

Project overview

The proposed Blue Mackerel offshore wind project is located off the coast of Brataualung and Tatungalong Country, Gippsland, approximately 10km from Seaspray, Victoria.

Blue Mackerel is positioned to be one of the first offshore wind projects to supply sustainable energy to Australian homes and industry.

Subject to approvals, Blue Mackerel would deliver its planned capacity of 1GW of renewable energy by 2032. That's enough to provide over half a million Victorian homes with green power.

Blue Mackerel received its feasibility license in April 2024 and is currently in the feasibility, design and approvals phase which is expected to conclude within four years.

This Information Bulletin provides an overview of the project's proposed upcoming marine surveys.

Marine surveys

Careful work is underway to better understand the metocean conditions, ocean floor and seabed conditions within the Blue Mackerel feasibility area. One of the first steps is to undertake geophysical, geotechnical, wind and wave (FLiDAR) and other environmental surveys. These surveys will help inform detailed planning, environmental and engineering assessments that will be completed over the next four years.

Subject to approvals, the marine surveys are proposed to commence from late 2024, allowing data to be gathered during the summer months which provide improved conditions for these investigations.

- Geophysical survey – planned to commence in late 2024
- Wind and wave (FLiDAR) survey – planned to commence in early 2025, pending further regulatory approval
- Geotechnical survey – planned to commence in early 2025, pending further regulatory approval
- Environmental surveys – planned to commence in 2025

We are working with Gunaikurnai Land and Waters Aboriginal Corporation (GLaWAC) so that these surveys take into account their rights and interests in the Sea Country of the project's licence area.

We acknowledge the Gunaikurnai people, the Traditional Owners of the land and waters where the proposed Blue Mackerel offshore wind project will be located. We pay our respects to their Elders past and present.

We aspire to a genuine partnership with the Gunaikurnai people that delivers mutual benefit and enhanced stewardship of the environment for the benefit of present and future generations.

We acknowledge the rights and responsibilities of all First Nations peoples for their lands and waters where we operate.



We want to hear from you

In accordance with planning requirements of the Offshore Infrastructure Regulator (OIR) and the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA), a Management Plan will be prepared by the project and approved by the regulators before any marine surveys that make contact with the seabed can commence.

For the upcoming Blue Mackerel marine surveys, this applies to the wind and wave (FLiDAR survey) and geotechnical survey activities.

This Management Plan is informed by a range of inputs, including stakeholder and community feedback regarding the marine surveys that make contact with the seabed.

The Management Plan will also demonstrate any measures that Blue Mackerel has adopted or proposes to adopt in response to stakeholder feedback.

The project is currently preparing its Management Plan to submit for regulatory review and approval in late 2024. We want to hear from interested stakeholders, groups and community members to understand your feedback, ideas and local insights. Please refer to

this NOPSEMA brochure (www.nopsema.gov.au) to understand more about consultation requirements for offshore wind developments.

Please note that stakeholder feedback and our response will be included in our Management Plan for the proposed marine surveys. Please let us know if your feedback is sensitive and we will ensure your feedback is de-identified to retain confidentiality.

How can I provide feedback?

Please contact the project team to arrange a meeting by emailing info@bluemackerel.com.au or calling **+61 3 9021 0602**.

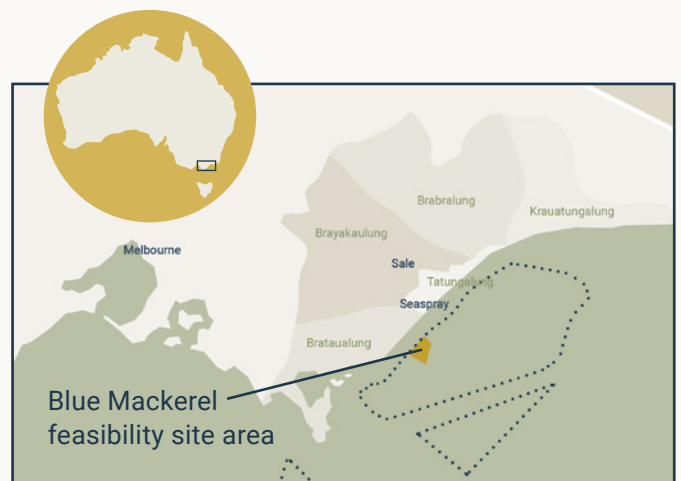
You can also provide feedback online at www.bluemackerel.com.au/connect

Where are the marine surveys occurring?

