Bass Strait Blue Economy Zone, Marine Aquaculture Trial in Commonwealth Waters

Application Number: **02428** Commencement Date: **29/05/2024** Status: **Locked**

1. About the project

1.1 Project details

1.1.1 Project title *

Bass Strait Blue Economy Zone, Marine Aquaculture Trial in Commonwealth Waters

1.1.2 Project industry type *

Aquaculture

1.1.3 Project industry sub-type

—

1.1.4 Estimated start date *

01/10/2024

1.1.4 Estimated end date *

31/12/2027

1.2 Proposed Action details

1.2.1 Provide an overview of the proposed action, including all proposed activities. *

Australia’s leading offshore research think tank, the Blue Economy CRC (BECRC) is undertaking a targeted research portfolio to understand challenges and opportunities for sustainable ocean economic development in Australia. The proposed action constitutes the first steps to de-risking the introduction of

aquaculture into Commonwealth waters.

The proposed action is to establish, commission, operate, evaluate, and decommission a multi-species aquaculture research trial in the highly active open waters of the Bass Strait. The research trial is fundamental to building awareness, confidence and readiness to support the governance reform required to introduce multi-species aquaculture into Commonwealth waters.

The Research Trial Site is in Commonwealth waters, adjacent to Tasmanian coastal waters and approximately 12km off the coast of Burnie, Tasmania. The Trial Site is characterised by open ocean, higher energy, deeper waters and stronger currents.

The Trial Site sits within a Blue Economy Zone (BEZ), (see **Att 1 – Ext project description**, Section 1.2.2, p9), which is an open ocean site for research focused aquaculture and renewable energy activities and is supported by a Memorandum of Understanding (see **Att 2 – MOU – Cth & Tas**) between the Commonwealth and Tasmanian governments. The proposed Trial Site varies from the coordinates within the 2022 MOU. The letter attached to the MOU confirms the Commonwealth Government's agreement on the revised coordinates for consultation. The variation provides for more suitable benthic conditions, deeper water and safer positioning of infrastructure given known sea and wind characteristics. The broader Fisheries Arrangement Area remains the same.

The research trial will take place over a three-year period and is designed to test the capability of existing and new sustainable offshore/high-energy aquaculture farming systems for finfish (e.g. Tasmanian Atlantic salmon and kingfish).

The research trial initially involves commissioning of a mooring grid, where two pens will be active for fin-fish production. Each active pen will stock15,000 fish and will be farmed using a hybrid of high-energy precision farming and traditional farming.

BECRC will work with industry, commercial, university and government participants to test the capability of existing and new sustainable offshore aquaculture systems for finfish, while exploring opportunities for seaweed and shellfish, and in later stages of the trial the potential for co-located renewable energy generation.

BECRC will engage with relevant regulators (primarily under Tasmanian laws but noting Commonwealth regulators may have a role) in relation to ensuring any necessary approvals for alternate aquaculture (e.g. seaweed, shellfish) or renewables trialling are obtained prior to undertaking any additional research activities at the Trial Site.

A strong governance model is proposed to support delivery of a multidisciplinary approach to the research trial and research portfolio. This model will complement the existing BECRC governance arrangements and roles, including the role of the Scientific Advisory Committee.

Terms of Reference for each committee/group will be established. An independent project evaluator will undertake assurance and integrity of program logic and models.

Governance will consist of:

- **Trial Site Research and Operational Working Group** to oversee commissioning, operation, evaluation and decommissioning of the Research Trial against the approvals and a Research and Operational Plan.
- **Research and Technical Advisory Group to** advise on research portfolio, evaluate delivery of the Research and Operational Plan and ensure consistency with the research objectives. And that potential environmental risks do not extend beyond those presented and approved under the relevant state and Commonwealth legislation.
- **Community Advisory Group** to advise on other user and community perspectives on the Research Trial and other ocean estate matters associated with new, emerging and transitioning ocean industries.

Project stages

Construction

The proposed action requires the construction and deployment of a temporary gridded mooring system and aquaculture pens.

Before installing any infrastructure, the Trial Site will be marked using boundary markers in line with requirements from consultation with the Australian Maritime Safety Authority (AMSA), Marine and Safety Tasmania (MaST) and TasPorts. A Notice to Mariners will be issued to advise of the potential hazards associated with this activity.

The mooring design is based on those used in existing aquaculture operations. It is secured to the seabed using a series of large concrete mooring blocks and anchors that are lowered to the seafloor. No dredging or piling is required for the project. Installation of the mooring system is expected to take 3-4 weeks.

The structural design of the mooring system and nets will be in accordance with *Norwegian Standard 9415: 2021 Floating aquaculture farms; Site survey, design, execution and use* to ensure its suitability for the environmental conditions. The design will be verified by a suitably qualified entity.

The mooring system consists of a grid with mooring lines to accommodate 4 pens, with the option to extend the grid to accommodate an additional two pens. All mooring infrastructure will be contained within the Trial Site footprint.

Aquaculture nets and any other trial infrastructure are typically constructed on shore and towed or shipped to site to be secured to the mooring system. With the potential exception of scientific probes, no infrastructure other than the mooring blocks and anchors are expected to interact with the sea floor.

A variety of equipment would be deployed to support monitoring of the farming activities and surrounding environment. Typically, this would be relatively small-scale equipment such as remote operated vehicles and remote sensing equipment (such as cameras and hydrophones). Some equipment may be mounted to buoys anchored outside the mooring footprint.

The Extended Project Description (**Att 1 – Ext project description**, Section 1.2.5, p12) includes additional detail and diagrams of the proposed infrastructure.

Operation

The research trial seeks to understand the operating environment and viability of finfish aquaculture in offshore areas. The design and conduct of all trial activities will be under the direction of the **Research and Operational Working Group** and informed by the **Technical Advisory Group**. The Extended Project Description (**Att 1 – Ext project description**, Sections 1.2.3 and 1.2.4) includes additional detail on research outcomes and project governance.

