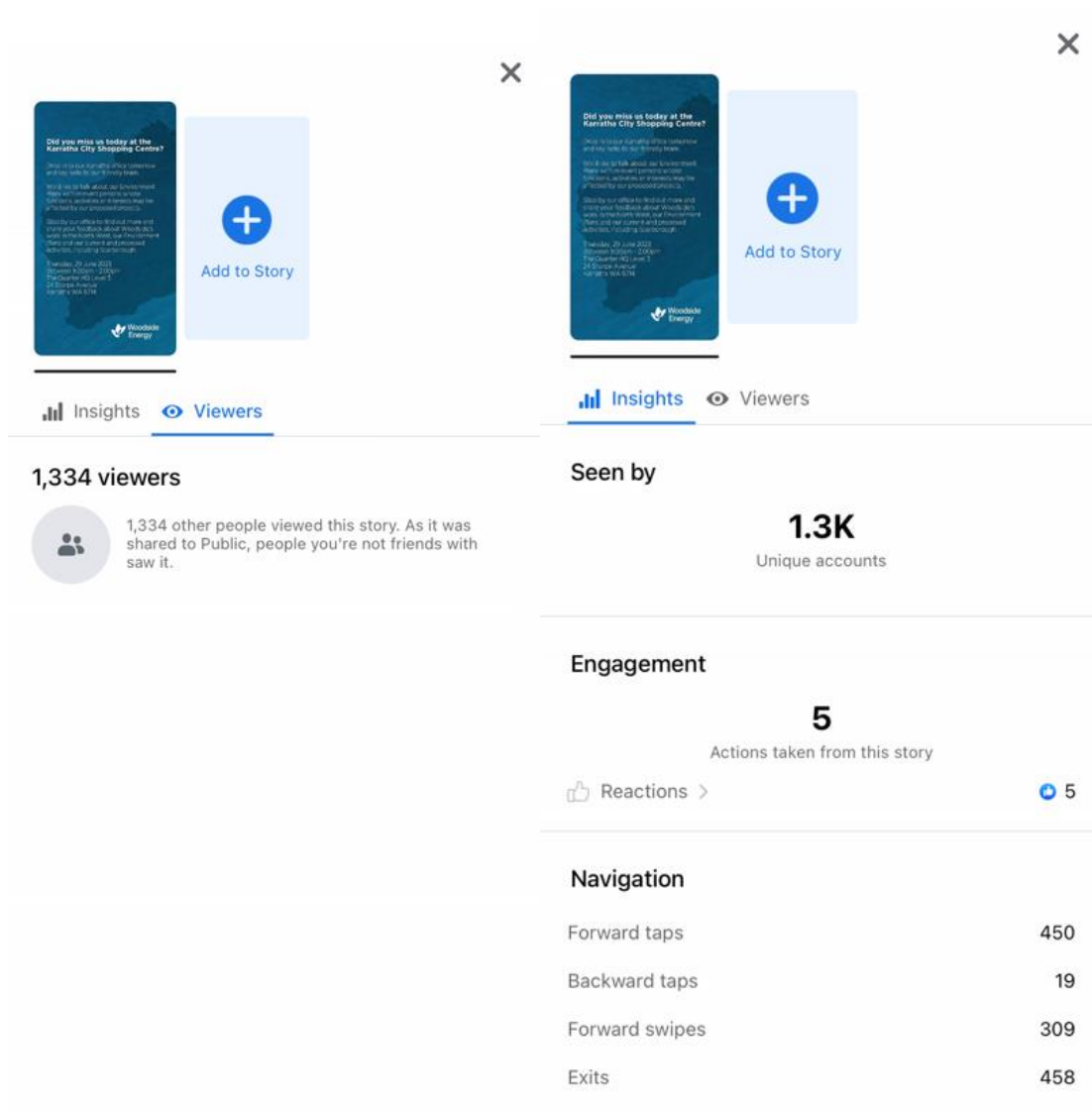


On 28 June 2023, Woodside posted a story on its Woodside North West Facebook account, sharing details of its drop-in session.