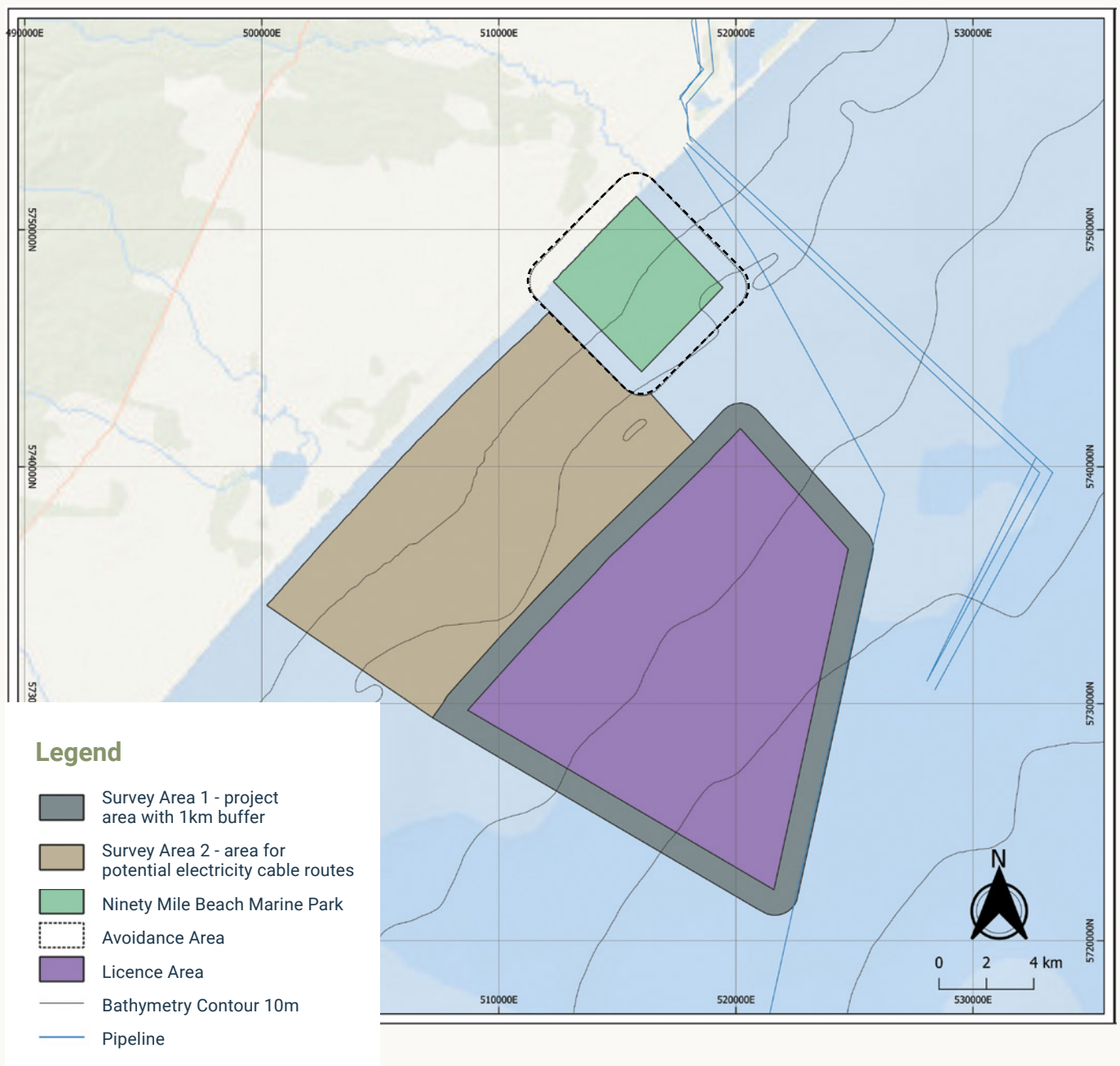
The marine surveys will be undertaken across two areas.

Survey Area 1 includes the licence area, plus a one-kilometre buffer to allow data to be collected right to the edge of the licence area.

Survey Area 2 covers the area where Blue Mackerel will investigate potential routes for the electricity cables which will export the power between the offshore wind turbines and the onshore substation.