In year 1, **a single pen of 15, 000 Atlantic salmon smolt** and a **single pen of 15,000 juvenile kingfish** will be stocked at the Research Trial Site. This is a very low stocking density compared to commercial aquaculture, and the potential for accumulation of nutrients from feeding or fish waste is considered to be extremely low, particularly given the high energy environment at the site.

Initially, the two pens will be established using conventional farming techniques, drawing from learnings from Storm Bay operations, to understand their suitability for offshore environments and operational paradigms. Novel infrastructure designs, such as submersible pens, may be investigated to understand their benefits in offshore environments.

Examples of conventional farming techniques to be used include:

- Feed will be stored in hoppers on the pens. Pellets will then be distributed to the pens through floating pipes, to a feed disperser located inside the pen; both air and underwater feeding may be trialled

- Fish will be bathed in fresh water to manage potential pathogen loading
- If required to address fish disease issues, antibiotic treatments are prescribed by a qualified veterinarian; antibiotics are not used prophylactically
- Wildlife interactions will be minimised through the use of barrier technology (i.e. netting to provide physical separation)
- Harvesting will be undertaken using a specialised vessel, which contains all waste products for on shore disposal
- All wastes generated at site will be disposed of on shore

The trial will also investigate traditional and novel methods of animal husbandry, such as feeding techniques, water circulation, oxygen enrichment, and bathing. As different methodologies are implemented, they will be reviewed by the **Research and Technical Advisory Group** to ensure alignment with the research objectives and potential environmental risks are adequately addressed.

Servicing of the proposed Research Trial Site would be undertaken by vessel from Burnie. The Site would be accessed by up to three vessels over the course of a day, including work barge, a dive vessel, and general purpose/works crew vessel. The type of vessels accessing the site is generally determined by the work scheduled on the day.

Prior to deployment, BECRC will work with AMSA to ensure all appropriate Notice to Mariners, markers and other best-practice maritime safety requirements are in place.

Decommissioning

At the completion of the research trial, all equipment, including mooring blocks and anchors, will be removed from the site. Aquaculture pens will be towed to shore and the mooring grid will be disassembled. Mooring blocks and anchors will be lifted from the seabed using a large works vessel. Decommissioning is expected to take 2-3 weeks.

1.2.2 Is the project action part of a staged development or related to other actions or proposals in the region?

No

1.2.6 What Commonwealth or state legislation, planning frameworks or policy documents are relevant to the proposed action, and how are they relevant? *

Commonwealth

EPBC Act 1999: The proposed action will be located in Commonwealth waters and has the potential to have an impact on Matters of National Environmental Significance (MNES). The proposed action is therefore being referred to the Australian Government Department of Climate Change, Energy, the Environment and Water (DCCEEW) for consideration of potential impacts to MNES). As presented herein, significant impacts to MNES from the proposed action are unlikely to occur.

Underwater Cultural Heritage Act 2018: This Act provides for the protection and permits for impacts on underwater cultural heritage. No impacts to underwater cultural heritage are predicted from the proposed action, and therefore no need for a permit has been identified.

Fisheries Administration Act 1991: The Research Trial Site is within the mapped Commonwealth Bass Strait Central Zone Scallop Fishery, under the jurisdiction of AFMA. AFMA was contacted by the BECRC as part of stakeholder engagement. AFMA also participated in DAFF led consultation on the trial.

Native Title Act 1993: No native title claims have been lodged over the area

National Aquaculture Strategy: The National Aquaculture Strategy (refer link National Aquaculture Strategy) was developed by the Australian Government in consultation with industry, state and the Northern Territory governments and sets out to achieve an aquaculture growth target of $2 billion a year by 2027.

The Strategy recognises that responsibility for aquaculture operations, development, monitoring and compliance is generally a matter for State jurisdictions.

To pursue the Strategy, the Australian and Tasmanian Governments signed an MoU (**Att 2 – MOU – Cth & Tas**) in September 2021 agreeing to cooperate to enable and facilitate marine aquaculture into Commonwealth waters adjoining Tasmanian State Waters, managed under Tasmanian fisheries and aquaculture legislation through a “fisheries management arrangement” under corresponding Commonwealth and State fisheries legislation. The implementation of the MoU is discussed further under State legislation.

Tasmania

LMRMA 1995: All marine farming operations in Tasmania must be licenced under the *Living Marine Resources Management Act 1995*. Each licence includes environmental monitoring conditions specific to that licence to ensure that activities carried out under licence are managed in ways that prevent unacceptable impacts to the marine environment.

The LMRMA *w*as amended in March 2022 to create a legislative framework to enable aquaculture research in Commonwealth waters adjoining Tasmanian state waters.

In April 2022, the Australian and Tasmanian Governments executed an arrangement, under s.72 of the *Fisheries Management Act 1991* (Cth) and s.16 of the LMRMA to allow “*marine farming of fish for research purposes*” to take place in relevant waters within the Australian Fishing Zone.

The arrangement provides for the aquaculture research to be managed in accordance with the laws of Tasmania, although the requirements of the Commonwealth EPBC Act still apply.

A research permit under s12 of the LMRMA is being sought concurrently to this referral. The LMRMA permit application has been prepared consistent with guidelines prepared by the Tasmanian Government (refer link Permit Supporting Information Guidelines).

EMPCA 1994: The Tasmanian Environmental Protection Authority (EPA) is responsible for environmental regulation of the Salmon-farming Industry under the *Environmental Management and Pollution Control Act 1994*. The LMRMA requires that the Minister must consult with the Director EPA in respect of any proposed permit for the conduct of research activities in Commonwealth waters under arrangement, and if the permit relates to marine farming of finfish, the permit must include any conditions as the Director EPA considers necessary.

The legislative framework and processes for regulating marine farming in Tasmania provides security and certainty for industry, input and consultation with community and stakeholder groups, and the environmental protection required to maintain the integrity of marine ecosystems.

Animal Welfare Act 1993: An animal ethics approval is required under the Tasmanian *Animal Welfare Act 1993*. Approval is being sought concurrently to this referral.