Reach: 1,366 viewers

Impressions: 22,931 views

Geotargeting: 40 km radius around Karratha

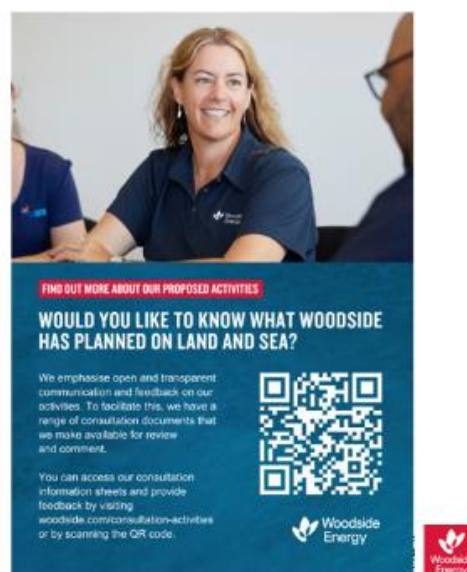




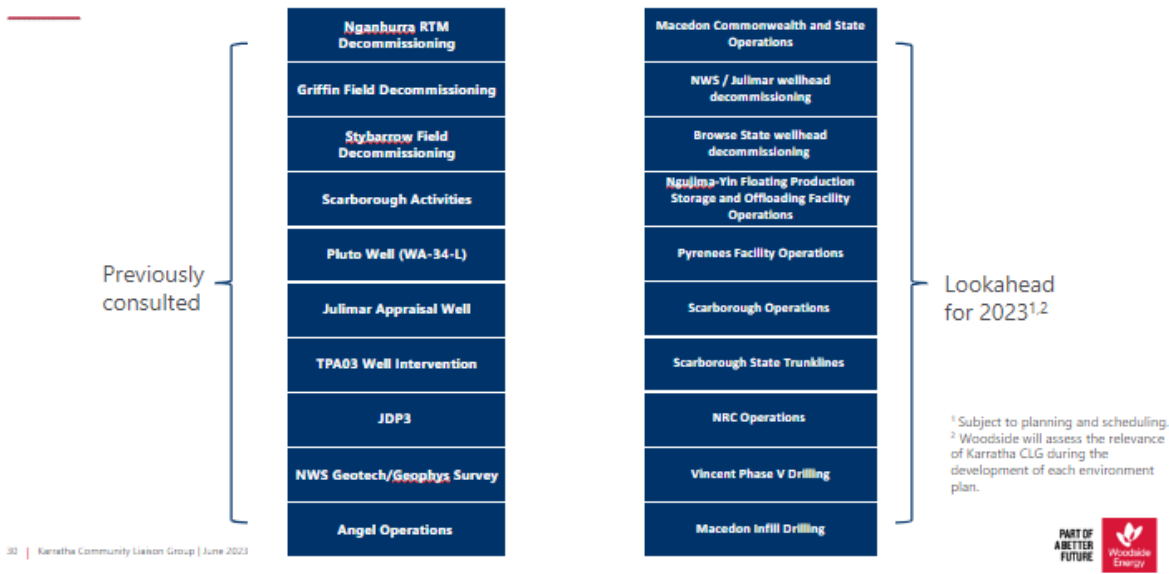
#### 4.32 Presentation to Karratha Community Liaison Group (29 June 2023)

##### 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.



ENVIRONMENT PLAN CONSULTATION  
**Consultation with Karratha CLG**



**4.33 FeNaCING Festival (5 and 6 August)**

**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 2, 2023

# Melski's murals brought to life

DANIEL SPENCE

Tambrey Primary School has successfully brought renowned artist Mel McVee, 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, FMG, and Pilbara Real Estate, as well as community contributions from Jetwave Marine, Santos, Yara, and QUBE 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 Toni Whitbread 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 art-



The artist was brought to the school to create murals.

work 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 650 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, indulging in painting, drawing, collaging, and chalk drawings under the enchanting winter weather.

The entire experience

was its unique paint-by-numbers style, which allowed students to actively participate in the mural creation process.

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 collaging and chalk drawings—while all outside soaking up the winter weather."



## this is your chance to make a change

Chevron's Community Spirit Fund is offering up to **\$15,000** towards local projects.

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
- Coral Bay
- Dampier
- Denham
- Exmouth
- Karratha
- Onslow
- Port Hedland
- Roebourne
- Shark Bay

Applications are open now until 13 August 2023. To apply, head to [australia.chevron.com](http://australia.chevron.com)



Story on the Woodside North West Facebook Page– 2 August 2023



Environment Plan Banner



#### 4.34 Passion of the Pilbara social media (18 August 2023)

##### 17 August 2023 – Passion of the Pilbara Facebook Post



##### 17 August 2023 – Woodside North West Facebook Page





**Woodside Facebook Post and Story – 17 August 2023**

**Feeds**

Facebook Feeds

Woodside North West added a new photo. Sponsored

**PROVIDE YOUR FEEDBACK AT PASSION OF THE PILBARA**

Are you interested in what Woodside has planned on land and sea?

Join our friendly team at Passion of the Pilbara in Onslow this Saturday 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.

Like Comment Share

**Stories and Reels**

Facebook Stories

Woodside North West Sponsored

**PROVIDE YOUR FEEDBACK AT PASSION OF THE PILBARA**

Are you interested in what Woodside has planned on land and sea?

Join our friendly team at Passion of the Pilbara in Onslow this Saturday 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.

Woodside Energy

**Audience definition**

Your audience is defined.

Specific Broad

Estimated audience size: 21,400 - 25,200

Estimates may vary significantly over time based on your targeting selections and available data.

