

Environment Plan Summary

ConocoPhillips Australia is planning to undertake exploration activities in operational areas associated with offshore permits VIC/P79 and T/49P located in Commonwealth waters. The overarching purpose of the Environment Plan is to demonstrate that ConocoPhillips Australia's proposed Otway Exploration Drilling Program can meet the objectives of the Environment Regulations. The proposed activities are a continuation of ConocoPhillips Australia's exploration program in the offshore Otway Basin which aims to identify commercially viable natural gas reserves to help meet Australia's energy needs.

About the Otway Exploration Drilling Program

ConocoPhillips Australia is proposing to undertake an exploration program that consists of seabed surveys and the drilling of up to six exploration wells in operational areas associated with exploration permits VIC/P79 and T/49P, located in Commonwealth waters offshore of Victoria and King Island, Tasmania.

ConocoPhillips Australia has commenced preparation of an Environment Plan (EP) that will seek approval for this exploration program to be undertaken. Commencement of the exploration program is dependent on regulatory approval and rig availability. The initial activity will be a vessel-based seabed survey that will commence no earlier than April 2024.

This document summarises the EP for the proposed petroleum activity.

Overview

ConocoPhillips Australia's proposed Otway Exploration Drilling Program (exploration program) involves seabed surveys and drilling a maximum of six exploration wells, and will commence no earlier than April 2024, subject to acceptance of the EP, rig availability and a conducive investment and regulatory environment.

ConocoPhillips Australia has been undertaking consultation with relevant authorities, persons and organisations (relevant persons) since February 2023. The EP has now been submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) and is available for public comment on the NOPSEMA website until 18 December 2023. Following the public comment period, comments will be considered, and will be responded to in a thematic manner. ConocoPhillips Australia plans to submit the EP to NOPSEMA for assessment in early 2024. NOPSEMA's EP assessment process does not commence for explorative drilling activities until the EP is submitted following the public comment period.

The EP demonstrates how the exploration program will be completed in an environmentally responsible way.

Environmental Approvals

Offshore petroleum activities are regulated under the Offshore Petroleum and Greenhouse Gas Storage Act 2006 (OPGGGS Act) which requires an accepted EP to be in place for the proposed exploration program.

Under the OPGGS (Environment) Regulations an EP is required, among other things, to:

- comprehensively describe the activity to be carried out under the EP.
- describe the environment that may be affected by the activity, including the values and sensitivities of that environment.
- detail and evaluate the environmental impacts and risks for the relevant activity.
- demonstrate that the impacts and risks of the activity will be reduced to as low as reasonably practicable (ALARP) and an acceptable level (and detail the control measures to be used to achieve this).
- demonstrate that consultation has occurred with each relevant person, whose functions, interests or activities may be affected by the activities to be carried out under the EP.
- demonstrate that the measures (if any) adopted, or proposed to be adopted, because of the consultations are appropriate.

Petroleum activities do not operate to a no-impact standard. Instead, ConocoPhillips Australia is required to define the acceptable levels of impact and risk, and work below those levels. Acceptable levels of impact are established based on relevant up-to-date technical and scientific studies, government advice, and are considerate of the information gathered through the consultation process. This information is used to make predictions of the levels of impact we expect to occur and compares those to the previously defined acceptable levels.

ConocoPhillips Australia is required to demonstrate to NOPSEMA that activities will be carried out in a manner that is consistent with the principles of ecologically sustainable development (ESD) and that environmental impacts and risks of the activity are reduced to ALARP and acceptable levels in the EP. We recognise that consultation is crucial to achieve outcomes that are consistent with the principles of ESD – by ascertaining, understanding and addressing information that we may otherwise not be aware of, by informing our understanding of the environment, and by refining the environmental management of the activity in response.

We have endeavoured to undertake genuine and meaningful consultation, in which relevant persons have been given sufficient information and time to allow them to make an informed assessment of the possible consequences of the activity on their functions, interests or activities. We have encouraged a codesigned process, aiming to work with relevant persons in responding to any issues raised and any measures proposed throughout the consultation process.

Under the OPGGS (Environment) Regulations, all records of consultation including emails, phone calls and meetings, are required to be submitted to NOPSEMA with the EP. We undertook to advise all relevant persons that they may request that particular information provided during consultation not be published and only be provided to NOPSEMA as part of a sensitive information report.

Activity Location and Timings

ConocoPhillips Australia has been granted petroleum titles VIC/P79 and T/49P (permit areas) by the Commonwealth National Offshore Petroleum Titles Administrator (NOPTA) and, as a titleholder, has committed to completing exploration activities within time-frames agreed with NOPTA.

ConocoPhillips Australia's permit areas and the associated operational areas, within which petroleum activities may occur, are located 28 km at the closest point from King Island, Tasmania and 19 km at the closest point from the Victorian coastline as shown in Figure 1. Water depths within operational areas range from approximately 53 m to 500 m.

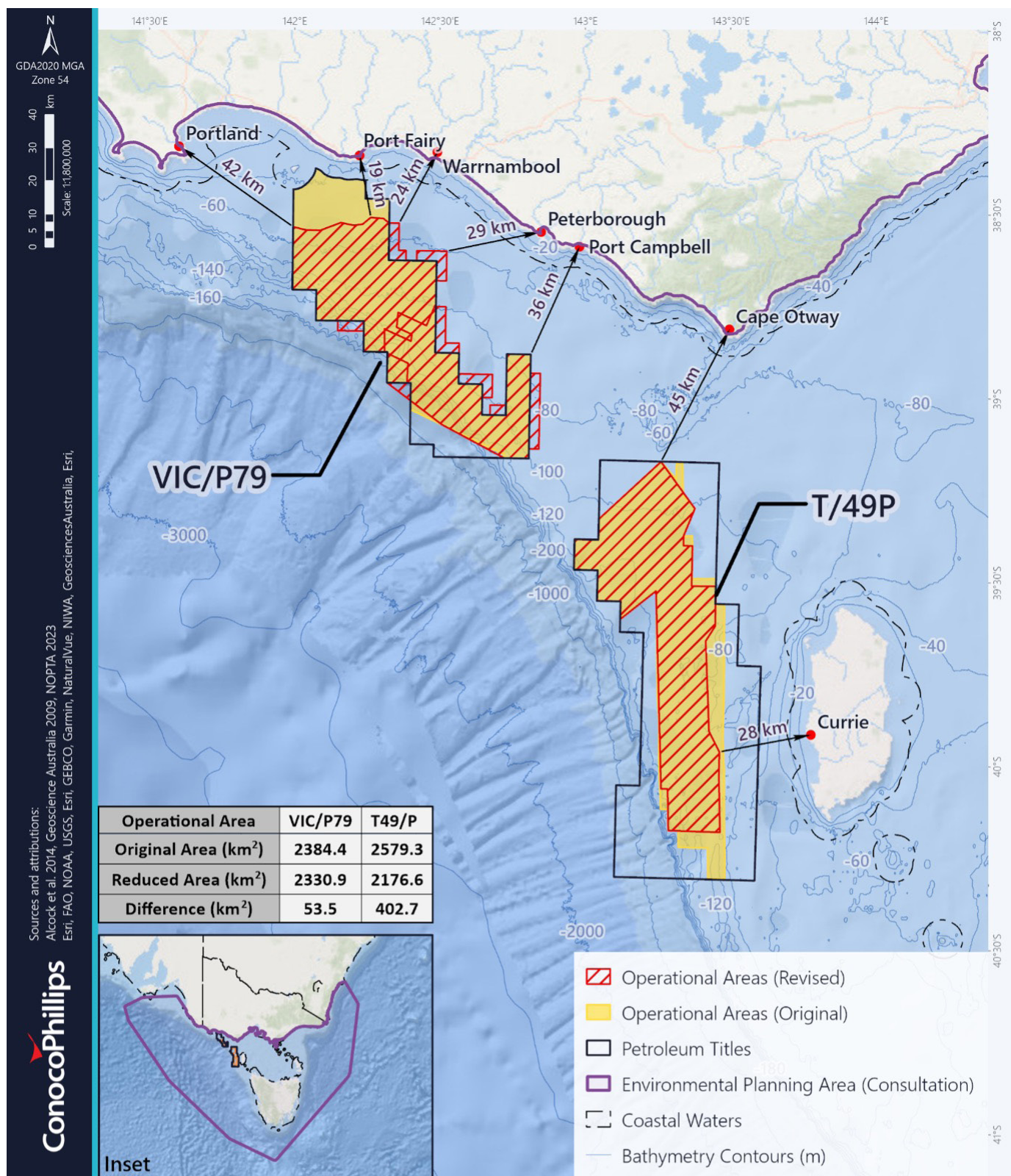


Figure 1: Location of petroleum titles T/49P and VIC/P79 and operational areas

Specific locations for seabed surveys and exploration drilling have yet to be confirmed. The process for selecting final survey and drilling locations involves the completion of seismic data processing, interpretation of the data to select targets with a high probability of success, and analysis of the efficiency of the drilling program to confirm resources with the least amount of wells, to minimise potential impacts and risks associated with each.

Consequently, ConocoPhillips Australia has undertaken to assess the environmental impacts and risks associated with seabed surveys and drilling activities that may occur anywhere within broader operational areas associated with the permit areas. This ensures that the impacts and risks associated with all potential survey and drilling locations are assessed. It is recognised that this may result in an overestimation of impacts and risks. However, a precautionary approach is being taken that assesses worst-case impacts and applies appropriate control measures across the board to minimise impacts and risks to acceptable levels that are as low as reasonably practicable.