1.2.7 Describe any public consultation that has been, is being or will be undertaken regarding the project area, including with Indigenous stakeholders. Attach any completed consultation documentations, if relevant. *

The Tasmanian Government led consultation on the *Living Marine Resources Management Amendment (Aquaculture Research) Act 2022* which was passed in March 2022, creating the **legislative framework** to enable aquaculture research in Commonwealth waters adjoining Tasmanian state waters.

The public consultation period ran from 20 October to 3 November 2021. Targeted stakeholder consultation was also undertaken by NRET. The Minister for Primary Industries and Water issued a media release on 20 October 2021 to draw attention to the consultation, and public notices were placed in the three Tasmanian newspapers, the Mercury, the Examiner and the Advocate, on 23 October 2021. The consultation was also announced in the news feed on the NRET landing webpage.

Targeted consultation was undertaken with Tasmanian Association for Recreational Fishing (TARFish), Tasmanian Seafood Industry Council (TSIC), Tasmanian Salmonid Growers Association (TSGA), Institute for Marine and Antarctic Science (IMAS), Commonwealth Department of Agriculture, Water and Environment (DAWE), Blue Economy CRC and Marine and Safety Tasmania (MAST).

Fishing bodies certified under the Living Marine Resources Management Act 1995 (LMRMA) were advised of the consultation, including Tasmanian Abalone Council, Tasmanian Rock Lobster Fishermen's Association, Tasmanian Commercial Divers Association and Oysters Tasmania, as well as the Chairs of Fisheries Advisory Committees established under the LMRMA. Material relating to the consultation was available on a dedicated NRET webpage. Submissions could be made by following the 'Have Your Say' link to an online form. There was a possibility of submitting confidential comments and attaching a file as part of a submission. It was stated that the Department would treat submissions as public information and would be published on the same webpage, except for confidential comments and attachments that were marked as such by the author.

In total, seven submissions were received, one of which included confidential comments. Seven stakeholder briefings were conducted. Further details can be found in **Att 1 – Ext project description**, Section 4.2.

The Australian Government led consultation on the **proposal for an aquaculture trial** in Commonwealth waters in Bass Strait in February 2022. Further details can be found in **Att 1 – Ext project description**, Section 4.2.

The Tasmanian Government also led consultation during the development of the **Tasmanian Salmon Industry Plan** from 23 November 2022 to 20 January 2023, where members of the public were invited to have their say on the Draft Tasmanian Salmon Industry Plan. Web-based submissions were invited during this period and community briefing sessions were held around the state. Ten community briefing sessions were held throughout the State, with approximately 390 people attending. The plan included reference to the BECRC led Bass Strait research trial. Further details can be found in **Att 1 – Ext project description**, Section 4.2.

The Blue Economy CRC has undertaken continuous participation in the conversation as the research governance, regulatory and policy framework has been developed by the governments – attending community, industry, government and research meetings and events. This shifts to the BECRC leading a **targeted consultation on the proposed research activity and new trial site**. This will commence in August 2024 and is consistent with the Tasmanian Government Offshore Aquaculture Policy and approval process. This will be followed by an **ongoing engagement program** that will be executed throughout the three-year period of the trial to allow continuous access to the research team and findings.

The Extended Project Description (**Att 1 – Ext project description**, Section 4.3) includes additional detail on the proposed consultation.

1.3.1 Identity: Referring party

Privacy Notice:

Personal information means information or an opinion about an identified individual, or an individual who is reasonably identifiable.

By completing and submitting this form, you consent to the collection of all personal information contained in this form. If you are providing the personal information of other individuals in this form, please ensure you have their consent before doing so.

The Department of Climate Change, Energy, the Environment and Water (the department) collects your personal information (as defined by the Privacy Act 1988) through this platform for the purposes of enabling the department to consider your submission and contact you in relation to your submission. If you fail to provide some or all of the personal information requested on this platform (name and email address), the department will be unable to contact you to seek further information (if required) and subsequently may impact the consideration given to your submission.

Personal information may be disclosed to other Australian government agencies, persons or organisations where necessary for the above purposes, provided the disclosure is consistent with relevant laws, in particular the Privacy Act 1988 (Privacy Act). Your personal information will be used and stored in accordance with the Australian Privacy Principles.

See our Privacy Policy to learn more about accessing or correcting personal information or making a complaint. Alternatively, email us at privacy@awe.gov.au.

☑ **Confirm that you have read and understand this Privacy Notice ***

1.3.1.1 Is Referring party an organisation or business? *

Yes

Referring party organisation details

ABN/ACN	64634684549
Organisation name	BLUE ECONOMY CRC-CO LTD
Organisation address	7248 TAS

Referring party details

Name	Angela Williamson
Job title	Director
Phone	0456987505
Email	angela.williamson@blueeconomycrc.com.au
Address	PO Box 897, Launceston, TAS, 7250

1.3.2 Identity: Person proposing to take the action

1.3.2.1 Are the Person proposing to take the action details the same as the Referring party details? *

No

1.3.2.2 Is Person proposing to take the action an organisation or business? *

Yes

Person proposing to take the action organisation details

ABN/ACN	64634684549
Organisation name	BLUE ECONOMY CRC-CO LTD
Organisation address	7248 TAS

Person proposing to take the action details

Name	John Whittington
Job title	CEO
Phone	0439335429
Email	john.whittington@blueeconomycrc.com.au

Address	PO Box 897, Launceston, TAS, 7250

1.3.2.14 Are you proposing the action as part of a Joint Venture? *

No

1.3.2.15 Are you proposing the action as part of a Trust? *

No

1.3.2.17 Describe the Person proposing the action's history of responsible environmental management including details of any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against the Person proposing to take the action. *

The BECRC has a satisfactory record of responsible environmental management.

There are no past or present proceedings under Commonwealth, State or Territory law against the BECRC.

BECRC has not previously submitted any referrals or undertaken any actions under the EPBC Act.