**Estimated daily results**

Reach

**15K-21K**

The accuracy of estimates is based on factors such as past campaign data, the budget you entered, market data, targeting criteria and ad placements. Numbers are provided to give you an idea of performance for your budget, but are only estimates and don't guarantee results.

**4.35 Community Information Session – Karratha, Port Hedland and Roebourne (18 – 20 September 2023)**

**Pilbara News Advertisement – 13 September 2023**



City of Karratha Mayor Peter Long. Picture: Tom Zaunmayr

# 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 Levisianos, Bradley Davey, 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><b>Monday, 18 September 2023</b> Between 8.00am - 12.00pm <b>Karratha Shopping Centre</b> Sharpe Avenue Karratha</p>	<p><b>Monday, 18 September 2023</b> Between 3.00pm - 6.00pm <b>Red Earth Arts Precinct</b> 27 Welcome Road Karratha</p>
<p><b>Tuesday, 19 September 2023</b> Between 10.00am - 5.00pm <b>South Hedland Square</b> 9-31 Throssell Road South Hedland</p>	<p><b>Wednesday, 20 September 2023</b> Between 10.00am - 4.00pm <b>Woodside Office</b> 39 Roe Street Roebourne</p>

You can access our consultation information, provide feedback and subscribe for updates by scanning the QR code.

**ONSLOW**

# 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>

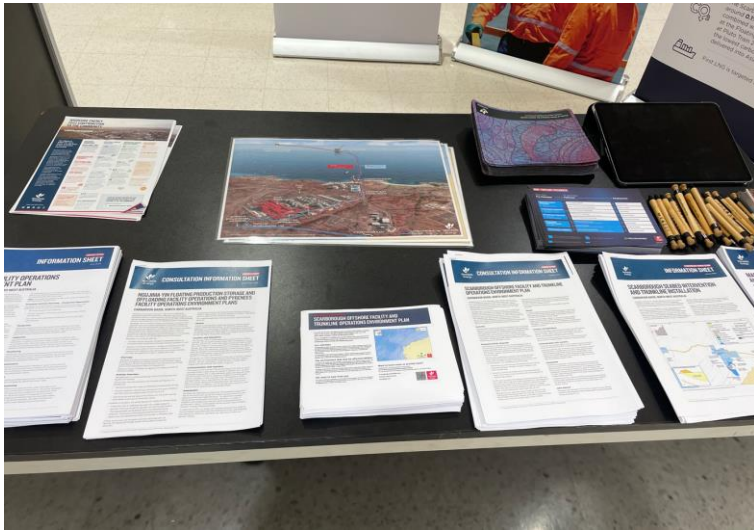
Social Media Tiles – 6 - 16 September 2023

<p><b>Are you interested in what Woodside has planned on land and sea?</b></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><b>Monday, 18 September 2023</b></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><b>Are you interested in what Woodside has planned on land and sea?</b></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><b>Tuesday, 19 September 2023</b></p> <p>Between 10.00am - 5.00pm South Hedland Square 9-31 Throssell Road South Hedland</p> 	<p><b>Are you interested in what Woodside has planned on land and sea?</b></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><b>Wednesday, 20 September 2023</b></p> <p>Between 10.00am - 4.00pm Woodside Office, Roebourne 39 Roe Street Roebourne</p> 
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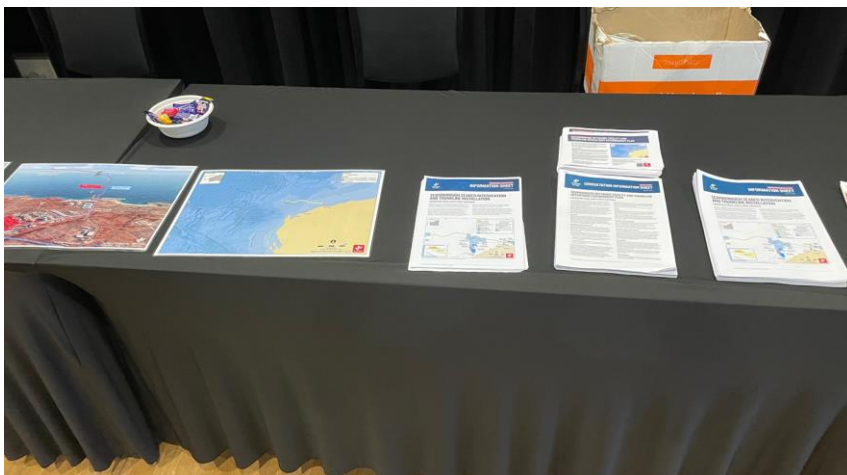
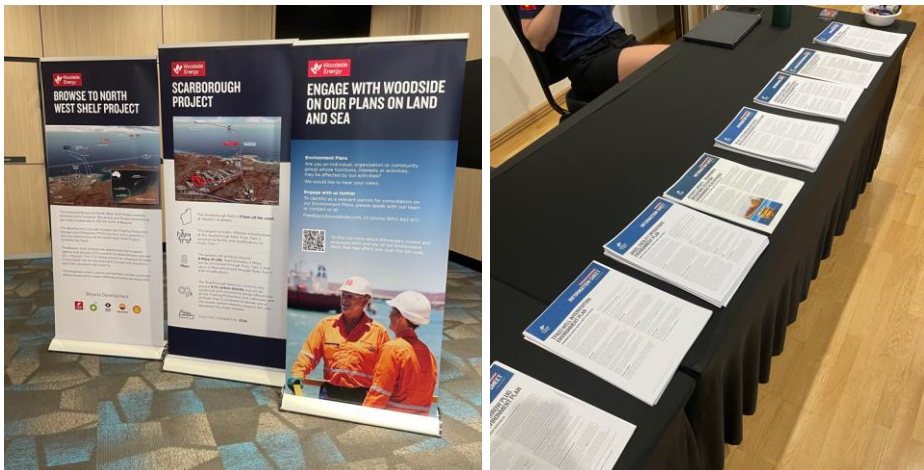
Karratha Shopping Centre – 18 September 2023