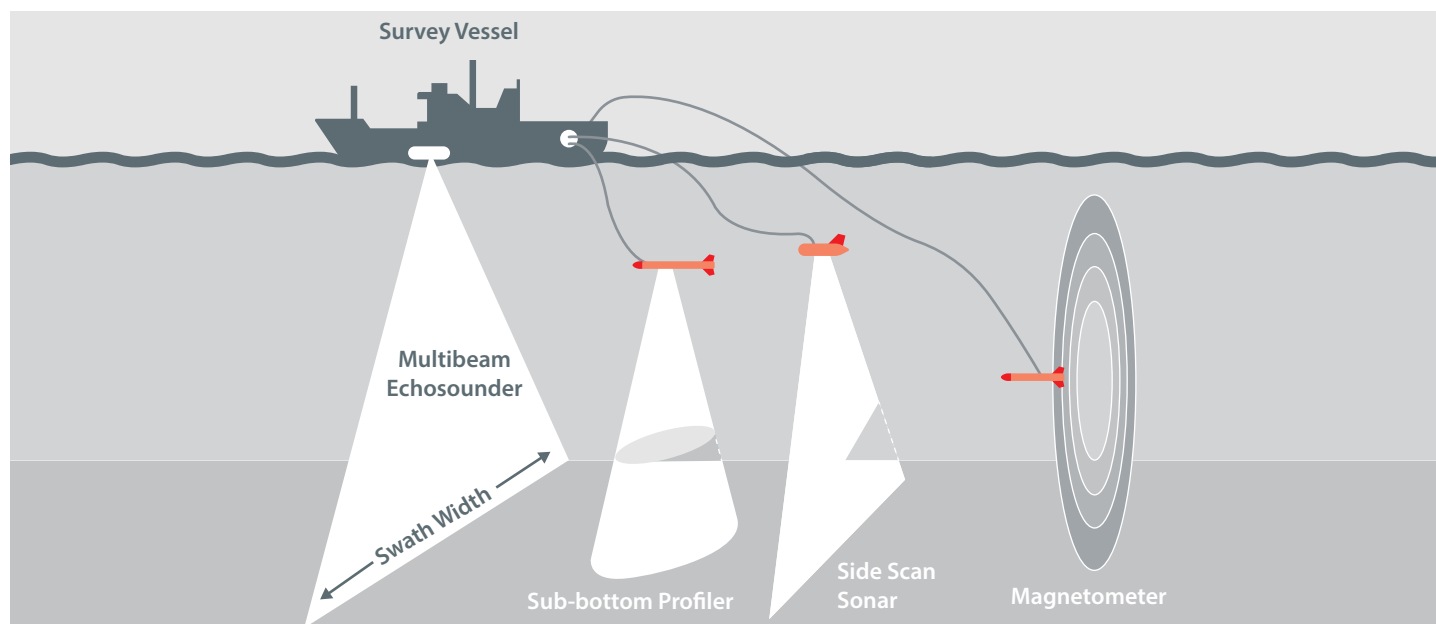
Presenting the full extent of ConocoPhillips Australia's proposed exploration program allows for the consideration of impacts and risks across the broadest possible spatial and temporal extents on one occasion. This is considered preferable as it will reduce consultation burden when compared to the alternative of developing multiple EPs for a reduced number of specific drilling locations, without consideration of feedback from consultation or disclosure of the full extent of the proposed exploration program.

The initial activity involves completing seabed surveys which will commence no earlier than 1 April 2024, subject to EP acceptance. Exploration drilling will not commence before 1 October 2024. Although the proposed duration of the EP is until 31 December 2028, the activity will not occur continuously over this duration.

Overview of proposed activities

Key activities proposed under the Otway Exploration Drilling Program are summarised below.

Seabed Surveys



Seabed surveys will be conducted by one or two vessels travelling at slow speeds during data acquisition or stationary, for example, during geotechnical sampling. There will be a 500-metre radius Safe Navigation Area (SNA) in place around survey vessels and any towed equipment for the duration of the activity. Seabed surveys will be conducted at a maximum of nine locations, each location approximately 6 km by 6 km (or 36km²) in size and are expected to take one week at each location.

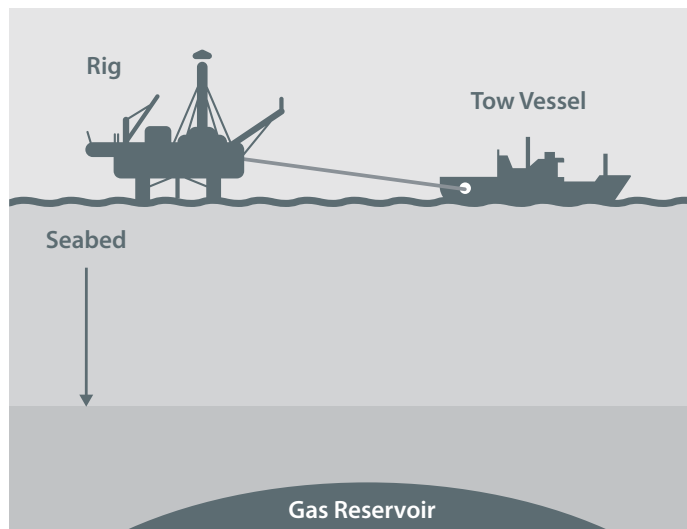
Seabed surveys are different from a seismic survey. They are designed specifically to map the seabed and directly below the seabed (up to approximately 100 metres), whereas seismic surveys are designed to image the subsurface up to several kilometres below the seabed. Sound generated from seabed survey equipment is significantly lower in intensity and duration than sound produced from a seismic array.

In the event of unsafe environmental conditions such as a heavy sea state, equipment may be retrieved, and survey vessels may transit away from the operational area to a safer location, noting that once a vessel leaves the operational area it is no longer undertaking a petroleum activity.

Exploration Drilling

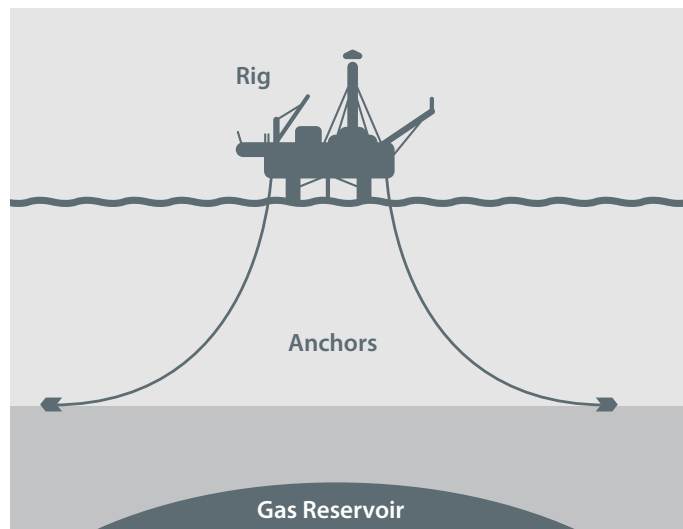
Exploration wells will be drilled using a single semi-submersible mobile offshore drilling unit (MODU, rig or drilling rig). Drilling each well typically takes between 30-40 days and may take up to a maximum of 90 days depending on weather and operational delays. Drilling involves several steps, summarised in the graphics below.

1. Rig towed to site



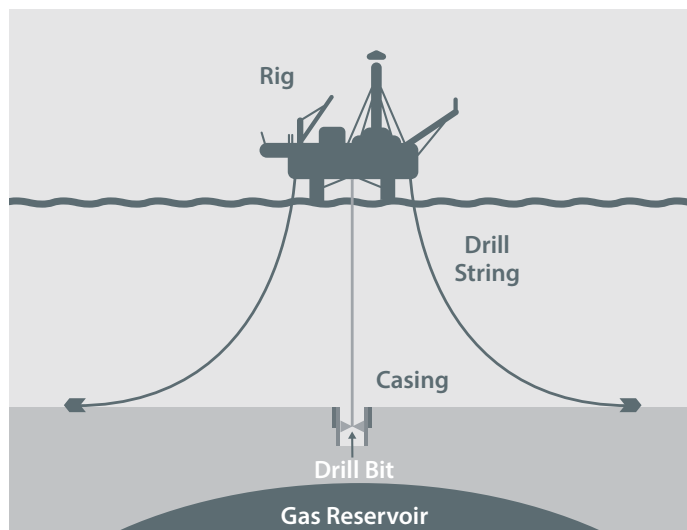
A drilling rig is towed to the drilling location.

2. Anchors laid on seabed



Anchors are laid on the seabed and can be laid prior to or on arrival of the drilling rig.

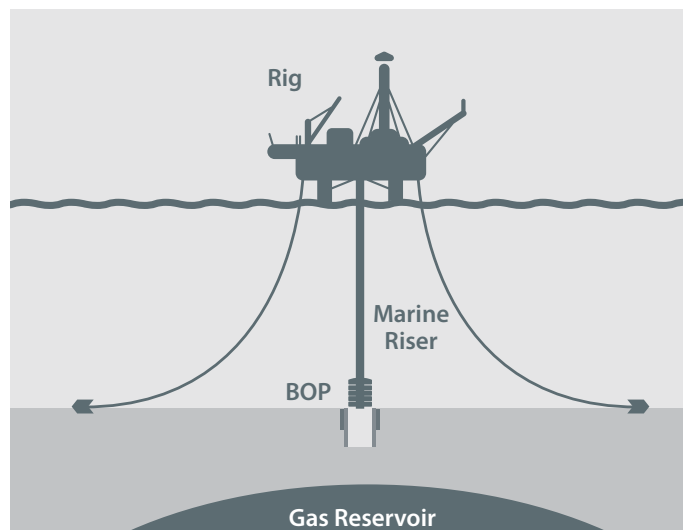
3. Top hole constructed



The top hole is drilled and then cased with cement and steel. The top hole is approximately 1m in diameter.

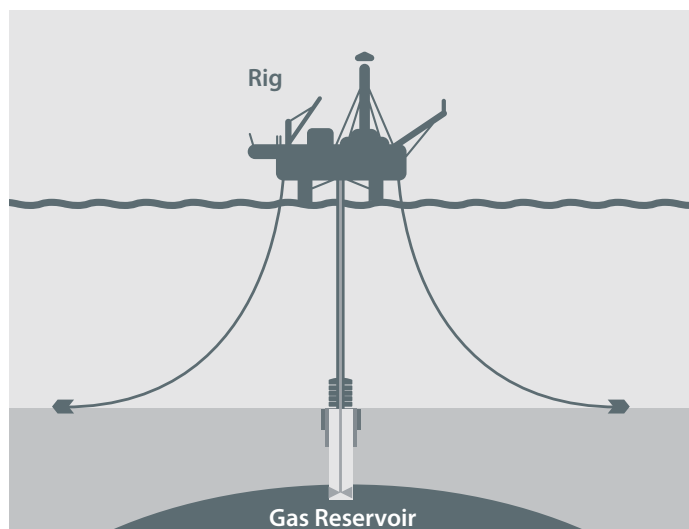
Supply boats will regularly service the rig throughout the drilling process.

4. Marine riser and blow-out preventer (BOP) installed



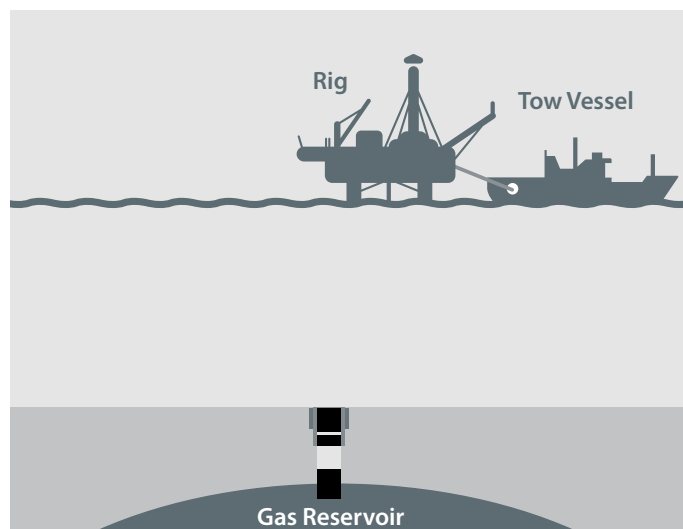
The marine riser returns drilling fluids and cuttings to the drilling rig for reconditioning, recirculation and/or discharge. The BOP is an assembly of specialised safety valves put in place before drilling into the reservoir and is used in the unlikely event of an emergency to control well pressure and prevent a loss of well control release.