BECRC is collaborating with industry and research partners who have a successful record of delivering aquaculture, energy and research projects in the marine environment. BECRC will contract an established aquaculture company operating in the Tasmanian setting to deliver the finfish aquaculture trial in Bass Strait. The company will bring an established environmental management system and full commercial operational procedures to the trial.

1.3.2.18 If the person proposing to take the action is a corporation, provide details of the corporation's environmental policy and planning framework

BECRC's pursuit of sustainability is framed by the following principles:

- OCEANS STEWARDSHIP: BECRC actions and investments should build trust and foster stewardship through transparent, accountable and inclusive decision making.
- A HEALTHY PLANET: BECRC actions and investments should protect environmental outcomes by balancing resource use, conserving natural ecosystems and resources, and supporting climate mitigation and adaptation.
- PEOPLE MATTER: BECRC actions and investments should contribute to quality-of-life, access and wellbeing, and to an inclusive and fair society.
- PROSPERITY MATTERS: BECRC actions and investments should grow productivity of the blue economy and allow equitable access to economic and growth opportunities, while efficiently using financial resources.

BECRC's full Sustainability Statement can be read at the Sustainability Statement link.

The environmental framework that will be adopted for the proposed action includes:

- Identifying and assessing environmental risks and act to eliminate or minimise environmental impacts that arise from infrastructure and activities
- Establishing measurable objectives and targets aimed at preventing pollution and improving environmental performance; and monitoring and reviewing these measures to ensure that it continually improves
- Encouraging equivalent environmental commitment from partners and contractors
- Consulting with and engaging internal and external stakeholders, including local communities and regulators on relevant environmental matters
- Encouraging a sense of environmental responsibility among all participants through training, education and communication
- Providing information of its environmental initiatives to the public through its website and other forums of open communications, and
- Ensuring the long-term sustainability of ocean aquaculture, the offshore environment and communities.

1.3.3 Identity: Proposed designated proponent

1.3.3.1 Are the Proposed designated proponent details the same as the Person proposing to take the action? *

Yes

Proposed designated proponent organisation details

ABN/ACN	64634684549
Organisation name	BLUE ECONOMY CRC-CO LTD
Organisation address	7248 TAS

Proposed designated proponent details

Name	John Whittington
Job title	CEO
Phone	0439335429
Email	john.whittington@blueeconomycrc.com.au

Address	PO Box 897, Launceston, TAS, 7250

1.3.4 Identity: Summary of allocation

Confirmed Referring party's identity

The Referring party is the person preparing the information in this referral.

ABN/ACN	64634684549
Organisation name	BLUE ECONOMY CRC-CO LTD
Organisation address	7248 TAS
Representative's name	Angela Williamson
Representative's job title	Director
Phone	0456987505
Email	angela.williamson@blueeconomycrc.com.au
Address	PO Box 897, Launceston, TAS, 7250

Confirmed Person proposing to take the action's identity

The Person proposing to take the action is the individual, business, government agency or trustee that will be responsible for the proposed action.

ABN/ACN	64634684549
Organisation name	BLUE ECONOMY CRC-CO LTD
Organisation address	7248 TAS
Representative's name	John Whittington
Representative's job title	CEO
Phone	0439335429
Email	john.whittington@blueeconomycrc.com.au
Address	PO Box 897, Launceston, TAS, 7250

Confirmed Proposed designated proponent's identity

The Person proposing to take the action is the individual or organisation proposed to be responsible for meeting the requirements of the EPBC Act during the assessment process, if the Minister decides that this project is a controlled action.

Same as Person proposing to take the action information.

1.4 Payment details: Payment exemption and fee waiver

1.4.1 Do you qualify for an exemption from fees under EPBC Regulation 5.23 (1) (a)? *

No

1.4.3 Have you applied for or been granted a waiver for full or partial fees under Regulation 5.21A? *

No

1.4.5 Are you going to apply for a waiver of full or partial fees under EPBC Regulation 5.21A?

No

1.4.7 Has the department issued you with a credit note? *

No

1.4.9 Would you like to add a purchase order number to your invoice? *

No

1.4 Payment details: Payment allocation

1.4.11 Who would you like to allocate as the entity responsible for payment? *

Referring party

2. Location

2.1 Project footprint

Maptaskr © 2024 -41.044735, 146.541668

Powered By Esri - Sources: Esri, TomTom, Garmin, …

2.2 Footprint details

2.2.1 What is the address of the proposed action? *

Bass Strait Blue Economy Zone, approximately 12km north of Emu Bay, Burnie

2.2.2 Where is the primary jurisdiction of the proposed action? *

Commonwealth Marine

2.2.3 Is there a secondary jurisdiction for this proposed action? *

Yes

2.2.4 Where is the secondary jurisdiction of the proposed action? *

Tasmania

2.2.5 What is the tenure of the action area relevant to the project area? *

The proposed action will be located in Commonwealth waters. A Memorandum of Understanding (**Att 2 - MOU - Cth & Tas**) has been signed with the Commonwealth and State Governments and the BECRC allowing the use of the site for aquaculture research activities.

3. Existing environment

3.1 Physical description

3.1.1 Describe the current condition of the project area's environment.

The site of the proposed action is in Bass Strait, approximately 12 km north of Burnie, in Commonwealth waters off Tasmania. It is within the Boags bioregion, which covers over 8,000 km2 along the north coast of Tasmania.

Tasmania's northern coastline and adjacent waters are renowned for their natural beauty and rich maritime history. Bass Strait waters along the north coast of Tasmania support a range of commercial and recreational industries and interests including commercial fishing, recreational fishing, commercial shipping, recreational boating and recreational diving to name a few.

Commercial and recreational fishing activities along Tasmania's northern coastline are important social and economic drivers, with many communities and businesses benefiting directly and indirectly. Fisheries and fishing rights are managed by either the Tasmanian or Commonwealth government depending on whether they occur in state waters or Commonwealth waters. Some fisheries in Commonwealth waters such as rock lobster and abalone overlap state and Commonwealth waters and are managed by the Tasmanian government under fisheries management arrangements made between the Commonwealth and Tasmania.