Griffin Field Decommissioning (End State) Environment Plan



Red Earth Arts Precinct – 18 September 2023



Griffin Field Decommissioning (End State) Environment Plan

South Hedland Square – 19 September 2023



Roebourne – Woodside Office – 20 September 2023

Griffin Field Decommissioning (End State) Environment Plan



4.36 Line left intentionally blank

4.37 Community Information Session – Carnarvon and Denham (16 and 17 October 2023)

Newspaper advertisement -

Pilbara News – 4 October 2023

## MinRes in \$24m deal with local company

DANIEL SPENCE

Local Pilbara Indigenous-owned business Djoleanna 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 Djoleanna Pty Ltd, which is a Robe River Kuruma business. The Robe River Kuruma people are the traditional owners of the land on which the Ken's Bore mine site is located.

The four-year contract is for exploration earthworks at Ken's Bore mine site, east of Onslow, including constructing access tracks, building drill pads, road maintenance and general earthworks.

Djoleanna Pty Ltd will employ about 10 people as



MinRes managing director Chris Ellison and Djoleanna business owner Bevan Wally. Picture: Russell James

part of the contract including a project manager, mechanics, operators and administration staff.

Djoleanna 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 Djoleanna 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](http://mineralresources.com.au/our-sustainability/community) or email [communities@mrl.com.au](mailto:communities@mrl.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, Hodland Senior High School, Tum 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 \$5,000 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



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 per cent 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 1995.

For more information please contact the Department of Health by email to [ehinfo@health.wa.gov.au](mailto:ehinfo@health.wa.gov.au) or call 08 9222 2000 or visit [health.wa.gov.au](http://health.wa.gov.au) and search: fluoridation.

Dr Andrew Robertson  
Chief Health Officer

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**Banners and stand information**

**Gwoonwardu Mia – 16 October 2023**





**Social media tile and story – 9 to 16 October 2023**


**Carnarvon tile and story**

**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




**Denham tile and story**

**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



**Shark Bay Townhall – 17 October 2023**



**4.38 Community Information Session – Exmouth - 23 October 2023**

**Newspaper advertisement**

**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 waivers or only allowing animals on early morning flights on days over 35C but was knocked back by the company.

"In over 20 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 Odeh

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 33C."

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."



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.

**Monday, 16 October 2023**  
Between 10.00am - 2.00pm  
**Gwoonwardu Mia**  
148 Robinson Street  
Carnarvon

**Tuesday, 17 October 2023**  
Between 9.00am - 1.00pm  
**Denham Town Hall**  
Hughes Street  
Denham

**Monday, 23 October 2023**  
Between 10.00am - 5.00pm  
**Exmouth Chamber of Commerce and Industry**  
22 Maidstone Crescent  
Exmouth