5. Drill and construct well to gas reservoir



In the event that a gas reservoir is discovered, the well may be tested by flowing gas to the surface for analysis and then flaring through the flare boom.

6. Well permanently plugged and abandoned



Cement plugs are placed within the well as part of a process called plug and abandonment. The marine riser, BOP and wellhead are removed so no equipment is protruding from the seabed. The anchors are then removed so the drilling rig can be towed to the next drilling location or demobilised from the area on completion of the program.

Drilling Rig and Support Vessels

ConocoPhillips Australia has secured a harsh environment semi-submersible rig as part of a rig consortium. However, drilling remains dependent on the EP being accepted by NOPSEMA.

To ensure safe, efficient operations and minimise our environmental footprint, the vessels that will be used to support the drilling campaign will be multi-purpose vessels with the ability to manage anchors for the drill rig, carry out towage operation of the rig, conduct supply runs from a shore supply base and carry out safety standby duties at the rig itself. All vessels will be required to have a valid Offshore Vessel Inspection Database (OVID) inspection and meet the ConocoPhillips Global Marine Assurance and Vetting standard.

The transit of vessels outside the operational areas is not within the scope of the EP and is managed under other regulatory frameworks such as the Commonwealth Navigation Act 2012.

Aircraft including helicopters, fixed wing planes and drones may be used for crew changes, critical supply deliveries, surveillance and emergency response use.

More detail about the specific activities proposed to be carried out under the EP have been provided during consultation, with the provision of draft EP chapters on the ConocoPhillips Australia Otway Exploration Drilling Program Consultation Hub on 31 August 2023. The Environment Plan has now been made available for public comment from 16 November until 18 December 2023 and can be accessed on the NOPSEMA website: https://info.nopsema.gov.au/home/open_for_comment

The Existing Environment

Understanding the existing environment, including historical and existing threats and pressures, creates a reference point from where we can evaluate the impacts and risks of the proposed Otway Exploration Drilling Program. The existing condition of the environment is also used to determine the significance of impacts and risks and to identify additional mitigation measures, management strategies or baseline studies necessary to improve the environmental management of the activity.

The Environmental Planning Area

A broad Environmental Planning Area (EPA) was established in May 2023 to support consultation and the preparation of the Otway Exploration Drilling Program EP. This area extends across the regional marine environment and includes a 1 km buffer into coastal areas, as shown in Figure 2 below. The EPA, along with an interactive mapping tool provided during consultation, has supported the identification of marine and coastal environmental values and sensitivities more broadly within the region, and relevant persons and organisations with functions, interests and activities that may be affected by the proposed activity.

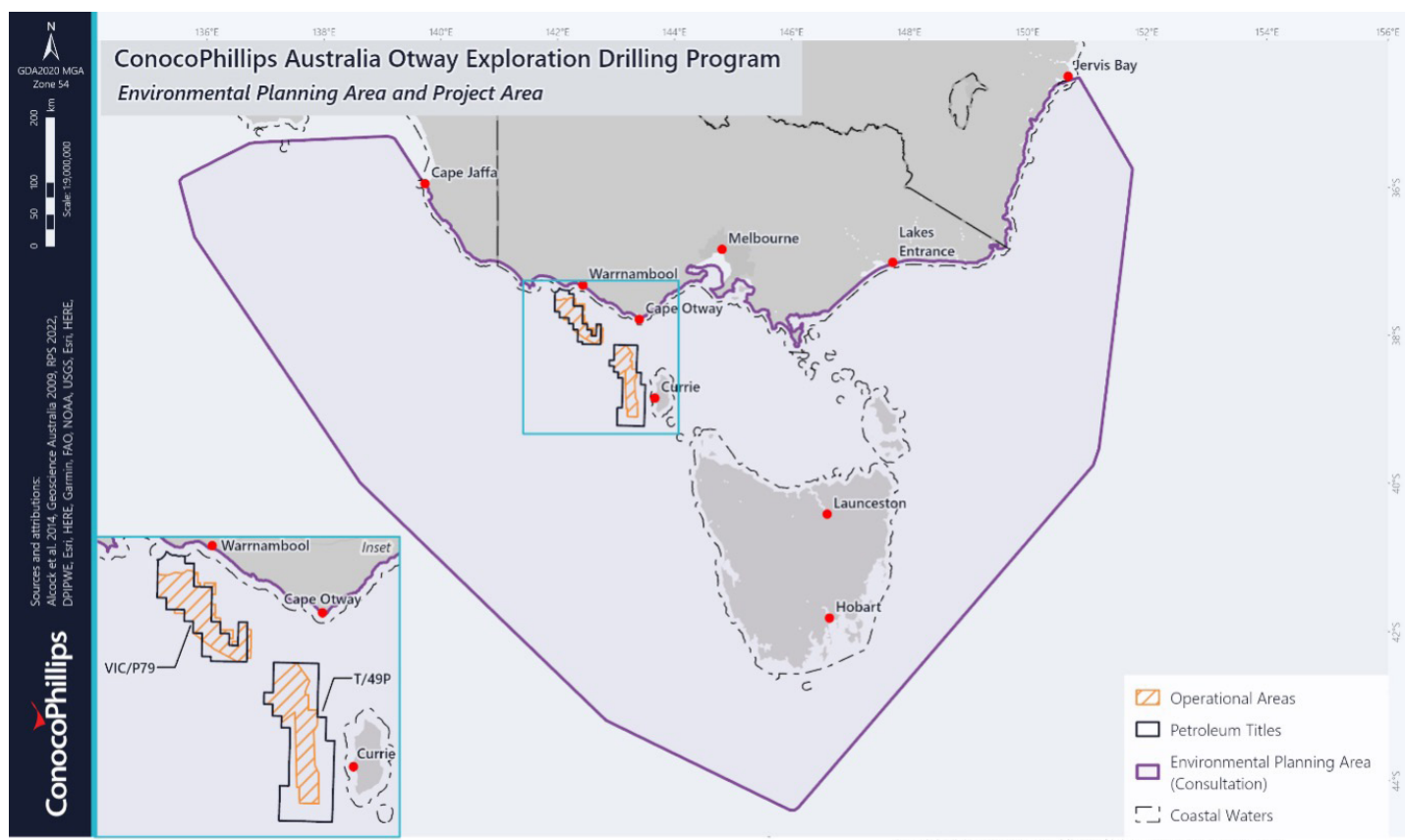


Figure 2: Otway Exploration Drilling Program Environmental Planning Area

The Environment That May Be Affected

The Environment Regulations require that the EP describes the 'Environment that May Be Affected' (EMBA) by the proposed activity. It is common to define the EMBA using worst-case hydrocarbon spill modelling.

Modelling provides an informed estimate of where a hydrocarbon spill may go if no response is undertaken, and supports the prediction of possible effects. Hundreds of hypothetical individual spill scenarios (1400 in this case) are simulated to show where hydrocarbon from a spill could go under different metocean conditions (such as currents, wind, waves and temperature).

Overlaying hundreds of hypothetical spills into a single map using low threshold exposure values, as shown in Figure 3, supports the identification of environmental values and sensitivities, the prediction of possible effects, and the development of protection priorities and preparedness plans that cover the full range of possible locations that could be affected depending on metocean conditions.

The low threshold exposure values are considered below levels which would cause environmental harm and are more indicative of the areas perceived to be affected due to e.g. visibility on the sea surface. They may trigger temporary closures of areas as a precautionary measure.

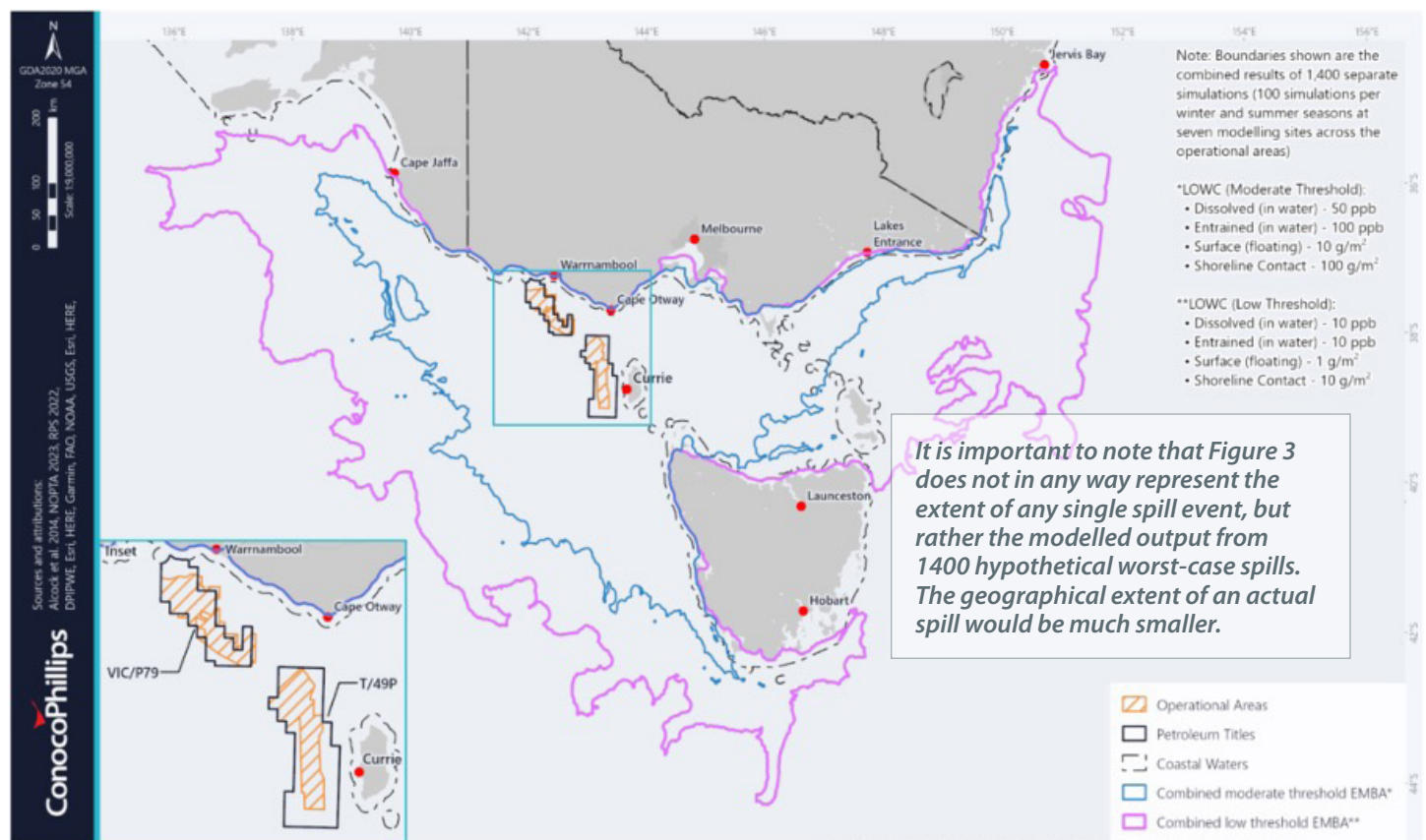


Figure 3: Otway Exploration Drilling Program EMBA at the low and moderate threshold

The OPGGS Act requires titleholders, like ConocoPhillips Australia, to prevent the escape of hydrocarbons to the environment from their activities. Prior to activities occurring titleholders must demonstrate to NOPSEMA that all reasonably practicable measures are in place to prevent oil pollution. Failure to prevent the escape of petroleum is an offence.