A comprehensive assessment of commercial fisheries was undertaken to understand potential intersection area (**Att 3 – Fishing Data**, whole report). This report has informed site selection and will guide the consultation process with commercial fishers.

Minimal commercial fishing activity has been recorded to occur in the area (**Att 3 – Fishing Data**, Executive Summary, p iii). No zoning or marine leases apply to the site. The marine areas surrounding the site are similarly undeveloped. Given the small footprint of the proposed Trial Site and its location in deeper offshore waters over an unconsolidated sandy habitat type, it is expected that any displacement of fishing activity will be minor. However, users of the marine environment will form an important group for the Trial's planned and ongoing community engagement to ensure that community sentiment in this regard is well understood.

Given that there has been minimal use of the site and its immediate surrounds, it is expected to be in a good environmental condition. A video survey of the benthic environment determined the benthic habitat is unconsolidated bioturbated sandy substrate with shell debris and sparse sponge communities. Several finfish species were observed including Degen's leatherjacket (*Thamnocaonus degeni*), common gurnard perch (*Neosebastes scorpaenoides*) and a gurnard (*Triglidae* sp). Doughboy scallops (*Chlamys asperrimus*), seven-armed starfish (*Astrole scabra*) and fanworms were also observed. A small number of rocky outcrops were observed south of the Trial Site. The methodology and results of the survey are presented in **Att 6 – Marine enviro assessment**, Section 2.

Before installing the mooring system, the Trial Site will be marked using boundary markers in line with requirements from consultation with the Australian Maritime Safety Authority (AMSA), Marine and Safety Tasmania (MaST) and TasPorts. A Notice to Mariners will be issued to advise of the potential hazards associated with this activity. The Research Trial Site will be clearly marked for the duration of the Trial.

On water, the Blue Economy CRC will mark all floating gear and attach geotrackers. The team will continue using Notice to Mariners to share the location of floating equipment as part of the existing research and ongoing consultation as well as the site boundaries for geotechnical and geophysical

investigations. Ongoing consultation with Tas Port, MAST and AMSA will continue, including ensuring on-water equipment is appropriately lit and uniquely identified.

The traditional lands of Tasmanian Aboriginal people, the palawa kani, are adjacent to the proposed Trial Site. While no Native Title claims overlap the project area, the waters of Bass Strait are recognised as being part of palawa kani sea country and it is acknowledged that Tasmanian Aboriginal people have an interest in the offshore environment. For this reason, the project's community engagement program and governance structure both specifically seek input and involvement of the Aboriginal community.

3.1.2 Describe any existing or proposed uses for the project area.

No existing permanent uses occur within the site; transitory shipping, boating and recreational activities may occur in the area. Beyond the establishment of the MoU regarding using the site for the Bass Strait Blue Economy Zone, Marine Aquaculture Trial, no future uses of the area are proposed.

3.1.3 Describe any outstanding natural features and/or any other important or unique values that applies to the project area.

No protected natural features occur at the site. There are no national parks or nature reserves in proximity to the site.

There are no known unique features of the site or surrounds that are not represented elsewhere within Bass Strait.

3.1.4 Describe the gradient (or depth range if action is to be taken in a marine area) relevant to the project area.

Bathymetric surveys of the seafloor in the project area and surrounds were undertaken in 2020 and 2021 (**Att 5 – BEZ baseline survey 2022**, Section 3.1)

The seafloor within the Trial Site ranges between 54 and 61 m below mean sea level with shallower areas to the south-west and depth increasing to the north-east (**Att 6 – Marine enviro assessment**, Section 4).

3.2 Flora and fauna

3.2.1 Describe the flora and fauna within the affected area and attach any investigations of surveys if applicable.

Potential impacts on the Commonwealth Marine Environment are assessed in **Att 4 – MNES assessment**, Section 3. General fauna and flora observations are detailed in the **Att 6 – Marine enviro assessment**, Section 3. The desktop review found the potential for a variety of State and Commonwealth listed species to exist in the area, including marine mammals, fish and migratory birds; some species were also opportunistically observed during site investigations. The desktop review included a search of the EPBC Act Protected Matters Search Tool; the full list of species is presented in **Att 4 – MNES assessment**, Section 2.1.

No threatened flora species have been identified.

WHALES

Three whales have been assessed as having a moderate likelihood of occurring in the area.

The Trial Site is located within a Biologically Important Area (BIA) for the Southern Right Whal (*Eubalaena australis*) for migration, and near the BIA for reproduction. Recent sightings of the species have been made near Stanley (approx. 50km from the site). Given the recent sightings and the BIAs, the likelihood of occurrence was assessed as moderate.

Pygmy Right Whales (*Caperea merginata*) have been recorded across Tasmania, with a hotspot around Perkins Bay, which is near the Trial Site. While the species' migratory and behavioural patterns are not well known, the proximity of sightings, the likelihood of occurrence was assessed as moderate.

Humpback Whales (*Megaptera novaeangliae*) may use the area surrounding the Trial Site for foraging and migration; however, the area is unlikely to be a primary migration route, as it is not included in the migration BIA for the species. The nearest sighting of the species was approx. 20km from the Trial Site. Given that there have been nearby sightings, but the area is not known for aggregation or as a key migration route, the likelihood of occurrence was assessed as moderate.

The Trial Site is within a BIA for the Pygmy Blue Whale (*Balaenoptera musculus brevicauda*) for distribution and foraging. One study identified the species in deeper waters offshore from the Trial Site during March as part of their annual migration. This indicates that while Pygmy Blue Whales may be

present in and around the Trial Site, they are unlikely to stay for an extended period. Therefore their likelihood of occurrence was assessed as low.

SHARKS, RAYS and FISH

The School Shark (*Galeorhinus galeus*) was assessed as having a moderate likelihood of occurring in the area. A relatively high number of sightings of the species have been recorded in nearby waters (nearest 28 km from the Trial Site) and minor catches of the species have been taken from State waters.