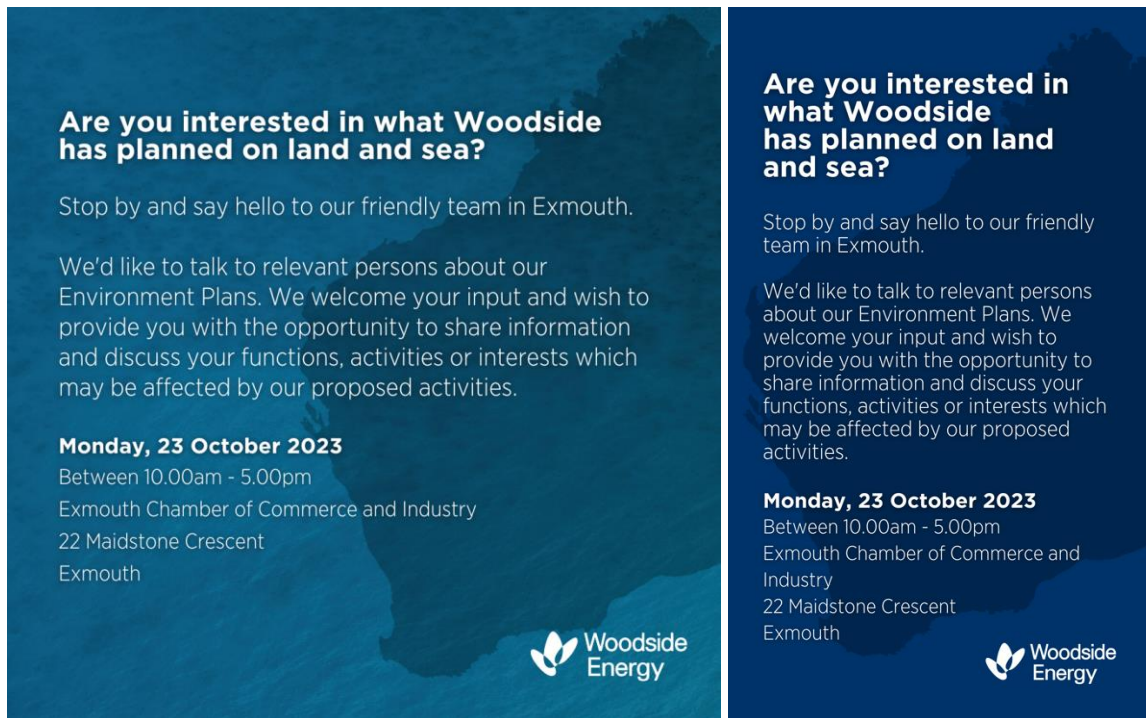
You can access our consultation information, provide feedback and subscribe for updates by scanning the QR code.



## Northwest Multicultural Show 2023

**SATURDAY**  
**14 OCTOBER 2023**  
**1:00PM-5:00PM**  
**RED EARTH ARTS PRECINCT**

**Social media tile and story – 2-9 September 2023**



**4.39 Line left intentionally blank**

**4.40 Email sent Exmouth Recreational Marine Users (52 licence holders) and Karratha Recreational Marine Users (9 licence holders) - 17 February 2023**

Dear Charter / Tourism

Woodside is providing this update on the progressive decommissioning of the Griffin and Stybarrow fields, previously operated by BHP Petroleum Pty Ltd (BHP).

We are providing this information to ensure relevant persons are informed about the status of proposed activities, as there have been changes to activity scope and supporting consultation information since consultation commenced for these decommissioning projects in 2021.

The **Griffin Field** is in Commonwealth waters in Petroleum Licence WA-10-L, 65 km northwest of Onslow and 94 km northeast of Exmouth, Western Australia and in water depths of approximately 120 m.

The **Stybarrow Field** is in Commonwealth waters in Petroleum Licence WA-32-L, approximately 53 km northwest of Exmouth, Western Australia and in water depths of approximately 810 – 850 m.

A summary of proposed activities is outlined below, and more detailed information is provided in the attached Consultation Information Sheets. The Information Sheets provide details on activities proposed to be managed under a number of Environment Plans for each Field, including a summary

of potential key risks and associated management measures. The Information Sheets are also available on our [website](#).

Any feedback provided previously on proposed activities will remain current where Environment Plans are under assessment by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

Please let us know if you would like to update previous feedback or have any additional views by **17 March 2023**.

**Activity:**

	Griffin Field Decommissioning Activities	Stybarrow Field Decommissioning Activities
<b>Summary:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, distribution skids, risers, flexible flowlines, rigid flowlines, umbilicals, and the pipeline end module (PLEM)).</li> <li>• Removal of the Riser Turret Mooring (RTM) and its moorings. Depending on the vessel utilised, recovery of the RTM may require sections of it to be towed to shallower water out of the title.</li> <li>• Removal of an exploration wellhead (Ramillies-1 in neighbouring petroleum title WA-12-L).</li> <li>• Ongoing field management activities.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>• Pre-execution activities associated with the well P&amp;A, such as barrier testing and removal of marine growth.</li> <li>• Well P&amp;A of the 10 productions/injection wells by placing cement plugs in the wells to permanently prevent hydrocarbon release.</li> <li>• Cutting and removal of the wellhead and subsea tree assembly.</li> <li>• Unblocking of the H4 flowline, if deemed feasible.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, manifolds, risers, flexible flowlines, and umbilicals).</li> <li>• Removal of the Disconnectable Turret Mooring (DTM) and its moorings. Recovery of the DTM may require it to be</li> </ul>