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Declared offshore wind zone





What do the marine surveys involve?

Geophysical survey

To map the seabed, understand the depth and verify pre-existing objects (such as tangible culture heritage, cables, shipwrecks etc).

What's involved

One to two vessels towing sonar equipment to map the ocean floor using:

- Sound (low, medium and high frequency pulses) to map beneath the ocean floor
- magnetic surveys to investigate sub-ocean floor geology
- hydrographic surveys to 'map' the characteristics and contour of the seabed.

These surveys do not make contact with the seabed and do not require prior Management Plan approval.

Timing

Up to 40 operational days from late 2024 to early 2025

Wind and wave (FLiDAR) survey

To understand the ocean environment – such as wind speeds, wave height, period and direction, as well as currents and tides.

What's involved

One FLiDAR (Floating Light, Detection and Ranging) buoy as well as a separate wave buoy will be anchored to the ocean floor (within the project's license area only). The FLiDAR buoy contains a device capable of measuring wind speeds at varying heights. In addition, the buoy contains other sensors which measure wind direction, waves, tides and currents across Survey Area 1 and Survey Area 2.

Commencement of this survey is subject to regulatory approval of the project's Management Plan.

Timing

1 – 2 years from early 2025

Environmental surveys

To understand plants and animals (fauna and flora) in and around the study area.

What's involved

Flown LiDAR (Light Detection and Ranging aerial surveys) along with initial marine ecology and bird surveys, water quality sampling and acoustic monitoring to gather information about local flora and fauna.

These surveys do not make contact with the seabed and do not require prior Management Plan approval.

Timing

Throughout 2025

Geotechnical survey

To understand the seabed geology and material beneath the ocean floor.

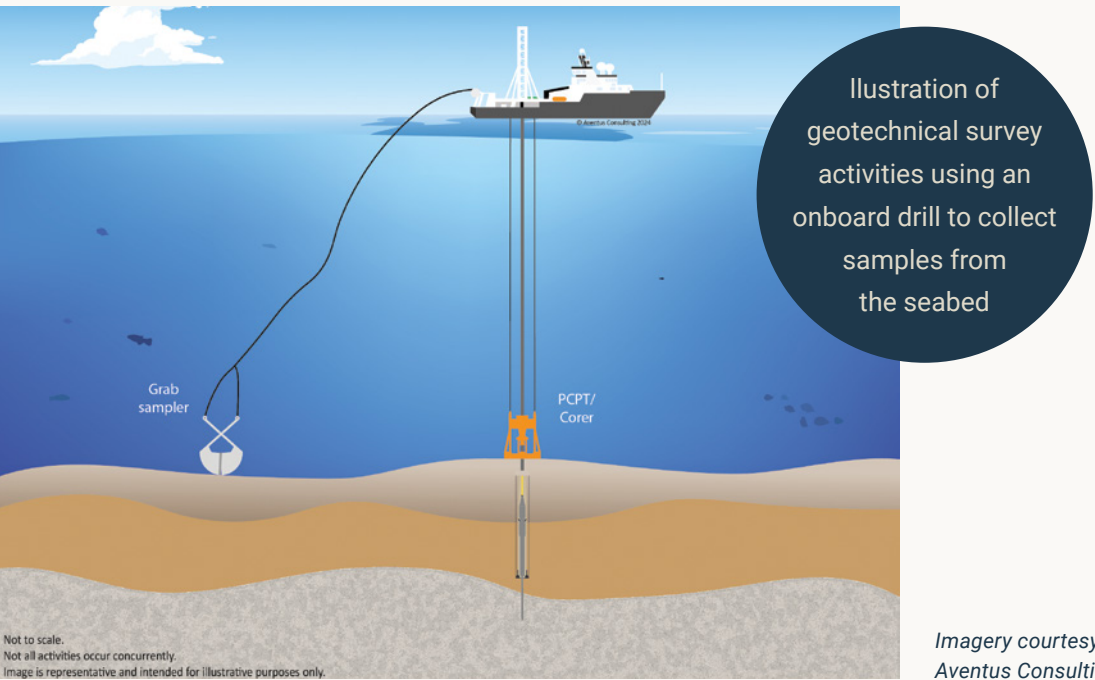
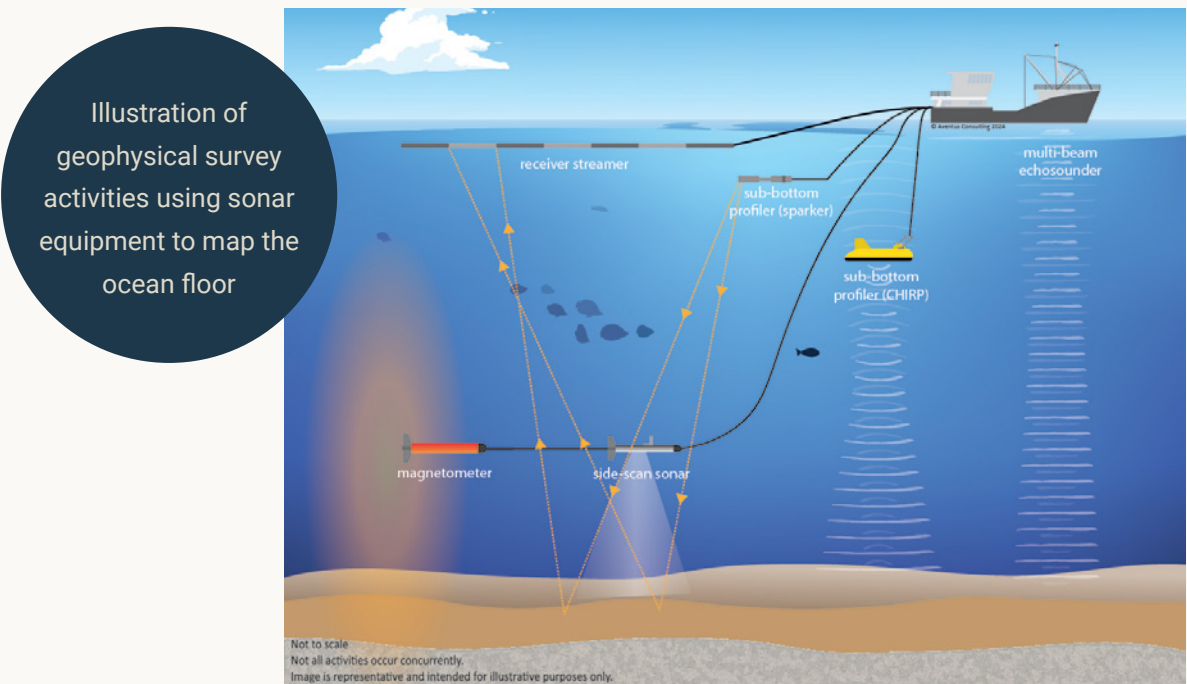
What's involved