While the Trial Site is within a BIA for the White Shark (*Carcharodon charcharias*) (for distribution), there are no known favoured sites or migration corridors near the Trial Site, and therefore the likelihood of the species occurring in that area was considered to be low.

MARINE REPTILES

The Green Turtle (*Chelonia mydas*) was identified as potentially occurring in the area; however, there have been no sightings near the Trial Site and only 8 sightings in Tasmania between 1846 and 2010. Given the rarity of the species in Tasmanian waters, the likelihood of occurrence was assessed as low.

BIRDS

Forty-six bird species were identified as potentially occurring in the area. An assessment of habitat requirements and sightings indicates that two species are highly likely to occur in the area and one is moderately likely to occur.

The Wandering Albatross (*Diomedea exulans*) is moderately likely to occur around the Trial Site. The foraging BIA for the species encapsulates Tasmania, including the Trial Site. A high number of sightings have been made in the broader area, with the closest being approx. 10 km from the Trial Site.

The Shy Albatross (*Thalassarche cauta*) is highly likely to occur around the Trial Site. Sightings have been recorded approx. 16 km away and the foraging BIA covers the area. A breeding colony is located approx. 118 km north-west of the Trial Site at Albatross Island; the species is known to forage over a large area from the breeding colony. Additionally, concentrated foraging efforts have been recorded along the coast of the Bass Straight.

The Black-Browed Albatross (*Thalassarche melanophris*) is highly likely to occur around the Trial Site. The Trial Site is within a foraging BIA and numerous sightings of the species have been reported near the Trial Site. The nearest breeding colony is Macquarie Island, over 1,774km south of the Trial Site.

3.2.2 Describe the vegetation (including the status of native vegetation and soil) within the project area.

A benthic video survey was undertaken to characterise the seabed environment at the Trial Site (see **Att 6 – Marine enviro assessment**,Section 2). The survey identified that the dominant benthic habitat comprised sandy substrate interspersed with sponges, and at some sites, seaweed (predominantly *Caulerpa* sp). *Caulerpa* sp observed was sparse and patchy. Sand observed was coarse, bioturbated and littered with shell fragments.

Sponges were observed at all survey sites. Sponges were present in a variety of forms, including branching, stalked, encrusting, cups, golf balls, tubular and laminar.

Potential for the threatened ecological community Giant Kelp Marine Forests of South-east Australia to occur in the area was identified; however, the benthic surveys did not identify any kelp or suitable habitat for the community.

3.3 Heritage

3.3.1 Describe any Commonwealth heritage places overseas or other places recognised as having heritage values that apply to the project area.

No items of Commonwealth Heritage occur in the project footprint.

No underwater cultural heritage sites listed under the *Underwater Cultural Heritage Act 2018* occur in the project footprint.

3.3.2 Describe any Indigenous heritage values that apply to the project area.

First Nations people have occupied the lands and waters of Australia for millennia. During the last ice age, approximately 24,000 – 18,000 years ago, sea levels were up to 130 m lower than current levels and potential Aboriginal cultural heritage sites may have been created at the Trial Site during that time. These sites would have become inundated as sea levels rose at the end of the Pleistocene, around 8,000 years ago, and would have experienced significant disturbance as the sites transited through the intertidal zone.

No impacts are expected on submerged terrestrial Aboriginal cultural heritage sites. Sub-bottom profiling (**Att 6 – Marine enviro assessment**, Section 5), showed that unconsolidated sediments (i.e. likely to be Holocene) have depths of around 2 m above bedrock. Surface expression of underlying bedrock is not expected withing the trial site area. The mooring infrastructure (blocks and anchors) are typically shallow, extending to no more than 2 m depth and any disturbance caused by placement or removal of the mooring system will be minor and confined to the unconsolidated sediment layer. A search of the Tasmanian Aboriginal Heritage Register confirms no know Aboriginal cultural heritage exists in the area of the Trial Site, and advice from Aboriginal Heritage Tasmania confirms that the area has a low likelihood of Aboriginal cultural heritage being present.

In the event that an unanticipated discovery of Aboriginal cultural heritage occurs through installation or removal of the mooring system, all sediment-disturbing activity in the immediate area will cease immediately and Aboriginal Heritage Tasmania will be contacted as soon as possible to inform them of the discovery and to seek advice on management of the area. The Commonwealth Minister will also be notified in accordance with requirements of the *Underwater Cultural Heritage Act 2018*.

Engagement with First Nations people is vital to properly understanding the intangible cultural values associated with the Trial Site, and the need to attain a Cultural Licence to Operate (CLO) by respectfully and fairly working alongside First Nations People is recognised. Aboriginal people in Tasmania will be engaged throughout the duration of the research project with the aim being to strengthen partnerships between First Nations and industry in the Blue Economy and underpin responsible and equitable development outcomes. All engagement with First Nations people will be guided by the principles and preliminary CLO framework developed through the Blue Economy project “Cultural Licence to Operate in the Blue Economy” (refer link Cultural Licence to Operate in the Blue Economy). This will support meaningful engagement by Tasmanian Aboriginal communities, organisations and individuals in the assessment and management of their heritage in an informed, genuine and meaningful way.

3.4 Hydrology

3.4.1 Describe the hydrology characteristics that apply to the project area and attach any hydrological investigations or surveys if applicable. *

The proposed action is located approximately 12km north of Burnie in the Bass Strait, in an exposed offshore marine environment. The Bass Strait is generally shallow, with an average depth of 60 m. Bass Strait was formed around 8,000 years ago when sea levels rose at the end of the last glacial period approximately 12,000 years ago.

The central Bass Strait seafloor is shaped like an irregular saucer, with the 90m deep Bass Basin in the centre. The eastern margin is bordered by the Furneaux Island Group, which sits along a ridge that separates the Bass Basin from the Gippsland Basin. Waters in the south-west are relatively shallow at 60 m between King Island and Tasmania (refer link Assessment of the conservation values of the Bass Strait sponge beds area).