	<ul style="list-style-type: none"> <li>Pigging and subsequent removal of the 26 km of Griffin Gas Export Pipeline (GEP) within Commonwealth waters.</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>Proposal to leave in situ 12 RTM drag anchors (buried), 6 concrete gravity bases and 5 piled foundations for the PLEM and 4 distribution skids.</li> </ul>	<p>towed to shallower water outside of permit area WA-32-L to support the DTM removal from the marine environment.</p> <ul style="list-style-type: none"> <li>Ongoing field management activities (equipment monitoring and inspection).</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>Proposed leave in situ of the 9 DTM drag anchors (buried), nine suction piles for the riser holdbacks and the historical exploration wellhead, Eskdale-1, which was unable to be removed following its drilling and abandonment in 2003.</li> </ul>
<b>Location:</b>	<ul style="list-style-type: none"> <li>94 km northeast of Exmouth, Western Australia.</li> </ul>	<ul style="list-style-type: none"> <li>53 km northwest of Exmouth, Western Australia.</li> </ul>
<b>Approx. Water Depth (m):</b>	<ul style="list-style-type: none"> <li>Approx. 120 m.</li> </ul>	<ul style="list-style-type: none"> <li>Approx. 810 – 850 m.</li> </ul>
<b>Schedule:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Earliest proposed removal activity start is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>Facilities removal must be completed no later than 31 December 2024,</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>Earliest P&amp;A start is estimated to be Q4 2023, subject to approvals, MODU and vessel availability and weather constraints.</li> <li>P&amp;A activities must be completed no later than 30 September 2024, pursuant to General Direction 833.</li> </ul> <p><b>Removal Activities</b></p>

	<p>pursuant to General Direction 832.</p>	<ul style="list-style-type: none"> <li>• Earliest facilities and DTM removal is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>• Equipment removal must be completed no later than 31 March 2025, pursuant to General Direction 833.</li> </ul>
<p><b>Duration:</b></p>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal activities are anticipated to take approximately 6 months to complete and GEP removal activities are anticipated to take approximately 2 months to complete.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>• P&amp;A activities are anticipated to take approximately 6 – 9 months.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal activities are anticipated to take approximately 4-6 months to complete and DTM removal activities are anticipated to take approximately 1 month to complete.</li> </ul>
<p><b>Exclusionary/Cautious Zone:</b></p>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the equipment.</li> <li>• A temporary 500 m exclusion zone will apply around the project vessels during removal and potential tow activities.</li> </ul>	<p><b>P&amp;A Activities</b></p> <ul style="list-style-type: none"> <li>• The Operational Area includes the area encompassing an approximate 3,000 m radius around each of the four drill centres within WA-32-L.</li> <li>• A temporary 500 m exclusion zone will apply around the MODU and the associated project vessels during P&amp;A activities.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• The temporary Operational Area includes the area encompassing an</li> </ul>

		<p>approximate 1,500 m radius around the subsea infrastructure and wellheads.</p> <ul style="list-style-type: none"> <li>• The DTM has an existing 1200 m radius petroleum safety zone which will continue to be in place until it is removed.</li> <li>• A temporary 500 m exclusion zone will apply around the CSV and the associated project vessels during removal activities.</li> <li>• A temporary 500 m exclusion zone will apply around the HLV and the associated project vessels during the removal of the DTM.</li> </ul>
<p><b>Vessels:</b></p>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Construction support vessel (CSV) and Heavy Lift Vessel (HLV) for recovery and pipeline removal activities.</li> <li>• An anchor handling tug (AHT) to support the towing of the RTM to sheltered water.</li> </ul>	<p><b>P&amp;A activities</b></p> <ul style="list-style-type: none"> <li>• Semi-Submersible Mobile Offshore Drilling Unit (MODU)</li> <li>• The MODU will be supported by 2 to 3 offshore support vessels.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• CSV and HLV for recovery and activities.</li> <li>• AHTs to support the towing of the DTM to the shallower water location (if required).</li> </ul>

**Feedback:**

If you have any feedback on these activities, please respond to Woodside at: [Feedback@woodside.com.au](mailto:Feedback@woodside.com.au) or 1800 442 977.

Your feedback and our response will be included in our Environment Plan which will be submitted to 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.

Please provide your views by **17 March 2023**.

You can also subscribe on our website to receive Consultation Information Sheets for proposed activities: [www.woodside.com/sustainability/consultation-activities](http://www.woodside.com/sustainability/consultation-activities).

#### 4.40.1 Email sent King Bay Fishing Club - 17 February 2023

Dear Stakeholder,

Woodside is providing this update on the progressive decommissioning of the Griffin and Stybarrow fields, previously operated by BHP Petroleum Pty Ltd (BHP).

We are providing this information to ensure relevant persons are informed about the status of proposed activities, as there have been changes to activity scope and supporting consultation information since consultation commenced for these decommissioning projects in 2021.