A large vessel with a drill unit on board takes core samples which are extracted by drilling into the ocean floor. Five planned boreholes are drilled up to 50 metres deep and a grab sampler is used to collect sediment samples from the ocean floor (within the project's licence area only). Once collected, the samples are stored on the vessel, and then sent to a laboratory for analysis and testing.

Commencement of this survey is subject to regulatory approval of the project's Management Plan.

Timing

Up to 30 operational days from early to mid 2025



Imagery courtesy of
Aventus Consulting (2024)

Potential impacts and risks and control measures

The impacts and risks of these surveys are expected to be low. These will be limited to generation of underwater noise during the geophysical and geotechnical surveys which is regulated through the approval processes. In addition low levels of noise associated with movement of survey vessels between the local ports, berths and the survey area can be expected.

The control measures outlined in the table below will form the standard for any individuals participating in the marine survey activities. This table also details the mitigation methods to be implemented by Blue Mackerel to ensure impacts on the environment are reduced.

Hazard	Potential impacts and risks	Avoidance, management and mitigation measures
General		
Environmental management	Impacts to the environment with the potential to work outside of scope.	Produce and implement a Survey Environmental Management Plan (SEMP), which will integrate the Management Plan prepared under the Offshore Electricity Infrastructure Regulations.
Planned events		
Generation of underwater sound from marine investigation surveys	Temporary disruption to migration, feeding or breeding patterns for sound-sensitive fauna such as cetaceans (whales and dolphins).	● Implement an Underwater Noise Management Plan (UNMP) ● Introduce applicable precaution zones ● Carry out observations for 30 minutes before starting noise-generating activities to observe for marine fauna and (diving) birds ● Implement a slow-start, start-up, stand-by and shut down process ● Implement an operations procedure, stop-work procedure, and nighttime and low visibility procedure ● Notify the commercial and recreational user groups in the area ● Avoid or limit survey activities on weekends and during public holidays ● A dedicated Marine Fauna Observer (MFO) will be employed during key migration, lifecycle and behavioural periods ● Key migration, lifecycle and behavioural periods will be avoided if seismic surveys are conducted. If it is not possible, the precaution zone and slow-start up period will increase with additional measures outlined in the EPBC Act Policy Statement 2.1 ● Vessel speeds will be always maintained at four knots (7 km/hr) or lower within the survey area