Although extremely unlikely to occur, all offshore operations do carry a risk of an unplanned hydrocarbon release and response plans are required to be developed and tested. ConocoPhillips Australia's primary response plan was made available on the ConocoPhillips Australia Otway Exploration Drilling Program Consultation Hub in August 2023 and is available in the Appendices to the Environment Plan on NOPSEMA's website.

More information on pollution management and preparedness can be found on NOPSEMA's website which can be accessed by scanning the QR code using any smart device.



Environmental Values and Sensitivities within the EMBA

Environmental values and sensitivities identified within the EMBA encompass rare, important and/or sensitive physical, ecological, socio-economic and cultural features of the environment. Examples include:

- The values and sensitivities of the marine environment including benthic communities and habitats, marine fauna and the quality of the water, sediment and biota.
- The values and sensitivities that exist in relation to Protected Matters (Part 3 of the EPBC Act), i.e. conservation areas such as World Heritage and National Heritage values, RAMSAR wetlands, listed threatened species and ecological communities, listed migratory species and Marine Parks.
- The values and sensitivities of cultural heritage and socio-economic features of the environment including the rights of other marine users.

More information on identified values and sensitivities within the EMBA is provided below.

Conservation Values and Sensitivities

Conservation values and sensitivities are primarily associated with matters of national environmental significance (MNES) protected under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act). Additional conservation values and sensitivities have also been identified where they are of regional importance for either the region's biodiversity or ecosystem function and integrity.

Values and sensitivities identified within the EMBA that are either close to operational areas or have coastal features are summarised in Table 1. Additional details for each of the identified values below, and all others within the EMBA, can be found in the EP. An interactive map of values and sensitivities can be found at the online consultation hub by scanning the QR Code.

ConocoPhillips Australia sought input through the consultation process to validate and improve our understanding of the environment in the Otway region. We recognise the importance of local knowledge in this process.



Table 1: Summary of Conservation Values and Sensitivities

Conservation Values	Description of values and sensitivities	Operational Areas	EMBA
Australian Marine Parks (AMPS) – The Multiple Use Zone of the Zeehan AMP is the only AMP that overlaps the operational areas (at T/49P). The multiple use zone provides for a wide range of sustainable activities by allowing those that do not significantly impact benthic (seafloor) habitats or have unacceptable impact on the values of the area. Authorisation is required for activities within this zone, such as commercial fishing and mining, among others. No other Marine Parks are overlapped by the operational areas.			
Zeehan AMP	<ul style="list-style-type: none"> - Submarine canyons that incise the continental slope, extending from the shelf edge to the abyssal plain. - Variety of seabed habitats supporting a range of communities and commercial species such as giant crab and rock lobster. - Important foraging and migration areas for a variety of species including seabirds, the white shark and cetaceans. 	✓	✓
Apollo AMP	<ul style="list-style-type: none"> - Rocky reef patches interspersed with areas of sediment and rich, benthic fauna dominated by sponges. - Important foraging and migration areas for a variety of species including seabirds, the white shark, seals and cetaceans. - The wreck of the MV City of Rayville, a known heritage site of cultural significance. 	X	✓
Beagle AMP	<ul style="list-style-type: none"> - Sponge gardens and important habitat for a range of species including sharks and cetaceans. - Foraging areas and islands that provide haul-out and breeding grounds for seabirds, little penguins and Australian fur seals. - The wrecks of the SS Cambridge steamship and the ketch, Eliza Davies, as known heritage sites of cultural significance. 	X	✓
Boags AMP	<ul style="list-style-type: none"> - Sandy seabed habitat for benthic species, fish and extensive sponge gardens. - Adjacent to important colonies for shy albatross, fairy prions, cormorants, petrels, little penguins and Cape Barren geese. - Important foraging and migration areas for a variety of species including seabirds, the white shark and cetaceans. - Intersects the migration route for the Critically Endangered orange-bellied parrot. 	X	✓
Franklin AMP	<ul style="list-style-type: none"> - Shallow continental shelf ecosystems including the major bioregions of western Bass Strait and the Tasmanian Shelf. - Feeding grounds for seabirds, including shy albatross, short-tailed shearwater, Australasian gannet, fairy prion, little penguin, petrels, cormorant and gulls that breed on nearby Hunter Island Group. - Foraging area of the white shark. 	X	✓
Nelson AMP	<ul style="list-style-type: none"> - Plateaus, knolls, canyons and the abyssal plain. - Potential migration area of the blue, fin, sei, and humpback whales. 	X	✓
World Heritage Properties (with outstanding universal value) and National Heritage Places (with outstanding significance to the nation) with coastal features. There are no world heritage or national heritage places within the operational areas.			
The Tasmanian Wilderness World Heritage Area (TWWHA)	The TWWHA intersects the EMBA along its coastal extent of 755 km in the south-south-west of Tasmania. The Tasmanian wilderness is one of the largest temperate wilderness areas and a precious cultural landscape for Tasmanian First Nations people who have lived there for at least 35,000 years.	X	✓
Great Ocean Road	Designed as a memorial to all Australian First World War servicemen, and a gift to residents and tourists to enable access to the spectacular coastal vistas and landscapes, the Great Ocean Road runs through an area that is 150 million years old and yields rare fossils and information on geomorphology and coastal erosion processes.	X	✓

Table 1: Summary of Conservation Values and Sensitivities

Conservation Values	Description of values and sensitivities	Operational Areas	EMBA
Recherche Bay (North East Peninsula) Area	Landed in 1792, French explorers set up camp and prepared a garden and scientific observatory, and catalogued species while supplies were replenished. Recordings, from the French perspective, of encounters with First nations peoples, provide important observations into the lives of the Tasmanian First Nations people.	X	✓
Western Tasmania Aboriginal Cultural Landscape	The remains of shell middens in the Western Tasmania Aboriginal Cultural Landscape and accompanying hut depressions provide evidence of an unusual, specialised and more sedentary First Nations community that began almost 2,000 years ago and continued until 1830.	X	✓
Commonwealth Heritage Places – These include natural, Indigenous and historic heritage places owned or controlled by the Commonwealth. There are no known Commonwealth Heritage Places within the operational areas.			
<ul style="list-style-type: none"> - Jervis Bay Territory, 7,600 ha home of the Koori people of Wreck Bay with the majority of the Territory still in its natural state. - Tasmanian seamounts located 50 and 100 km off southern Tasmania, with approximately 70 seamounts on the continental slope. - Beecroft Peninsula on the northern headland of Jervis Bay, of high cultural significance to the Jerrinja and Wreck Bay First Nations communities. - Swan Island and Naval Waters heritage place located off the Bellarine Peninsular in Victoria. - Point Wilson Defence Natural Area covering approximately 176 ha of the central-western coast of Port Philip Bay. - HMAS Cerberus Marine and Coastal Area with geomorphological, botanical and zoological significance near Western Port in Victoria. - Crocodile Head Area, an indigenous listing of approximately 20 ha, located near Crocodile Head and Currarong on the Beecroft Peninsular. 		X	✓
Wetlands of International Importance (Ramsar Wetlands) – These are wetlands that are representative, rare or unique, or are important for conserving biological diversity. There are no Ramsar wetlands within the operational areas.			
<ul style="list-style-type: none"> - Corner Inlet approximately 200 km south-east of Melbourne, Victoria - East Coast Cape Barren Island Lagoons on Cape Barron Island, part of the Furneaux Group, about 50 km from the north-eastern tip of Tasmania. - Gippsland Lakes approximately 300 km east of Melbourne, Victoria. - Glenelg Estuary and Discovery Bay Wetlands in western Victoria, approximately 430 km west of Melbourne, Victoria. - Lavinia, approximately 12 km north of Naracoopa on King Island, Tasmania. - Logan Lagoon in the south-east corner of Flinders Island, Tasmania, approximately 6 km north-east of Lady Barron. - Piccaninnie Ponds Karst Wetlands 32 km south-east of Mount Gambier, South Australia. - Port Phillip Bay (western Shoreline) and Bellarine Peninsula near the city of Geelong in Victoria. - Western Port approximately 60 km southeast of Melbourne, Victoria. 		X	✓
Threatened Ecological Communities (TECs) with coastal features – TECs provide wildlife corridors and/or habitat refuges for many plant and animal species. There are no TECs within the operational areas.			
<ul style="list-style-type: none"> - Assemblages of species associated with Open-Coast Salt-Wedge Estuaries of Western and Central Victoria Ecological Community - Coastal Swamp Oak (<i>Casuarina glauca</i>) Forest of New South Wales and South East Queensland Ecological Community - Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland - Giant Kelp Marine Forests of South East Australia - Subtropical and Temperate Coastal Saltmarsh 		X	✓

Table 1: Summary of Conservation Values and Sensitivities

Conservation Values	Description of values and sensitivities	Operational Areas	EMBA
Key Ecological Features (KEFs) – Areas considered to be of regional importance for either the region's biodiversity or ecosystem function and integrity. There are no KEFs within the operational areas.			
Bonney Coast Upwelling	The Bonney coast upwelling seasonally delivers cold nutrient rich water to the sea surface which supports regionally high productivity and high species diversity.	X	✓
West Tasmania Canyons	The West Tasmania canyons have the greatest density of canyons within Australian waters, with 72 submarine canyons incised over a 500 km-long section of slope. This KEF is located on the continental slope west of Tasmania, within the EMBA, and influences currents, acts as a sink for organic sediments and debris, and creates upwellings that result in productivity and biodiversity hotspots.	X	✓

Ecological Environment

Ecological values and sensitivities are associated with matters of national environmental significance (MNES) protected under the EPBC Act such as threatened and migratory species. These are identified using the Australian Government's Protected Matters Search Tool (PMST). Additional ecological values and sensitivities have also been identified where they are considered to be of regional importance such as declared biologically important areas (BIAs). These are summarised in Table 2 below. Additional details for each of the identified values below, and all others within the EMBA, can be found in the EP.

ConocoPhillips Australia has considered government guidance, including conservation management plans, recovery plans, conservation advice and threat abatement plans in the development of the EP and has identified control measures to reduce impacts and risks to marine fauna and biologically important areas to ALARP and to acceptable levels.

Table 2: Summary of Ecological Values and Sensitivities

Ecological Values	Description of values and sensitivities	BIAs within Operational Areas	BIAs within EMBA
Fish and Sharks	The PMST report identified 63 fish species protected under the EPBC Act potentially occurring in the EMBA. This includes twenty species listed as threatened, primarily related to coastal habitat degradation, six species listed as migratory and a further 40 listed as marine (all of which are Sygnathiformes – seahorses, pipefishes and their relatives which are typically found in shallow water).	White shark – foraging, distribution BIAs. The white shark is widely distributed throughout temperate and sub-tropical regions in the northern and southern hemispheres.	White shark – foraging, distribution, breeding BIAs.