The **Griffin Field** is in Commonwealth waters in Petroleum Licence WA-10-L, 65 km northwest of Onslow and 94 km northeast of Exmouth, Western Australia and in water depths of approximately 120 m.

The **Stybarrow Field** is in Commonwealth waters in Petroleum Licence WA-32-L, approximately 53 km northwest of Exmouth, Western Australia and in water depths of approximately 810 – 850 m.

A summary of proposed activities is outlined below, and more detailed information is provided in the attached Consultation Information Sheets. The Information Sheets provide details on activities proposed to be managed under a number of Environment Plans for each Field, including a summary of potential key risks and associated management measures. The Information Sheets are also available on our [website](#).

Any feedback provided previously on proposed activities will remain current where Environment Plans are under assessment by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA). Please let us know if you would like to update previous feedback or have any additional views by **17 March 2023**.

#### Activity:

	Griffin Field Decommissioning Activities	Stybarrow Field Decommissioning Activities
<b>Summary:</b>	<b>Removal Activities</b> <ul style="list-style-type: none"> <li>Removal of subsea equipment (wellheads, trees, distribution skids, risers, flexible flowlines, rigid flowlines, umbilicals, and the</li> </ul>	<b>Plugging and Abandonment (P&amp;A) Activities</b> <ul style="list-style-type: none"> <li>Pre-execution activities associated with the well P&amp;A, such as barrier testing and removal of marine growth.</li> </ul>

	<p>pipeline end module (PLEM)).</p> <ul style="list-style-type: none"> <li>• Removal of the Riser Turret Mooring (RTM) and its moorings. Depending on the vessel utilised, recovery of the RTM may require sections of it to be towed to shallower water out of the title.</li> <li>• Removal of an exploration wellhead (Ramillies-1 in neighbouring petroleum title WA-12-L).</li> <li>• Ongoing field management activities.</li> <li>• Pigging and subsequent removal of the 26 km of Griffin Gas Export Pipeline (GEP) within Commonwealth waters.</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>• Proposal to leave in situ 12 RTM drag anchors (buried), 6 concrete gravity bases and 5 piled foundations for the PLEM and 4 distribution skids.</li> </ul>	<ul style="list-style-type: none"> <li>• Well P&amp;A of the 10 productions/injection wells by placing cement plugs in the wells to permanently prevent hydrocarbon release.</li> <li>• Cutting and removal of the wellhead and subsea tree assembly.</li> <li>• Unblocking of the H4 flowline, if deemed feasible.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Removal of subsea equipment (wellheads, trees, manifolds, risers, flexible flowlines, and umbilicals).</li> <li>• Removal of the Disconnectable Turret Mooring (DTM) and its moorings. Recovery of the DTM may require it to be towed to shallower water outside of permit area WA-32-L to support the DTM removal from the marine environment.</li> <li>• Ongoing field management activities (equipment monitoring and inspection).</li> </ul> <p><b>In Situ Activities</b></p> <ul style="list-style-type: none"> <li>• Proposed leave in situ of the 9 DTM drag anchors (buried), nine suction piles for the riser holdbacks and the historical exploration wellhead, Eskdale-1, which was unable to be removed following its drilling and abandonment in 2003.</li> </ul>
<b>Location:</b>	<ul style="list-style-type: none"> <li>• 94 km northeast of Exmouth, Western Australia.</li> </ul>	<ul style="list-style-type: none"> <li>• 53 km northwest of Exmouth, Western Australia.</li> </ul>
<b>Approx. Water Depth (m):</b>	<ul style="list-style-type: none"> <li>• Approx. 120 m.</li> </ul>	<ul style="list-style-type: none"> <li>• Approx. 810 – 850 m.</li> </ul>
<b>Schedule:</b>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Earliest proposed removal activity start is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>• Earliest P&amp;A start is estimated to be Q4 2023, subject to approvals, MODU and vessel</li> </ul>

	<ul style="list-style-type: none"> <li>Facilities removal must be completed no later than 31 December 2024, pursuant to General Direction 832.</li> </ul>	<p>availability and weather constraints.</p> <ul style="list-style-type: none"> <li>P&amp;A activities must be completed no later than 30 September 2024, pursuant to General Direction 833.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Earliest facilities and DTM removal is estimated to be Q4 2023, subject to approvals, vessel availability and weather constraints.</li> <li>Equipment removal must be completed no later than 31 March 2025, pursuant to General Direction 833.</li> </ul>
<p><b>Duration:</b></p>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Removal activities are anticipated to take approximately 6 months to complete and GEP removal activities are anticipated to take approximately 2 months to complete.</li> </ul>	<p><b>Plugging and Abandonment (P&amp;A) Activities</b></p> <ul style="list-style-type: none"> <li>P&amp;A activities are anticipated to take approximately 6 – 9 months.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>Removal activities are anticipated to take approximately 4-6 months to complete and DTM removal activities are anticipated to take approximately 1 month to complete.</li> </ul>
<p><b>Exclusionary/Cautionary Zone:</b></p>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>The temporary Operational Area includes the area encompassing an approximate 1,500 m radius around the equipment.</li> <li>A temporary 500 m exclusion zone will apply around the project vessels during removal and potential tow activities.</li> </ul>	<p><b>P&amp;A Activities</b></p> <ul style="list-style-type: none"> <li>The Operational Area includes the area encompassing an approximate 3,000 m radius around each of the four drill centers within WA-32-L.</li> <li>A temporary 500 m exclusion zone will apply around the MODU and the associated project vessels during P&amp;A activities.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>The temporary Operational Area includes the area</li> </ul>