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Hazard	Potential impacts and risks	Avoidance, management and mitigation measures
Planned events (continued)		
Seabed disturbance	Temporary and localised seabed turbidity. Smothering of seabed habitat by disturbed sediments.	● Pre-clearance inspections will be carried out before any in situ testing (to avoid important benthic habitats, or key features, including other infrastructure and possible unexpected finds) ● Vessels will not anchor or dynamically position over any important benthic habitat or key features in the shallowest parts of the survey area ● Vessel speed, trim and steering will be monitored to prevent wake impacts and reduce seabed disturbance in shallow water ● Modern precision dynamic positioning systems will minimise the need for constant adjustments that typically disturb sediments in shallow water
Light emissions	Temporary increase in predation rates on fauna attracted to lights.	● LED technology will reduce light spill into the surrounding environment by producing directional light ● Shielded and directional low-intensity lighting will be used ● Light will be minimised during key lifecycle periods such as spawning and migration periods ● Surveys will be scheduled to maximise surveying during the daytime where feasible

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Hazard	Potential impacts and risks	Avoidance, management and mitigation measures
Planned events (continued)		
Water quality	Drilling additives-temporary and localised reduction in water quality.	- Additives will only be used to support drilling and stabilising the boreholes as a last resort, with seawater being used in the first instance - Any additives will meet the Offshore Chemical Notification Scheme (OCNS) requirements - This means they will be rated to either a Chemical Hazard and Risk Management (CHARM) silver or gold standard or to meet the D or E classification for non-CHARM chemicals
	Grey water and sewage – Temporary and localised reduction in water quality.	- All vessels will comply with <i>MARPOL 73/78 Annex IV and Marine Order 96</i> - The Contractor will aim to retain all sewage and grey waters onboard for onshore disposal - where this is not possible, treated sewage will only be discharged within Commonwealth Waters (i.e., 3 nautical miles from land) or alternatively, untreated sewerage will be discharged more than 12 nautical miles from land at a speed of greater than four knots
	Deck and bilge water – temporary and localised reduction in water quality.	- All discharged deck and bilge water will be managed in accordance with <i>MARPOL 73/78 Annex I</i> - Drainage water from areas that may be contaminated with traces of hydrocarbons will be treated in an oil-in-water separator, which will be shutoff where concentrations exceed 15 parts per million - Bilge water will only be discharged in Commonwealth Waters from a <i>MARPOL 73/78 Annex V</i> compliant bilge drainage system
Interaction with Ninety Mile Beach Marine National Park (MNP)	Habitat disturbance within MNP	- A one-kilometre buffer (avoidance zone) surrounding the Ninety Mile Beach Marine National Park (MNP) will be implemented and managed using GPS throughout the marine surveys - No towed or in situ survey activities will take place in this avoidance zone - Equipment will not be deployed in this avoidance zone - No survey equipment or vessels anchors will be deployed within or immediately next to Ninety Mile Beach MNP - An environmental assessment must be submitted and approved with management controls if further site-specific analysis is required

