Marine Mammals

ConocoPhillips Australia is planning to undertake exploration activities in offshore permits VIC/P79 and T/49P located in Commonwealth waters. 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 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 exploration permits VIC/P79 and T/49P located in Commonwealth waters offshore of Victoria and King Island, Tasmania.

ConocoPhillips Australia has commenced the preparation of an Environment Plan that will seek approval for this exploration drilling program to be undertaken. Drilling commencement is dependent on regulatory approval and drilling rig availability. The initial activity will be seabed surveys which will commence no earlier than January 2024.

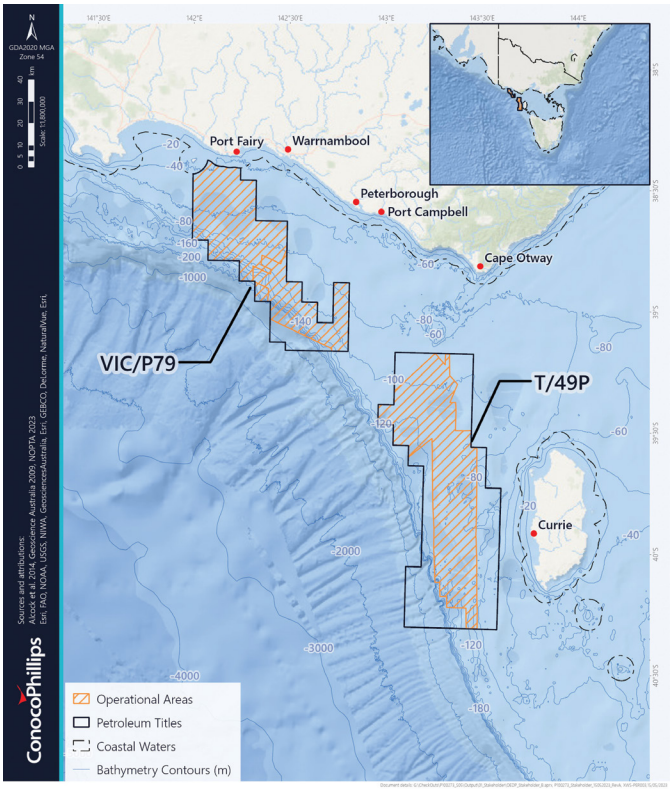
We are committed to ensuring that marine mammals can continue to undertake biologically important behaviours in the offshore environment, with no unacceptable impacts to critical life-cycles stages or population characteristics because of the Otway exploration drilling program.

This information sheet summarises the ongoing assessment of potential impacts and risks to marine mammals arising from exploration activities.

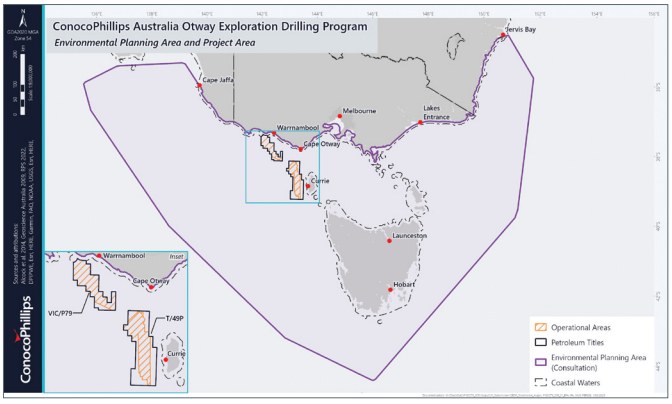
Figure 1 below shows the permit areas, the operational areas within which exploration activities may occur, and the Environmental Planning Area that has been applied to ensure that far ranging environmental values and sensitivities are appropriately identified and considered.

Map of Permit Areas

Figure 1



Environmental Planning Area Map



KEY INFORMATION

- ConocoPhillips Australia is planning to undertake an exploration program in the Otway Basin and is preparing an Environment Plan which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for public comment and assessment. Any decision to proceed to development will be dependent on a conducive investment environment.
- The EP will include an assessment of potential impacts and risks to marine mammals that might arise from the exploration program.
- A preliminary assessment of impacts and risks to marine mammals has identified that:
  - Several species of whales, dolphins and seals are typically found in the Otway Basin, many of which exhibit biologically important behaviours such as foraging.
  - Marine mammals are particularly sensitive to the effects of underwater noise which has the potential to result in hearing impairment, stress, and changes in behaviour at a range of effect distances.
  - Where underwater noise has the potential to affect biologically important behaviours of threatened species, effective control measures will need to be in place.
- The purpose of this information sheet is to provide details of potential impacts and risks that have been identified, as well as the measures proposed to reduce those impacts and risks, to support consultation prior to the submission of the Environment Plan.
- If you would like to ask questions or provide feedback, see the contact details at the end of the information sheet.