Table 2: Summary of Ecological Values and Sensitivities

Ecological Values	Description of values and sensitivities	BIAs within Operational Areas	BIAs within EMBA
Seabirds and Shorebirds	<p>The PMST report identified 137 bird species with the potential to occur within the EMBA, of which 62 are listed as threatened including 8 Critically Endangered (curlew sandpiper, eastern curlew, orange-bellied parrot, great knot, swift parrot, King Island scrubtit, regent honeyeater, plains wanderer), 19 Endangered and 35 Vulnerable.</p> <p>The National Recovery Plan for Threatened Albatrosses and Giant Petrels 2011-2016 states that the most pervasive threat to albatross and giant petrel survival is the accidental mortality and injury arising from interactions with human fishing activities.</p> <p>The Wildlife Conservation Plan for Seabirds (2020) lists a range of anthropogenic threats to shearwaters including climate change, marine pollution, and mortality and injury arising from interactions with commercial fishing activities.</p> <p>The Wildlife Conservation Plan for Migratory Shorebirds (2015) notes that threats to these species include habitat loss and modification, marine pollution, climate change, hydrological changes, and mortality and injury arising from interactions with commercial fishing activities.</p> <p>The National Recovery Plan for the Orange-bellied Parrot (2016) states this species may be impacted by barriers to movement, though there is little more than anecdotal evidence, as individuals may be killed by flying into barriers, or behaviour may be modified by the presence of barriers such as wind turbines and illuminated boats, with the impacts of barriers greatest where they occur on migration routes.</p> <p>For the little penguin, identified threats include mortality and injury arising from interactions with commercial fishing, vessel collisions, oil pollution and changing oceanic conditions affecting food availability and reproductive success.</p>	<p>Foraging BIAs for Antipodean albatross, Black-browed albatross, Buller's albatross, Campbell albatross, Common diving-petrel, Indian yellow-nosed albatross, Short-tailed shearwater, Shy albatross, Wandering albatross, Wedge-tailed shearwater and White-faced storm-petrel.</p>	<ul style="list-style-type: none"> Foraging BIAs for Antipodean albatross, Black-browed albatross, Black petrel, Buller's albatross, Campbell albatross, Caspian tern, Fairy tern, Flesh-footed shearwater, Great-winged petrel, Indian yellow-nosed albatross, Northern giant petrel, Pacific Gull, Southern giant-petrel, Wandering albatross, White-capped albatross. Breeding and foraging BIAs for Black-faced cormorant, Common diving-petrel, Greater crested tern, little penguin, Short-tailed shearwater, Shy albatross, Soft-plumaged petrel, Sooty shearwater, Wedge-tailed shearwater, White-faced storm-petrel, White-fronted tern. Migration BIA for Wilsons storm petrel. Aggregation and foraging BIAs for Australasian gannet.

Table 2: Summary of Ecological Values and Sensitivities

Ecological Values	Description of values and sensitivities	BIAs within Operational Areas	BIAs within EMBA
Marine Turtles (Reptiles)	<p>The PMST report identified 5 species of threatened marine turtles with the potential to occur within the EMBA. Two are Endangered (loggerhead turtle and the leatherback turtle) and three are listed as Vulnerable (green turtle, hawksbill turtle and flatback turtle).</p> <p>The Recovery Plan for Marine Turtles in Australia (2017) lists a range of anthropogenic threats to marine turtles which include climate change and variability, marine debris, chemical and terrestrial discharge, fisheries bycatch, light pollution, vessel disturbance and sound interference.</p>	<p>None</p> <p>Even though there are no BIAs in the areas, marine turtles, primarily leatherbacks, are expected to occur as rare transient individuals within the operational areas.</p>	<p>None</p> <p>There are no known nesting or foraging BIAs for marine turtles in the region.</p>
Marine Mammals	<p>The PMST report identified 39 species of marine mammal with the potential to occur within the EMBA. Six are threatened species, including three Endangered species (blue whale, southern right whale and Australian sea lion) and three Vulnerable species (sei whale, fin whale, and the southern elephant seal).</p> <p>The Conservation Management Plans for Blue Whales (2015) and Southern Right Whales (2012) identify threats related to vessel disturbance and strike, climate change and variability, sound interference and entanglement. Similar threats are identified for humpback, dwarf minke, sperm, sei and fin whales.</p> <p>Conservation advice from the Threatened Species Scientific Committee (TSSC) indicates interactions with commercial fishing and entanglement are key threats to Australian sea lions, with secondary threats associated with oil spills, noise emissions and climate change.</p>	<p>Blue whale – foraging, distribution BIAs</p> <p>Southern right whale – migration BIA</p>	<ul style="list-style-type: none"> • Blue whale – foraging, distribution BIAs. • Southern right whale – migration, reproduction BIAs. • Humpback whale, Sperm whale, Australian sea-lion – foraging BIAs. • Indian Ocean bottlenose dolphin, Spotted bottlenose dolphin – breeding BIAs.

Socio-Economic and Cultural Heritage Values

The socio-economic values assessment for the exploration program encompasses the communities and economies that depend on the environment for their livelihoods, health, and well-being. Maritime heritage and cultural values also exist across the region. In the context of marine areas, the socio-economic and cultural heritage environment includes a range of activities that require a close connection to the sea and its resources. These are summarised in Table 3, with more detail provided in the EP.

Table 3: Summary of Socio-Economic and Cultural Values and Sensitivities

Value and Sensitivity	Description
Socio-Economic	
Coastal Settlements	<p>The closest Tasmanian coastal settlement to the operational areas is King Island, located approximately 28 km to the east of T/49P. Approximately half of the population (of 1,617 people) live in the township of Currie located on the west coast, with the remainder in smaller townships and along the coastline from Wickham in the north to Grassy and Naracoopa in the east.</p> <p>The closest Victorian coastal settlement region to the operational areas is the shire of Moyne, located approximately 19 km to the north of VIC/P79. Moyne supports a population of 17,374 people.</p>
Offshore Exploration, Production and Development	<p>Although no other confirmed third-party petroleum exploration or drilling activities are planned within the operational areas during the Otway Exploration Drilling Program, a number of other petroleum activities within the Otway Basin are either occurring, such as long-term operations, or are considered reasonably foreseeable. These have been included in the assessment of impacts and cumulative impacts in the EP.</p>
Offshore Renewables and Other Infrastructure	<p>No confirmed offshore renewable energy projects overlap the operational areas; however, there are two proposed offshore wind farm projects in the feasibility stages of development overlapped by the operational area of VIC/P79. These areas represent proposals for feedback only and have not been “declared to be suitable” by the Australian Government.</p> <p>The Indigo-central subsea telecommunications cable connecting Perth to Sydney runs in an easterly-westerly direction to the north of King Island and overlaps with the T/49P operational area.</p> <p>The Victorian Desalination Plant, located at Wonthaggi, is approximately 200 km northeast of the T/49P operational area.</p> <p>Aquaculture facilities operate nearshore sub-surface seawater intakes along the Victorian coastline and on King Island.</p>
Defence Activities	<p>The South-east Marine Region is important for a range of defence activities particularly training exercises. Australian Defence Force (ADF) activities in the region include transit of naval vessels, training exercises, shipbuilding and repair, hydrographic survey, surveillance, enforcement, and search and rescue (DoE 2015b).</p> <p>No defence practice, training or protected areas were identified within the operational area; however, the potential presence of unexploded ordnance was identified, and risk assessed.</p>
Shipping	<p>The South-east Marine Region (which includes Bass Strait) is one of the busiest shipping regions in Australia.</p> <p>Shipping consists of international and coastal cargo trade, passenger services and cargo and vehicular ferry services across Bass Strait. Commercial vessels use the route when transiting between ports on the east, south and west coasts of Australia, and there are regular passenger and cargo services between mainland Australia and Tasmania.</p> <p>The EMBA overlaps the majority of the South-east Marine shipping region, with the main shipping route running through the VIC/P79 operational area.</p>
Tourism	<p>The King Island tourism sector is estimated to generate \$5 million in annual economic output, contributing to a total output from the King Island economy of \$190.6 million. King Island is renowned for its fresh produce, recreational activities including fishing, surfing, kiteboarding and golf. Tourism employed 34 people representing 4.9% of King Island employment in 2013.</p> <p>In Victoria, a total of 53.9 million domestic visitors visited the region, however, these levels are only 88% of the pre-pandemic numbers (Business Victoria, 2023). The Great Ocean Road tourism region in particular places enormous importance on the coastal and marine environment, including whale watching, recreational diving, surfing and fishing. The 2018/2019 season employed 13,100 people in tourism, or 19% of workers in the region (Business Victoria 2023).</p>

Table 3: Summary of Socio-Economic and Cultural Values and Sensitivities

Value and Sensitivity	Description
Commonwealth Managed Fisheries	<p>The following Commonwealth managed fisheries have recorded fishing in the EMBA in the last 10 years. Details are provided below regarding the overlap with operational areas:</p> <ul style="list-style-type: none"> • Southern and Eastern Scalefish and Shark Fishery (SSESF) – The operational areas overlap areas of low, medium and high Shark Gillnet sub-sector fishing intensity (recorded 2016-2021) by approximately 1.54%, 0.52% and 0.77% respectively; with no known catch recorded for the Shark Hook sub-sector or Scalefish Hook sector within operational areas; the operational areas overlap areas of low Commonwealth Trawl Sector (CTS) intensity fishing in T/49P (<0.5 hours/km²) and low and medium intensity fishing in VICP/79 (recorded 2016 and 2021). • Southern Squid Jig Fishery (SSJF) – The VICP/79 operational area overlaps areas of low, medium and high fishing intensity (recorded 2016-2021) by approximately 15.95%, 25.01% and 36.1% respectively. • Bass Strait Central Zone Scallop Fishery (BSCZSF) – No known catch recorded within operational areas. • Eastern Tuna and Billfish Fishery (ETBF) – No known catch recorded within operational areas. • Southern Bluefin Tuna Fishery (SBTF) – No known catch recorded within operational areas. • Small Pelagic Fishery (SPF) – No known catch recorded within operational areas.
State-Managed Fisheries	<p>The following State-managed fisheries have recorded fishing in the EMBA in the last 10 years. Details are provided below regarding the overlap with operational areas:</p> <ul style="list-style-type: none"> • Victorian-managed fisheries: <ul style="list-style-type: none"> - Southern Rock Lobster – The operational areas overlap 11 of the 53 reporting blocks recording vessel activity within the SRL fishery, nine of which report <5 vessels. The remaining blocks range between five and seven vessels. - Giant Crab – 28 reporting grids overlap operational areas. However, catch and effort data is not available due to low number (<5) operators. - Multi-Species Ocean – Limited data is available due to confidentiality as there are less than five active fishers. - Octopus – 2 reporting grids overlap the northern extent of the VICP/79 operational areas. Catch and effort data is not available due to the low number of operators (<5). - Abalone, Eel and Pipis – No overlap with operational areas. - Scallop, Sea Urchin and Wrasse – No known catch recorded within operational areas. • Tasmanian-managed fisheries: <ul style="list-style-type: none"> - Southern Rock Lobster – 17 reporting grids overlap the T/49P operational area. However, catch and effort data is not available due to the low number of operators (<5). - Giant Crab – 10 reporting grids overlap the T/49P operational area. However, catch and effort data is not available due to the low number of operators (<5). - Abalone, Commercial Dive and Marine Plants – No overlap with operational areas. - Octopus, Scalefish and Scallops – No known catch recorded within operational areas. • South-Australian managed fisheries: <ul style="list-style-type: none"> - Abalone, Charter boat, Giant Crab, Marine Scalefish, Miscellaneous, Sardine and Rock Lobster – No overlap with operational areas • NSW-managed fisheries: <ul style="list-style-type: none"> - Abalone, Lobster, Ocean hauling, Ocean trap & line, Southern fish trawl, Ocean trawl, Sea urchin and turban shell restricted fishery and S37 permit – No overlap with operational areas.