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Hazard	Potential impacts and risks	Avoidance, management and mitigation measures
Unplanned events		
Damage to underwater cultural heritage (shipwrecks)	Damage to shipwrecks that may hold cultural and social significance to local communities.	• All known shipwrecks will be marked on survey plans prior to commencement. • No in situ testing will occur within the 500-metre protection zone around the shipwreck SS Glenelg (including no deployment of any investigation equipment and anchors). – Blue Mackerel will seek permission from DCCEEW before carrying out any towed geophysical surveys within the 500-metre protection zone around the SS Glenelg and near the Magnolia • An Unexpected Finds Protocol will be developed and implemented to account for the discovery of any seabed anomalies during the survey
Displacement of or interference with third-party vessels	Temporary loss of fishing grounds around the vessel safety zone. Trawling gear snagging on towed or submerged equipment.	• A safety zone will be implemented around active survey vessels and the associated towed and in situ equipment to prevent any collision or entanglement risk with other marine users • Survey equipment will not be deployed or in situ surveys within the 500-metre protection zone either side of the Basslink Electricity Interconnector Cable and the Tasmania Gas Pipeline without prior agreement • All vessels will operate in accordance with Australian Maritime Safety Authority (AMSA) requirements • Consultation, engagement and notifications will be undertaken with third-party marine users • Blue Mackerel will notify key stakeholders four weeks before any planned activities are carried out. They will also be notified after the work is complete. • The Australian Hydrographic Office (AHO) will be notified three weeks and three days before starting surveys to support a Notice to Mariners • AHO and AMSA will be notified of all equipment that will be deployed and left in the survey area. This equipment will only be deployed, secured, marked, and lit in accordance with marine and navigational safety requirements

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Hazard	Potential impacts and risks	Avoidance, management and mitigation measures
Unplanned events (continued)		
Vessel strike or entanglement with marine fauna	Injury or death of individual animals.	• Safe distances between marine fauna will be adopted in line with applicable regulations and guidelines • Vessel speeds will be reduced to six knots (approximately 11km/hr) within 300 m of any marine fauna • Any fauna collisions leading to suspected injury or death will be reported in the National Ship Strike Database • Deployed equipment will be designed to include a single-point mooring or tensioned mooring system to minimise entanglement • Towed or in situ equipment used to carry out the surveys will only be deployed and recovered once the area is free of marine fauna as confirmed by trained crew or the MFO
Introduction of invasive marine species (IMS) from vessel hulls and/or ballast water	Reduction in native marine species diversity and abundance. Displacement of native marine species. Socio-economic impacts on commercial fishers. Reduction of conservation values of protected areas.	• A Biosecurity Management Plan (BMP) will be prepared and implemented entailing the following requirements: – Routine inspections of vessel and equipment to avoid the introduction of IMS – Demonstrate antifouling agents comply with the Protection of the Sea (Harmful Anti-fouling Systems) Act 2006 – Ballast waters are free from IMS prior to discharge • Contractors will undertake a Vessel Risk Assessment (VRA) and complete a Biofouling Record Book Form (BRBF) • All deployed equipment and other semi-permanent or temporary moveable infrastructure will be routinely inspected to assess the level of biofouling and corrective action will be taken under the BMP to treat and remove any biosecurity threats or IMS using appropriate antifouling agents or cleaning methods • The Anti-Fouling and In-Water Cleaning guidelines will be followed if there is a high level of fouling/ macrofouling and can be moved or if the infrastructure cannot be cleaned on land • Cleaning will be done on land or in a location with suitable facilities to prevent waste from returning to the water • Infrastructure that can be removed from the water, such as mooring buoys, will be pressure-cleaned or scraped, scrubbed, and air-dried for at least 48-hours, ideally exposed to sunshine, before being redeployed

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Hazard	Potential impacts and risks	Avoidance, management and mitigation measures
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Unplanned events (continued)

Vessel discharge (marine pollution)		• Fuels and chemicals will be stored on an impervious surface flatter than a 10% grade. • Emergency spill kits for will be available for the management of wet and dry chemical spills. • Dangerous goods and hazardous materials will be avoided where possible otherwise they will be stored in accordance with supplier's instruction and relevant Australian Standards. • Onboard drainage (i.e., scuppers) will be closed in the event of a spill or emergency. • All equipment and machinery will be maintained as per manufacturer's specifications and visually inspected for leaks on a weekly basis • All equipment deployed will be maintained, decommissioned, and removed from the from the survey area to prevent marine debris • The mooring and anchoring system and condition of all deployed equipment will be routinely monitored and inspected to ensure that there is no risk introducing debris into the marine environment from accidental losses • GPS, automatic recovery devices (such as streamers), or similar markers will be attached to all equipment used in the water. This will support its recovery in event of an accident or emergency to avoid the introduction of marine debris • Any lost equipment will be recorded along with its last known location and reported to AMSA • A Waste Management Plan (WMP) will be prepared and implemented as part of the SEMP
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To find out more about the project, or to get in touch with our team, call +61 3 9021 0602, email info@bluemackerel.com.au or visit www.bluemackerel.com.au