Marine Mammals in the Area

Under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) all cetaceans (whales, dolphins and porpoises) are protected in Australian waters. There are several species of whales, dolphins and seals typically found in the Otway Basin, including species that are listed as nationally threatened under the EPBC Act 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). In addition, some species are known to undertake biologically important behaviours, such as foraging, calving and migration, within the Environmental Planning Area, including:

- Southern right whales
- Blue whales
- Humpback whales
- Sperm whales
- Indian Ocean/Indo-Pacific/ spotted bottlenose dolphins, and
- Australian sea lion

Potential Interactions with Marine Mammals

The preliminary environmental impact and risk assessment has identified aspects of exploration activities that have the potential to impact, or pose a risk to, marine mammals as shown below.

Aspect	Potential for impact to marine mammals
Underwater Sound	Moderate consequence to some whale species
Interactions with Marine Fauna	Low risk of vessel collision with marine mammals
Loss of Material or Waste Overboard	Low risk of entanglement from loss of material overboard
Accidental Release of Hydrocarbons	Medium risk rating to marine mammals

Impacts and risks vary for different species. Impacts that have the potential to result in moderate consequences, and risks that have an inherent risk rating of medium, are discussed in more detail below.

Underwater Sound

Marine mammals, particularly cetaceans (i.e., whales and dolphins) rely on hearing as their principal sense for navigation, communication and/or hunting and can be extremely vulnerable to noise created by humans. The effects of underwater sound can include hearing impairment, stress and changes in behaviour from sounds that mask environmental noise. Each species of marine mammal has a different sensitivity to underwater noise and whales and dolphins can be classified into low, high and very high frequency cetaceans based on their hearing (Note: No species of very-high frequency cetaceans are expected to be present within the Environmental Planning Area).

The occurrence and significance of a change in behaviour varies by individual, species and circumstances. Some sounds may not cause any response, while others may result in minor to significant changes in a variety of behaviours, such as diving, surfacing, vocalizing, feeding or mating.

To assess the potential effects of a sound-producing activity, it is necessary to first establish the sound levels that may affect marine mammals. Due to the variety of species considered, sound levels are analysed and evaluated against effects including mortality, injury, temporary reduction in hearing sensitivity and behavioural disturbance.

The temporary loss of sensitivity is called a temporary threshold shift (or TTS). As the sound exposure increases, threshold shift will eventually become permanent, and this effect is called a permanent threshold shift (or PTS). Permanent threshold shift can occur because of repeated occurrences of temporary threshold shift, or because of a single exposure to a very intense sound.

Noise Modelling

ConocoPhillips Australia has commissioned a modelling study of underwater sound levels associated with the Otway exploration drilling program to inform the impact assessment process. The study predicts the distances over which exploration activities have the potential to impact marine mammals, known as the 'effect distance'. The sound from a range of activities is typically assessed, including those with the most significant predicted impacts. The preliminary results from the impact assessment are presented in Table 1.

Table 1: Predicted impacts of underwater noise to marine mammals

Species	Worst-case predicted impacts for currently identified activities
Low frequency cetaceans *(e.g., Humpback whales, Blue whales and Southern right whales)*	• Short-term behavioural changes within 12.6 km from the noise source during resupply whilst drilling and vessel on standby at locations on the continental shelf. This distance is predicted to increase in the offshore direction when activities occur close to the shelf break. • Temporary threshold shift within 3.6 km and permanent threshold shift within 320 m of the noise source for the short duration of mooring activities. • No mortality.
High frequency cetaceans *(e.g., Pygmy sperm whale and Dwarf sperm whale)*	• Short-term behaviour changes within 12.6 km from the noise source for specific activities. • Temporary threshold shift within 160 m and permanent threshold shift within 60 m from the noise sources during resupply whilst drilling and vessel on standby. • No mortality.
Pinnipeds *(e.g. Australian sea lion)*	• Short-term behaviour changes within 12.6 km from the noise source for specific activities. • Temporary threshold shift within 100 m and permanent threshold shift within 60 m from the noise source during drilling with resupply and vessel on standby. • No mortality.

Hydrocarbon Release

Although an accidental hydrocarbon release has been determined to be highly unlikely to occur, the potential impacts are assessed to ensure appropriate mitigation measures and response plans are in place. In the event of an accidental release, hydrocarbons may be found on the surface of the water, at various water depths through the water column and eventually on the shoreline, meaning that a range of marine species may be affected in the highly unlikely event that this occurs. Potential impacts may occur from external as well as internal exposure to hydrocarbons. The severity of impacts would be highly dependent on the hydrocarbon characteristics as well as the species lifestyle characteristics.

An accidental release of hydrocarbons can result in a change in water quality that may result in injury or mortality to marine mammals and changes in behaviour. If an incident occurred, impacts would largely be restricted to the upper water column and are expected to be restricted to individual fauna and unlikely to impede the recovery of a protected species.

As the risk of an accidental release of hydrocarbons cannot be completely eliminated, detailed response plans for credible spills are required to be developed to demonstrate preparedness in the extremely unlikely event a spill occurs. These plans are reviewed with state control agencies and must be accepted by the independent regulator, NOPSEMA. In the highly unlikely event of a spill, the response will include integration with local, national and international response organisations to mobilise resources including experts and specialist equipment.