The Bass Strait geometry consists of a broad shallow region that descends quickly to very deep water to the east and west. Factors that influence currents in the central Bass Strait region are tidal forcing, wave set-up, locally wind-forced events and large-scale circulation mechanisms. In general, the tidal currents in Bass Strait are dominated by the effects of the moon (M2 component) (refer link Assessment of the conservation values of the Bass Strait sponge beds area).

The M2 component approaches from the west and separates into two separate streams at Kind Island. The first stream enters Bass Strait directly through the western entrance, whereas the other travels south around Tasmania and enters the strait from the east. The two tidal flows can interact in the Bass Strait to create a swirling current in the central areas of the strait (refer link Assessment of the conservation values of the Bass Strait sponge beds area).

As the tidal currents from the east and west are similar, flows through the Bass Strait tend to be more driven by wind and storm surges (refer link Assessment of the conservation values of the Bass Strait sponge beds area). Wind records from Burnie (refer link Wind speed and direction rose) show that the prevailing wind are westerlies (30%), with south-westerlies and easterlies also common (>10% each). Calm conditions occur 5% of the time.

Higher significant wave heights have been observed in winter compared to summer, which is drive by Southern Ocean swell. In autumn and winter, the southward movement of Southern Ocean low pressure systems is associated with increased wave height and peak wave period (refer link The wave climate of Bass Strait and South-East Australia).

4. Impacts and mitigation

4.1 Impact details

Potential Matters of National Environmental Significance (MNES) relevant to your proposed action area.

EPBC Act section	Controlling provision	Impacted	Reviewed
S12	World Heritage	No	Yes
S15B	National Heritage	No	Yes
S16	Ramsar Wetland	No	Yes
S18	Threatened Species and Ecological Communities	Yes	Yes
S20	Migratory Species	Yes	Yes
S21	Nuclear	No	Yes
S23	Commonwealth Marine Area	Yes	Yes
S24B	Great Barrier Reef	No	Yes
S24D	Water resource in relation to large coal mining development or coal seam gas	No	Yes
S26	Commonwealth Land	No	Yes
S27B	Commonwealth Heritage Places Overseas	No	Yes
S28	Commonwealth or Commonwealth Agency	No	Yes

4.1.1 World Heritage

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

—

4.1.1.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.1.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

No World Heritage Areas are located near the project footprint, and therefore no impact is expected.

4.1.2 National Heritage

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

—

4.1.2.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.2.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

No National Heritage Places are located near the project footprint, and therefore no impact is expected.

4.1.3 Ramsar Wetland

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

—

4.1.3.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.3.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

No Ramsar sites are located near the project footprint, and therefore no impact is expected.

4.1.4 Threatened Species and Ecological Communities

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Threatened species

Direct impact	Indirect impact	Species	Common name
No	No	Ardenna grisea	Sooty Shearwater
No	No	Balaenoptera borealis	Sei Whale
No	No	Balaenoptera musculus	Blue Whale
No	No	Balaenoptera physalus	Fin Whale
No	No	Calidris acuminata	Sharp-tailed Sandpiper
No	No	Calidris canutus	Red Knot, Knot
No	No	Calidris ferruginea	Curlew Sandpiper
No	No	Carcharodon carcharias	White Shark, Great White Shark
No	No	Chelonia mydas	Green Turtle
No	No	Diomedea antipodensis	Antipodean Albatross
No	No	Diomedea antipodensis gibsoni	Gibson's Albatross
No	No	Diomedea epomophora	Southern Royal Albatross
Yes	Yes	Diomedea exulans	Wandering Albatross
No	No	Diomedea sanfordi	Northern Royal Albatross
Yes	Yes	Eubalaena australis	Southern Right Whale
No	No	Fregetta grallaria grallaria	White-bellied Storm-Petrel (Tasman Sea), White-bellied Storm-Petrel (Australasian)
No	Yes	Galeorhinus galeus	School Shark, Eastern School Shark, Snapper Shark, Tope, Soupfin Shark
No	No	Halobaena caerulea	Blue Petrel
No	No	Lathamus discolor	Swift Parrot
No	No	Limosa lapponica baueri	Nunivak Bar-tailed Godwit, Western Alaskan Bar-tailed Godwit
No	No	Macronectes giganteus	Southern Giant-Petrel, Southern Giant Petrel
No	No	Macronectes halli	Northern Giant Petrel
No	No	Neophema chrysostoma	Blue-winged Parrot

Direct impact	Indirect impact	Species	Common name
No	No	Numenius madagascariensis	Eastern Curlew, Far Eastern Curlew
No	No	Pachyptila turtur subantarctica	Fairy Prion (southern)
No	No	Phoebetria fusca	Sooty Albatross
No	No	Prototroctes maraena	Australian Grayling
No	No	Pterodroma leucoptera leucoptera	Gould's Petrel, Australian Gould's Petrel
No	No	Pterodroma mollis	Soft-plumaged Petrel
No	No	Seriolella brama	Blue Warehou
No	No	Sternula nereis nereis	Australian Fairy Tern
No	No	Thalassarche bulleri	Buller's Albatross, Pacific Albatross
No	No	Thalassarche bulleri platei	Northern Buller's Albatross, Pacific Albatross
No	No	Thalassarche carteri	Indian Yellow-nosed Albatross
Yes	Yes	Thalassarche cauta	Shy Albatross
No	No	Thalassarche chrysostoma	Grey-headed Albatross
No	No	Thalassarche impavida	Campbell Albatross, Campbell Black-browed Albatross
Yes	Yes	Thalassarche melanophris	Black-browed Albatross
No	No	Thalassarche salvini	Salvin's Albatross
No	No	Thalassarche steadi	White-capped Albatross
No	No	Thinornis cucullatus cucullatus	Eastern Hooded Plover, Eastern Hooded Plover
No	No	Thunnus maccoyii	Southern Bluefin Tuna

Ecological communities

Direct impact	Indirect impact	Ecological community
No	No	Giant Kelp Marine Forests of South East Australia

4.1.4.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

Yes

4.1.4.2 Briefly describe why your action has a direct and/or indirect impact on these protected matters. *

A desktop review of the potential for significant impacts on matters of national environmental significance listed under the APBC Act associated with the proposed activity is included in **Att 4 - MNES assessment**; Section 3, Table 3.1, p36 describe potential impacts on threatened species and ecological communities.