Table 3: Summary of Socio-Economic and Cultural Values and Sensitivities

Value and Sensitivity	Description
Cultural Heritage	
Maritime Archaeological Heritage	<p>The Australasian Cultural Heritage Database lists hundreds of wrecks both historic (>75 years old) and non (< 75 years old) within the EMBA. During consultation it was identified that, although no wrecks are identified within the operational areas, it is considered possible that unidentified shipwrecks and aircraft may be present. Many of the positions provided in the database, including those near the operational areas, are not the known position but are the centre point of an area within which a shipwreck may be located.</p> <p>In addition to the general protection provided by the Underwater Cultural Heritage Act 2018, there are a number of shipwrecks within Australia which have established protected zones. Zones may be established for a number of reasons including conservation, management, or public safety considerations. Within the EMBA there are four shipwrecks with established protection zones.</p>
First Nations Heritage	<p>The Otway Exploration Drilling Program is located within western Bass Strait which is the marine environment between mainland Australia and Tasmania. Bass Strait was formed during the last glacial period, between 110,000 and 12,000 years ago. Sea Country is of First Nations cultural heritage significance. Although this area is now submerged, it had been occupied for thousands of years (Biosis 2023).</p> <p>The South-east Regional Marine Plan Assessment Report titled 'Sea Country – an Indigenous perspective', states "As on land, saltwater country contained evidence of the Dreamtime events by which all geographic features, animals, plants and people were created. It contained sacred sites, often related to these creation events, and it contained tracks, or Songlines along which mythological beings travelled during the Dreamtime. The sea, like the land, was integral to the identity of each clan, and clan members had a kin relationship to the important marine animals, plants, tides and currents." "In addition, 'Indigenous peoples still relate to land that was inundated by sea during the last ice age and regard it as their own."</p> <p>ConocoPhillips Australia is aware of First Nations peoples' connection to coastal areas, totem species and Sea Country and will support the development of a Cultural Heritage Protection Program (CHPP) that will be co-designed with First Nations cultural heritage advisors and indigenous communities, to protect cultural values and sensitivities (CM05).</p> <p>We are aware of the following Indigenous Protected Areas and Consultation Areas in Victoria, within the EMBA:</p> <ul style="list-style-type: none"> • The Deen Maar Indigenous Protected Area (IPA) dedicated in 1999. This IPA covers 453 hectares of rolling sand dunes, limestone ridges, a river, lake and wetlands and is located on the south-west coast of Victoria near the town of Yambuk. • The Gunditjmara Sea Country Indigenous Protected Area (IPA) Consultation Area (Gunditj Mirring Traditional Owners Aboriginal Corporation with Eastern Marr Aboriginal Corporation). The consultation project aims to support Indigenous-led consultation with Traditional Owners and other stakeholders, management planning, and on-sea/on-land management. • The Nanjit to Mallacoota Sea Country IPA Consultation Area (Gurnaikurnai Land and Waters Aboriginal Corporation), in coastal waters of the Gippsland region in Victoria. The area comprises numerous marine and coastal parks and includes the Ramsar listed Gippsland Lakes and Raymond Island, a highly significant cultural site. <p>We are aware of the following Indigenous Protected Areas In Tasmania, within the EMBA:</p> <ul style="list-style-type: none"> • The Preminghana IPA covering 524 hectares of land to protect historic Aboriginal engraving sites and the endangered Preminghana daisy, dedicated in 1999. • The Babel Island IPA, located to the east of Flinders Island, with Australia's largest mutton bird rookery, dedicated in 2009. • The Badger Island IPA dedicated in 2000. • The Lungatalanana (Clarke Island) IPA, being the third largest of the Furneaux islands, dedicated in 2009. • The Mount Chappell Island IPA dedicated in 2000 with mutton bird rookeries accommodation for community members. • Big Dog Island, an important mutton-birding island located to the south of Flinders Island, dedicated in 2009.

Table 3: Summary of Socio-Economic and Cultural Values and Sensitivities

Value and Sensitivity	Description
Cultural Heritage	
Native Title	<p>The Native Title Act 1993 (Cth) is a law that was passed by the Australian Parliament which recognises the rights and interests of Aboriginal and Torres Strait Islander people in land and waters according to their traditional laws and customs.</p> <p>Within the EMBA in Tasmania, there are no registered native title claims.</p> <p>Within the EMBA in Victoria, native title has been recognised to:</p> <ul style="list-style-type: none"> • the Gunditjmarra people (in 2007) • the Gunaikurnai people (in 2010) • the Gunditjmarra and the Eastern Maar people (in 2011) • the Eastern Maar people (in 2023) <p>Two other active claims exist where there is currently no registration or determination, including:</p> <ul style="list-style-type: none"> • the Boonwurrung People (2021) • the Wadawurrung People (2022) <p>Within the EMBA in South Australia, a registered claim exists from 2017 over the south east coast (19,681 km²) of South Australia near the Victorian border by the First Nations of the South East. There is currently no determination registered over the area of the claim in the National Native Title Register.</p> <p>Within the EMBA in New South Wales, a registered claim exists from 2017 over the south coast land and waters (16,808 km²) by the South Coast people. There is currently no determination registered over the area of the claim in the National Native Title Register.</p>

Summary of Environmental Assessment

The Environment Regulations require that the EP details and evaluates the environmental impacts and risks for the activity and demonstrates that the impacts and risks of the activity will be reduced to as low as reasonably practicable and acceptable levels, providing details of the control measures to be used to achieve this.

The ConocoPhillips Australia environmental impact and risk assessment methodology provides a structured and comprehensive process for identifying, assessing and managing environmental impacts and risks. The methodology aligns with ConocoPhillips Australia's Risk Management Procedure which is part of ConocoPhillips Australia's Health, Safety and Environmental Management System (HSEMS). The methodology meets the requirements of the Environment Regulations and is consistent with:

- Australian and New Zealand Standard for Risk Management (AS/NZS ISO 31000:2018, Risk Management – Principles and Guidelines)
- AS/NZS ISO 14001:2016: Environmental Management System (EMS) – Requirements with guidance for use
- UK offshore oil and gas industry guidance on risk-related decision making (Oil & Gas UK, formerly UKOOA, 2014)
- NOPSEMA's Environment Plan Decision Making Guideline (N-04750-GL1721, December 2022), and
- NOPSEMA's Environment Plan Content Requirements Guidance Note (N-04750-GN1344, September 2020).

Environmental aspects are an element of an activity that interacts or can interact with the environment.

Environmental aspects can have a direct impact on the environment, contribute only partially or indirectly to a larger environmental change or create a risk to one or more environmental receptors. Aspects can be planned (inherent part of the activity e.g., light) or unplanned (not part of the activity e.g., spills).

A summary of the planned and unplanned aspects identified for the Otway Exploration Drilling Program, and the determination of control measures, is provided below.

Environmental Impacts from Planned Aspects

The assessment of planned aspects has identified the following key topics for assessment:

- Interaction with Other Marine and Coastal Users
- Light Emissions
- Noise Emissions
- Seabed Disturbance
- Air Emissions
- Discharges

ConocoPhillips Australia has undertaken consultation during the preparation of the Otway Exploration Drilling Program EP to inform its understanding of relevant environmental values and sensitivities and to support the assessment of environmental impacts, risks and control measures.

Interference with Other Marine and Coastal Users

Other marine and coastal users, such as commercial and recreational shipping and fishing vessels, may be operating within the operational area during the activity. The movement of vessels or the presence of the MODU could interfere with these other users.

What are the possible impacts?

Exclusion zones will be established by ConocoPhillips Australia to support safe marine operations, minimising the risk of interactions with other marine users. These include a 500 m radius Safe Navigation Area (SNA) around seabed survey vessel(s) and any towed equipment, and a 500 m radius Petroleum Safety Zone (PSZ) and a 2 km radius cautionary zone around the MODU. Access to these areas by other marine users will be limited. Marine users will be notified e.g. notice to mariners, prior to the exclusion zones being enacted and again once the short-term temporary seabed survey and exploration drilling activities are completed and the exclusion zones are no longer in effect.

ConocoPhillips Australia has undertaken to assess the impacts associated with the visibility of the rig from the coast. Visibility modelling predicts that the tip of the derrick on the MODU may be visible from the Victorian or King Island coastline. Additionally, the main deck of the MODU may be visible from some locations along the coast when operating in the closest parts of the operational areas on a clear day. Impacts to visual amenity will be short-term, temporary and fully recoverable once the activities are completed.

How will ConocoPhillips Australia manage impacts?

ConocoPhillips Australia will implement a Marine and Coastal Users Consultation and Communication Plan for the activity to ensure that the outcomes of the NOPSEMA assessment are communicated to marine and coastal users and that during the activity relevant persons are informed about the progress of the activity and any changes. Specific notifications will be provided prior to vessel/MODU arrival in the operational areas and on departure, so the maritime industry is aware of petroleum activities.

A Safe Operations Guide will be developed and implemented detailing pre-activity and on-water communication processes, including SMS messages and radio communications on Channel 16.

In addition, an Adjustment Protocol will be negotiated with peak fishing associations to ensure that commercial fishers are not economically disadvantaged as a result of the activity. The protocol will also be developed in consideration of feedback from consultation with marine users who identified they could be potentially impacted.

These measures are consistent with legislative requirements, international standards and good practice guidelines, and reduce the consequences associated with interference to minor levels that are ALARP and acceptable.

Seabed Disturbance

Seabed disturbance occurs when activities interact with the seabed in some way, for example, when anchors are placed on the seabed or when sediment is collected as part of the seabed survey. The extent of direct seabed disturbance is predicted to be 0.006 km² per well, or 0.037 km² in total, located entirely within the operational areas.

What are the possible impacts?