Reducing impact

The objectives of the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations (2009) are to ensure that any petroleum activity is carried out in a manner that is consistent with the principles of ecologically sustainable development as set out in section 3A of the EPBC Act. Additionally, these activities must be carried out in a manner that reduces the environmental impacts and risks associated with them to as low as reasonably practicable (ALARP), while also ensuring that any remaining environmental impacts and risks are at an acceptable level.

These objectives are critical to the protection of the marine environment and marine ecosystems from negative impacts associated with offshore petroleum activities. The principles of ecologically sustainable development promote the responsible use of natural resources and emphasise the need to consider the long-term impacts of human activities on the environment.

Reducing environmental impacts and risks associated with offshore petroleum activities to ALARP is an important aspect of responsible and sustainable business practices in the offshore petroleum industry. This involves identifying potential environmental impacts and risks associated with an activity, implementing measures to minimise those impacts and risks, and continually monitoring and evaluating the effectiveness of those measures.

Ensuring that any remaining environmental impacts and risks are at an acceptable level is also critical to protecting the marine environment and marine ecosystems. This involves establishing acceptable environmental standards and thresholds for specific activities and ensuring that the environmental impacts and risks associated with an activity do not exceed those standards and thresholds.

Through the development of the Environment Plan and during consultation, ConocoPhillips Australia will identify and evaluate mitigation and management measures to minimise potential impacts to protected species, particularly during periods of peak biological importance. However, given the diversity of biologically important activities with differing peak periods, there is no perfect window where exploration activities can occur without the potential for impact in the absence of effective controls.

Examples of mitigation measures that will be implemented are listed below:

- Vessels will comply with EPBC Regulations 2000 – Part 8 Division 8.1 interacting with cetaceans which requires vessels to adhere to an increased caution zone of 500 m between whales and vessels.
- All activities will comply with a Marine Mammal Adaptive Management Procedure outlining specific actions to minimise impacts from anthropogenic noise in accordance with:
  - Conservation Management Plan for the Blue Whale, and
  - Conservation Management Plan for the Southern Right Whale.
- Activity-specific emergency preparedness and response plans and capability will be in place prior to activity commencement.

Questions

and Answers

How will ConocoPhillips Australia determine when and where drilling will occur?

Drilling commencement is dependent on regulatory approval and drilling rig availability. The initial activity will involve seabed surveys and will commence no earlier than January 2024.

Specific locations for seabed surveys and exploration drilling are yet to be confirmed. 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 within petroleum titles T/49P and VIC/P79. This ensures that the impacts and risks associated with all potential survey and drilling locations are assessed.

ConocoPhillips Australia continues to interpret available data to prioritise and select final drilling locations with the highest likelihood of success. This process involves a careful balance of science, economics, and risk management to ensure that drilling efforts are safely executed with minimal impact to the environment.

How is ConocoPhillips Australia ensuring the ongoing protection of endangered species?

ConocoPhillips Australia has been conducting marine mammal surveys since 2021 to produce contemporary data that supports effective decision-making in the Otway Basin. This research continues to improve knowledge on the presence/absence, distribution and behaviours of key species during and outside of known peak seasons. Data is made available to government agencies and research organisations and can be made available to other commercial operators in the region through a memorandum of understanding.

ConocoPhillips Australia is an advocate for community-based research programs with the Dolphin Research Institute, who are expanding their Two Bays Whale Program. We also support research, through the Arthur Rylah Institute, in expanding their southern right whale aerial monitoring program along the Victorian coastline.

Will ConocoPhillips Australia restrict activity for seasonally important behaviours?

ConocoPhillips Australia recognises the importance of the offshore Otway Basin and nearby coastlines for a number of species including blue whales who forage through the area in summer, and southern right whales who calve and aggregate along the Victorian coastline in winter.

Our approach is to ensure that activities are scheduled to minimise potential interactions with protected species, particularly during peak biologically important times. However, given the diversity of biologically important activities with differing peak periods, there is no perfect window where exploration activities can occur without the potential for impact in the absence of effective controls.

The Environment Plan must demonstrate that, in all cases, the activity is undertaken in a manner that continually reduces environmental impacts and risks to a level that is as low as reasonably practicable (ALARP) and that any residual impacts or risks are at an acceptable level. This will require the implementation of effective control measures that mitigate impact to whichever species is likely to be present.

Does ConocoPhillips Australia know that the proposed activity is close to and overlaps Biologically Important Areas (BIA's) for whales?

Yes, ConocoPhillips Australia recognises the biological importance of the offshore Otway Basin and nearby coastlines for a number of species including blue whales who forage through the area in summer, and southern right whales who calve and aggregate along the Victorian coastline in winter.

Contact us

ConocoPhillips Australia values consultation and feedback and invites consultation with individuals, groups and organisations potentially affected by the proposed activities to help inform the development of the EP.

You are invited to provide feedback, request a meeting and ask questions on the proposed activity by contacting us in one of the following ways:

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