		<p>encompassing an approximate 1,500 m radius around the subsea infrastructure and wellheads.</p> <ul style="list-style-type: none"> <li>• The DTM has an existing 1200 m radius petroleum safety zone which will continue to be in place until it is removed.</li> <li>• A temporary 500 m exclusion zone will apply around the CSV and the associated project vessels during removal activities.</li> <li>• A temporary 500 m exclusion zone will apply around the HLV and the associated project vessels during the removal of the DTM.</li> </ul>
<p><b>Vessels:</b></p>	<p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• Construction support vessel (CSV) and Heavy Lift Vessel (HLV) for recovery and pipeline removal activities.</li> <li>• An anchor handling tug (AHT) to support the towing of the RTM to sheltered water.</li> </ul>	<p><b>P&amp;A activities</b></p> <ul style="list-style-type: none"> <li>• Semi-Submersible Mobile Offshore Drilling Unit (MODU)</li> <li>• The MODU will be supported by 2 to 3 offshore support vessels.</li> </ul> <p><b>Removal Activities</b></p> <ul style="list-style-type: none"> <li>• CSV and HLV for recovery and activities.</li> <li>• AHTs to support the towing of the DTM to the shallower water location (if required).</li> </ul>

**Feedback:**

If you have any feedback on these activities, please respond to Woodside at: [Feedback@woodside.com.au](mailto:Feedback@woodside.com.au) or 1800 442 977.

Your feedback and our response will be included in our Environment Plan which will be submitted to 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. Please provide your views by **17 March 2023**.

You can also subscribe on our website to receive Consultation Information Sheets for proposed activities: [www.woodside.com/sustainability/consultation-activities](http://www.woodside.com/sustainability/consultation-activities).

**4.41 Email sent to Exmouth Recreational Marine Users (52 licence holders) and Karratha Recreational Marine Users (9 licence holders) - 10 March 2023**

Dear Charter / Tourism Operator

Woodside previously consulted you (see email below) on Woodside's proposed activities for the progressive decommissioning of the Griffin and Stybarrow fields.

We provided this information to ensure relevant persons are informed about the status of proposed activities, as there have been changes to activity scope and supporting consultation information since consultation commenced for these decommissioning projects in 2021.

We would appreciate any feedback you may have by **17 March 2023** to support the development of our proposed Environment Plans.

Any feedback provided previously on proposed activities will remain current where Environment Plans are under assessment by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

For reference:

- The **Griffin Field** is in Commonwealth waters in Petroleum Licence WA-10-L, 65 km northwest of Onslow and 94 km northeast of Exmouth, Western Australia and in water depths of approximately 120 m.
- The **Stybarrow Field** is in Commonwealth waters in Petroleum Licence WA-32-L, approximately 53 km northwest of Exmouth, Western Australia and in water depths of approximately 810 – 850 m.

Consultation Information Sheets for the proposed activities are attached, which provide a summary of potential key risks and associated management measures. The Information Sheets are also available on our [website](#).

Regards

**4.41.1 Email sent King Bay Fishing Club - 15 March 2023**

Dear Stakeholder,

Dear King Bay Fishing Club

Woodside previously consulted you (see email below) on Woodside's proposed activities for the progressive decommissioning of the Griffin and Stybarrow fields.

We provided this information to ensure relevant persons are informed about the status of proposed activities, as there have been changes to activity scope and supporting consultation information since consultation commenced for these decommissioning projects in 2021.

We would appreciate any feedback you may have by **17 March 2023** to support the development of our proposed Environment Plans.

Any feedback provided previously on proposed activities will remain current where Environment Plans are under assessment by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

For reference:

- The **Griffin Field** is in Commonwealth waters in Petroleum Licence WA-10-L, 65 km northwest of Onslow and 94 km northeast of Exmouth, Western Australia and in water depths of approximately 120 m.
- The **Stybarrow Field** is in Commonwealth waters in Petroleum Licence WA-32-L, approximately 53 km northwest of Exmouth, Western Australia and in water depths of approximately 810 – 850 m.

Consultation Information Sheets for the proposed activities are attached, which provide a summary of potential key risks and associated management measures. The Information Sheets are also available on our [website](#).

Regards