The seabed within the operational areas is a mixture of unconsolidated calcareous ooze, calcareous sand and silt and a mixture of mud and sand with some rocky reefs. The diversity of species (such as invertebrates) in these areas is relatively high, but with patchy distribution and little evidence of distinct biogeographic regions. Extensive areas of rocky reefs or outcrops (where sponges, coral and more diverse fauna may be present) are unlikely to be present in the operational areas.

When the seabed is disturbed, e.g. during the placement of anchors, soft sediments can be suspended into the water column, resulting in a decrease in water quality or light penetration near the seabed. Given the hydrodynamics in open ocean areas, the area of decreased water quality is expected to be localised and temporary, as sediments settle out of the water column relatively quickly.

Following the removal of anchors and other equipment on the seabed, disturbed areas are expected to recolonise within weeks to a few months, and impacts are not predicted to be long-lasting.

If drilling were to occur within the multiple use zone of the Zeehan Marine Park, the potential impact area (0.006 km² at each well) is small compared to the size of the AMP (19,897 km²). Considering impacts to ecological receptors are localised, short-term and recoverable, no changes are predicted to the ecosystems, habitats, communities or sea-floor features which represent the conservation values of this Marine Park.

Commercially important seabed species, including giant crab and southern rock lobster, are mobile and are generally less vulnerable than sessile species to sedimentation, as they are able to move to areas with less sediment accumulation or by more efficiently physically removing particles. Due to the small area of seabed which may be disturbed within the wider extent of available fishing grounds, and the short duration of the activity, impacts to commercial benthic species are predicted to be localised and insignificant at a population level.

Disturbance of the seabed also has the potential to interfere with cultural heritage, being both maritime archaeology and First Nations values and sensitivities.

How will ConocoPhillips Australia manage the impacts?

Seabed surveys will be undertaken prior to finalising the MODU position and location of mooring equipment, and seabed equipment. Seabed relief and sensitive seabed features will inform the well location to minimise impacts to the benthic environment and sensitive receptors. At the end of drilling at each well, all equipment on the seafloor will be removed.

ConocoPhillips Australia will support the development of a Cultural Heritage Protection Program (CM05) in consultation with First Nations cultural heritage advisors and indigenous communities with Sea Country within or adjacent to the operational areas, to protect cultural values and sensitivities. This program includes the analysis of seabed survey data by suitably qualified persons to support the identification of priorities and measures to protect both maritime archaeology and First Nations cultural heritage values and sensitivities. This Program will provide benefits across all aspects of the activity, not just related to seabed disturbance.

These measures are consistent with legislative requirements, industry standards and good practice guidelines, and reduce the consequences associated with seabed disturbance to minor levels that are ALARP and acceptable.

Additionally, sediment samples collected to validate seabed survey data will be retained for onshore analysis, contributing to knowledge of the benthic environment in the Otway Basin.

Light Emissions

Lighting is required on vessels and the MODU for operational and navigation safety, and is mandatory under maritime regulations. In addition, well testing may be conducted should a gas discovery occur. Well testing involves short-term flaring, up to a maximum of 120 hours per well over intermittent periods, which would emit additional light.

The National Light Pollution Guidelines for Wildlife (CoA 2023) recommends that potential impacts to sensitive wildlife are assessed within 20 km of a vessel-based light source. ConocoPhillips Australia undertook light modelling for flaring, which conservatively estimated that a change in ambient light may be detectable out to 50 km.

What are the possible impacts?

Marine turtles, seabirds and migratory shorebirds and some socio-economic receptors and cultural features may be sensitive to additional light in the environment.

Marine fauna, particularly seabirds and shorebirds, may be attracted to light and can become disorientated resulting in more time at sea, interference with navigation and stranding or grounding. Birds that are most sensitive to light within 20-50 km of the operational areas include the nocturnally foraging common-diving petrel and the Critically Endangered orange-bellied parrot which may overfly an area of increased ambient light on migration. The National Recovery Plan for the Orange-bellied Parrot (2016) identifies that the behaviour of this species may be modified by the presence of barriers such as wind turbines and illuminated boats, with the impacts of barriers greatest where they occur on migration routes, though there is little more than anecdotal evidence to support this. During the exploration program, illuminated vessels and the MODU will not be conducting petroleum activities in areas that overlap the migration routes. Impacts associated with flaring, which will not occur within the migration route but rather may change ambient light in the area, will be temporary and of short duration (120 hours per well). Therefore, a change in ambient light is unlikely to cause behavioural changes or result in injury/mortality to the orange-bellied parrot.

During day-to-day operations, light from the vessels and the MODU will be indistinguishable from other marine traffic when viewed from the coast. When flaring is taking place, light levels viewed from the closest possible point on the coast will be equivalent to a quarter moon night sky.

How will ConocoPhillips Australia manage the impacts?

ConocoPhillips Australia will develop and implement a Light Management Plan in line with the National Light Pollution Guidelines for Wildlife, for the exploration program. Once safety navigational lighting requirements are met, the Light Management Plan will detail additional mitigations to ensure artificial lighting is reduced to minimum levels based on the information in the Seabird Light Mitigation Toolbox wherever practicable, whilst maintaining safe working conditions and navigation. Specifically, outwards facing lighting will be reduced to minimum levels, directions will be issued to MODU and vessel personnel to minimise non-essential lights (e.g. close blinds, turn lights off, etc.), and a rescue program will be implemented for grounded birds.

If flaring is needed, it will be limited to a maximum of 120 hours per well, and initial flaring events will commence during daylight hours. The timing of subsequent flaring events at each well will be determined by operational safety and testing requirements.

These measures are consistent with legislative requirements, international standards and good practice guidelines, and reduce the consequences associated with light emissions to minor levels that are ALARP and acceptable.

Air Emissions

Air emissions arise from the combustion of fuel to operate vessels, helicopters, the MODU and onboard equipment, and from flaring and venting. Air emissions include Greenhouse Gas (GHG) emissions (Scope 1 GHG emissions emitted during the exploration program) and non-GHG emissions. Air emissions can change localised air quality and contribute to national GHG emissions.

What are the possible impacts?

Changes to air quality will be rapidly dispersed and diluted by offshore winds to below measurable levels, in close proximity to emissions sources. These emissions are not predicted to impact on the health or amenity of the nearest human coastal settlements, nor affect seabirds overflying the activity.

Although emissions of GHGs such as carbon dioxide, methane and nitrous oxide during the activity will add to GHGs in the atmosphere, they are very small when compared to national emissions, insignificant on a global scale, and are not predicted to have determinable impacts.

How will ConocoPhillips Australia manage the impacts?

Air emissions will be limited through measures to ensure vessels, the MODU, and equipment are well maintained and optimised. Flaring will be limited to a maximum of 120 hours per well and the flaring system selected will aid in the reduction of emissions; Volumes flared will be recorded and combustion emissions calculated and reported, as required by relevant regulations.

These measures are consistent with legislative requirements, international standards and good practice guidelines, and reduce the consequences associated with air emissions to minor levels that are ALARP and acceptable.

Underwater Sound Emissions

Sound emissions can be categorised as:

- Non-impulsive, or 'continuous' sound which is monotonous in nature and typically present while that activity is undertaken. Non-impulsive sound will be generated by propellers, thrusters and equipment operation on the vessels and MODU, and by helicopters. These noises are typical of other marine activities in the region such as commercial shipping and fishing.
- Impulsive sound varies in tone or frequency, often rapidly. Impulsive sound sources from the activity include geophysical survey equipment, and short-term well evaluation techniques.

Modelling for a range of impulsive and non-impulsive sound sources was conducted by international experts to inform the assessment of impacts to the marine environment associated with the activity.

What are the possible impacts?

Noise in the marine environment can lead to permanent or temporary hearing impairment, and can behaviourally disturb sensitive fauna, with some of these species having identified cultural significance. Research into noise thresholds, which cause different impacts for different receptor groups, combined with the modelling undertaken for the activity, have been used to inform the assessment of impacts.

Fish and Marine Invertebrates

Non-impulsive sound is predicted to reach the levels associated with effects for some fish species within 10s of metres of sound sources. For effect thresholds to be exceeded, fish would have to remain continuously at those distances for either 12 hours (temporary injury threshold) or 48 hours (recoverable injury threshold). Although there are no threshold criteria relevant to marine invertebrates for non-impulsive sound, there is the potential for sub-lethal impacts.

Fish and benthic invertebrates may be sensitive to impulsive sound during well testing, however, the short duration (maximum 20 hours per well), along with the likelihood of negative affect being restricted to within a few hundred metres of the source, reduce the potential for impacts to these species. Further, fish are expected to exhibit avoidance behaviour and swim away when sound reaches levels which may cause physiological effects.

Marine Turtles

Marine turtles are expected to be transient in the area due to the absence of biologically important behaviours or critical habitat. Consequently, permanent and temporary injuries, which occur as a result of prolonged exposure, are not predicted.

Birds

Most seabirds, including penguins, are generally shallow divers and utilise surface waters where the acoustic signals destructively interfere with the sea surface, resulting in much lower sound exposure compared with deeper waters. Consequently, birds are not expected to be affected by above or below water noise.

Marine Mammals

Marine mammals are sensitive to changes in sound in the marine environment as they use sound for important behaviours such as communicating and echolocation. Modelling recognises the different hearing levels or thresholds of different species and groups, relevant to their hearing ranges, to help inform the assessment process. The most sensitive species are low-frequency hearing cetaceans, such as the Endangered southern right whale and blue whale. For these low-frequency species, injury as a result of underwater sound is not predicted to occur; however, they could be behaviourally disturbed. ConocoPhillips Australia has undertaken detailed assessment of the largest extent of possible impacts over biologically important areas to ensure that underwater sound emissions do not impact on the recovery of blue whales and southern right whales, or on biologically important behaviours of other species. These measures will be implemented and evaluated for effectiveness throughout the exploration program.

How will ConocoPhillips Australia manage the impacts?

ConocoPhillips Australia has developed and will implement a Whale Management Plan. Specific controls include:

- Dedicated marine mammal observers, who will monitor for marine mammals, report detections and provide oversight of the implementation of adaptive management measures.
- A decision making framework to support the commencement of specific activities based on detections during daylight and pre-activity surveys, including night-time and low visibility controls.
- Safe operating distances between vessels and marine mammals, and
- Safe points for operational activities.

Further, the implementation of the Cultural Heritage Protection Program (CM05) may support the development of additional mitigation strategies for culturally important species that may be sensitive to underwater sound.

The measures detailed in the Whale Management Plan are consistent with conservation and recovery plans and conservation advice for potentially affected species and good practice guidelines, and reduce the consequences associated with underwater sound to minor levels that are ALARP and acceptable.

Discharges

Activities conducted as part of the Otway Exploration Drilling Program will result in discharges to the marine environment including:

- Drilling discharges, such as drill cuttings and fluids, cements, and other minor discharges such as hydraulic fluid.
- Operational discharges from vessels and the MODU (such as cooling water, brine, putrescible waste, grey water and sewage), with small volumes released to surface water, as done by most commercial offshore vessels.

What are the possible impacts?

The release of drilling discharges to the seabed and sea surface will result in localised and temporary changes in water quality, sediment quality and habitat composition. Drilling discharges are of low toxicity and will quickly dissipate in the water column or disperse on the seafloor. Consequently, impacts are expected to be short-term, localised to smaller areas within 2 km of each well, and recoverable.

Operational discharges will cause localised and temporary changes in water quality, with extensive research showing impacts are limited to 500 m from the discharge source. Marine fauna and plankton within 500 m of the MODU or vessels could experience a change in behaviour e.g. increased foraging due to elevated nutrient levels, however, the small volumes and dynamic nature of the marine environment means any impacts will be short-term, localised and recoverable.

Discharges are expected to be dispersed and diluted rapidly within the offshore waters of the Otway Basin.

How will ConocoPhillips Australia manage the impacts?

Discharges to offshore waters are to be managed to acceptable levels as regulated by maritime laws and conventions, such as MARPOL and relevant Marine Orders.

ConocoPhillips Australia will implement a chemical selections procedure which requires that all chemicals used that may be discharged to sea are environmentally acceptable by national and international standards, based on their toxicity, biodegradation and potential to bioaccumulate.

These measures are consistent with legislative requirements, international standards and good practice guidelines, and reduce the consequences associated with planned discharges to minor levels that are as low as reasonably practicable and acceptable.

Environmental Risks from Unplanned Events

In the course of preparing the EP, ConocoPhillips Australia identified possible unplanned events which could occur during the activity. These include:

- Loss of material or waste overboard
- Invasive Marine Species (IMS)
- Interaction with marine fauna
- Accidental release of hydrocarbons

Loss of Materials or Waste Overboard

While undertaking the activity there is a remote likelihood that small quantities of waste or other materials may be lost to the marine environment, e.g. litter blowing over the side of a vessel, solid objects dropped during transfer operations and floating or sinking to the seafloor, or small uncontained spills. These types of events have been heard of within the industry and are known to occur during other offshore marine activities such as shipping and commercial fishing.

What are the possible impacts?

Wastes and materials lost overboard could result in a change in water quality, a change in benthic habitat, present a risk to marine fauna of entanglement or ingestion, or create a navigational hazard to other vessels.

How will ConocoPhillips Australia manage the impacts?

Vessel management systems addressing dropped objects, waste storage, and chemical selection, handling and storage are well practised and well understood. Processes will be in place to ensure standards for carriage, stowage and securing of cargos and waste management are met and support vessels can undertake to retrieve objects where safe to do so.

These measures are consistent with legislative requirements, international standards and good practice guidelines, as well as relevant conservation management and recovery plans and conservation advice, reducing the residual risk to low levels that are ALARP and acceptable.

Interactions with Marine Fauna

Vessels, the rig and aircraft may have limited manoeuvrability during particular activities. During these periods there is a remote likelihood of interactions with marine fauna such as vessel collision and aircraft collision. These types of interactions have been heard of within the industry and are known to occur during other offshore marine activities such as shipping and commercial fishing.

What are the possible impacts?

Large or slow-moving marine fauna that commonly dwell near the surface and frequent areas associated with a high level of vessel traffic are the most susceptible to vessel collision. In the operational areas, this includes threatened and migratory cetaceans and marine turtles. Additionally, seabirds are at risk of colliding with surface infrastructure, for example the derrick on the MODU, or with aircraft. Some of these species have identified cultural significance.

The risk of collision between fauna and a vessel depends on the vessel speed, with fast moving vessels less likely to be able to take evasive action and more likely to have serious consequences. When vessels are stationary or slow moving, such as the vessels undertaking activities within the operational areas, the risk of collision is extremely low. Birds have been known to collide with surface infrastructure and be attracted and/or disoriented by lights.

How will ConocoPhillips Australia manage the impacts?

ConocoPhillips Australia will adhere to legislative requirements regarding vessel distances from fauna, as described in the EPBC Regulations (Part 8 Division 8.1 interacting with cetaceans) and will implement speed restrictions and an increased caution zone of 500 m between whales and vessels, to ensure cetaceans are not harmed during offshore activities. The ConocoPhillips Australia Whale Management Plan includes measures to limit impacts to marine mammals and the presence of marine mammal observers on vessels will provide for early detection of cetaceans in the area.

The ConocoPhillips Australia Light Management Plan will include measures to minimise light impacts, and vessel and MODU crew will be provided guidance for responding to and reporting grounded birds. Further, the implementation of the Cultural Heritage Protection Program (CM05) may support the development of additional mitigation strategies for culturally important species that may be at risk of vessel and aircraft strike.

These measures are consistent with maritime legislation, conservation and recovery plans and conservation advice for potentially affected species, and reduce the risk of interactions with marine fauna to low levels that are ALARP and acceptable.

Introduction and Establishment of Invasive Marine Species

Invasive Marine Species (IMS), or marine pests, include marine plants or animals that have been introduced to an area where they do not normally occur, and become established and spread. These species have the potential harm Australia's marine environment and dependent industries.

The introduction and translocation of IMS within Australian waters may occur as a result of ballast water discharges or from biofouling on vessels and submerged equipment.

What are the possible impacts?

The establishment of IMS in the Otway Basin could affect marine invertebrates and associated benthic habitats, protected marine areas and commercial fisheries. Successful establishment in a new environment depends on water currents, upwellings, habitat type, water depth, wave exposure, water temperature, salinity and the distance from the coast; with most species preferring shallow disturbed waters, such as those found in ports, and hard rocky substrates. The benthic environment within the operational areas does not represent favourable habitat given the deep, well mixed waters away from coastal habitats.

How will ConocoPhillips Australia manage the impacts?

Vessel management systems addressing IMS risks are well practiced and well understood. ConocoPhillips Australia's marine assurance process and IMS risk assessment process will ensure that vessel contractors adhere to maritime legislation and national and international requirements for the management of ballast water and biofouling, reducing the risk of introduction, establishment and spread of IMS to low levels that are as low as reasonably practicable and acceptable.

Accidental Release of Hydrocarbons

The OPGGS Act requires titleholders to prevent the escape of petroleum to the environment from their activities. Failure to prevent the escape of petroleum is an offence. Although extremely unlikely to occur, all offshore operations do carry a risk of an unplanned hydrocarbon release. Detailed risk assessment and response planning is required prior to activities occurring.

As described earlier in this EP summary (section: Environment That May Be Affected), modelling of worst-case credible spill scenarios has been conducted to provide an informed estimate of where hydrocarbons might go if nothing is done to respond, and supports the prediction of possible effects. Hundreds of hypothetical individual spills (1400 in this case) are simulated for each worst-case scenario to show where hydrocarbons from a spill could go under different metocean conditions (such as currents, wind, waves and temperature).

For the Otway Exploration Drilling Program, the worst-case spill scenarios have been defined as:

- A marine diesel spill from a vessel collision or during refuelling; and
- A Loss of Well Control (LOWC), assuming the failure of multiple control systems.

Other minor spills could occur from hose failures, incorrect handling procedures, or mechanical failures, etc.

ConocoPhillips Australia has also prepared a detailed information sheet on Unplanned Hydrocarbon Releases, available via the Resource Library on the online consultation hub. Visit the online consultation hub by scanning the QR Code.



What are the possible impacts?

Hydrocarbons in the marine environment will affect water quality, which can have knock-on effects for all marine fauna and flora. These impacts can be due to ingestion of contaminated water, or from contact with hydrocarbons i.e. coating skin or feathers. Wider ecosystem impacts can occur if the spill is large or affects a sensitive population, habitat or location.

If hydrocarbons reach coastal waters, or are washed up onto the shoreline, they could affect coastal habitats and require remediation.

Other marine and coastal users, such as shipping, fishing and tourism, could be impacted by a hydrocarbon release when exclusions are put in place during response efforts. Fisheries can also be affected by tainting of fish stocks in extreme circumstances.

How will ConocoPhillips Australia manage the impacts?

ConocoPhillips Australia will ensure that all contractors adhere to national and international requirements regarding spill prevention and response, including maintaining response plans, equipment and training.

Maritime notifications will ensure marine users are aware of the presence of the exploration program, including any operational exclusion zones, reducing the risk of collision. The rig and vessels will have automatic identification systems and will meet navigational lighting requirements to support detection at sea, and support vessels will establish communications with nearby vessels.

Operational and preventative maintenance procedures are well practiced and well understood and minimise the likelihood of spills occurring. The well design and delivery process is conducted in accordance with international, national, industry and corporate standards; and processes and equipment that support well integrity are monitored to ensure effectiveness throughout the activity.

ConocoPhillips Australia has developed an Oil Pollution Emergency Plan for the Otway Exploration Drilling Program in consultation with state control agencies, and has prepared an Operational and Scientific Monitoring Program (OSMP) to inform initial response activities and monitor the environment through to recovery. In the highly unlikely event of a spill, the response, including implementation of these plans, will include integration with local, national and international response organisations to mobilise resources, including experts and specialist equipment.

The implementation of the Cultural Heritage Protection Program (CM05) may support the development of additional mitigation strategies for culturally important species that may be at risk in the extremely unlikely event of a spill.

These measures are consistent with legislative, international and national standards and good practice guidelines, and reduce the risks associated with hydrocarbons releases to medium levels that are ALARP and acceptable.

Implementation

The ConocoPhillips Australia Health, Safety and Environmental Management System (HSEMS) includes specific measures that will be used to ensure that, for the duration of the activity:

- The environmental impacts and risks of the activity continue to be identified and reduced to a level that is as low as reasonably practicable (ALARP), and
- Control measures detailed in the EP are effective in reducing the environmental impacts and risks of the activity to ALARP and acceptable levels, and
- Environmental performance outcomes and standards set out in the EP are being met.

Consultation and Next Steps

ConocoPhillips Australia formally commenced consultation for the Otway Exploration Drilling Program in February 2023 to support the preparation of the EP. ConocoPhillips Australia has carried out a range of activities to:

- Identify relevant persons and raise awareness of the proposed Otway Exploration Drilling Program to support the self-identification of relevant persons.
- Provide information about the activity and its potential impacts and risks, so individuals and organisations can determine if they have functions, interests or activities that may be affected by the proposed activity, and wish to be consulted as a relevant person.
- Provide relevant persons with sufficient information and reasonable time, so they can make an informed assessment of the possible consequences of the proposed activity on their functions, interests and activities.
- Receive and respond to feedback, including objections and claims.
- Make appropriate changes in response to objections and claims, appropriate, to improve the environmental management of the activity..

ConocoPhillips Australia also made the draft EP chapters available to support consultation and the identification of further relevant persons, and so that relevant persons could provide further feedback to inform the preparation of the EP.

Consultation in the preparation of the EP was completed in October 2023, which enabled ConocoPhillips Australia to consolidate the valuable information provided by relevant persons and ensure it was properly reflected in the EP, prior to submission to NOPSEMA for public comment. ConocoPhillips Australia will continue to communicate with relevant persons throughout the public comment process. Once the EP is accepted, ongoing consultation procedures are in place, outlined in the EP, to ensure relevant persons remain up to date and informed throughout the life of the activity.

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