A variety of threatened species, including eight marine mammals, one marine reptile, seven sharks, rays or fish, forty-one seabirds and shorebirds, and one threatened ecological community, have the potential to occur within the area of the proposed action. Of these, only five are likely to experience direct or indirect impacts:

- School shark (*Galeorhinus galeus*, Conservation Dependent) may experience localised and temporary indirect impacts associated with food attraction
- Southern right whale (*Eubalaena australis*) and pygmy blue whale (*Balaenoptera musculus brevicauda*), both Endangered, may experience localised and temporary direct impacts associated with entanglement and vessel strike risks, and indirect impacts associated with noise emissions, and
- Shy albatross (*Thalassarche cauta*, Endangered), wandering albatross (*Diomedea exulans*, Vulnerable) and black-browed albatross (*Thalassarche melahophris*, Vulnerable) may experience localised and temporary direct impacts associated with entanglement risks, and indirect impacts associated with light and food attraction.

Overall, the potential direct and indirect impacts associated with the proposed action have been assessed to be localised and temporary, given the limited footprint and temporary nature of the activity.

Direct environmental impacts are primarily related to the placement of the mooring and anchoring system for the aquaculture pens. While the Trial Site covers approx. 100 ha, the actual footprint of direct disturbance is much smaller, estimated at approximately 2,000 square metres. Most infrastructure is suspended above the seabed and would not have a direct impact. A benthic survey of the Trial Site determined that the dominant benthic habitat comprised sandy substrate interspersed with sponges, and at some sites seaweed (predominantly *Caulerpa* sp). Sand was typically coarse, bioturbated and littered with shell fragments. Mooring blocks and anchors would be removed at the end of the trial, allowing the regeneration of any disturbed areas.

The proposed aquaculture trial has the potential to have indirect impacts on wildlife. The presence of aquaculture (including stocked pens) and works vessels has the potential to affect species behaviour. Predators, such as seals, sharks and birds, could potentially be attracted to the trial by the presence of large numbers of fish. Conversely, some species may avoid the area because of the presence of work boats and other activity. Seabirds may be attracted to lights on vessels and the aquaculture infrastructure. Wildlife exclusion netting and wildlife management procedures are proposed to reduce the potential for wildlife interactions. Given the Trial Site makes up a very small part of the area available to wildlife for movement and foraging, the potential impacts are predicted to be minor, localised and temporary.

There is a small possibility of marine fauna injury or death from vessel collision, with whales and seals being species most at risk. Wildlife management measures, including reducing speed or stopping when in the vicinity of whales, are proposed to reduce the potential for vessel strike. Given the limited scale of the proposed activity and proposed management, the likelihood of a vessel strike has been assessed as low.

There is a small risk of marine species becoming entangled in aquaculture infrastructure. Although unlikely, it is possible that marine mammals could enter the Trial Site and become entangled in mooring lines or aquaculture nets. Established procedures will be implemented to free any entangled marine mammals. The mooring system and nets will be designed to meet the requirements of *Norwegian Standard 9415: 2021 Floating aquaculture farms; Site survey, design, execution and use* (NS9415); this, in combination with regular inspections, will significantly reduce the risk of infrastructure damage and ropes or netting leaving the Trial Site. Consequently, there is considered to be a low risk of entanglement.

Establishing infrastructure and stocking fish could potentially increase the risks of introducing an invasive marine species, introducing pathogens or parasites or the escape of non-native species (Atlantic salmon and Kingfish). The risks of introducing an invasive species are considered low, as infrastructure would be brought from Tasmanian waters and inspected prior to deployment. Similarly, there is limited potential to introduce disease or parasites, as only healthy fish would be stocked at the Trial Site; their health status would be signed-off by a qualified veterinarian. As described above, the infrastructure would be design in accordance with NS9415 and regularly inspected for damage, which would significantly limit the potential for stock to escape. Overall, the risk of introducing invasive species, a disease or pathogen, or the escape of non-native species is considered low.

Finfish aquaculture leads to the generation of nutrients through feed and fish wastes. Feed rates are tightly controlled to minimise feed wastage and subsequent nutrient release. Given the limited number of pens, low stocking density and active marine environment, the extent of any nutrient enrichment is expected to be highly localised, and would not have an impact on any threatened species or ecological communities. Additional discussion of nutrient sources is provided in Section 4.1.7.2 of this referral form where impacts to the Commonwealth Marine Area are described.

The attached MNES Identification and Impact Assessment Report (**Att 4 - MNES assessment**), Section 3, Table 3.1 provides a detailed assessment of potential impacts on threatened species and ecological communities. The assessment identified that for all threatened species, the proposed action was unlikely to have a significant impact on a species when considered against the criteria of Significant Impact Guidelines 1.1.

4.1.4.4 Do you consider this likely direct and/or indirect impact to be a Significant Impact? *

No

4.1.4.6 Describe why you do not consider this to be a Significant Impact. *

The proposed action is unlikely to have a significant impact on threatened species and ecological communities (**Att 4 - MNES assessment**), Section 3, Table 3.1.

Critically endangered and endangered species (Southern right whale, pygmy blue whale and shy albatross)

Lead to a long-term decrease a population

The research Trial Site's impact on populations of Southern Right Whales (SRW), Pygmy Blue Whales (PBW) and shy albatross is expected to be minimal. The site's small size and the high mobility of these species, combined with measures to manage noise, vessel movements, and entanglement risks, reduce the likelihood of long-term population decline. The risk of entanglement is further mitigated by infrastructure designed to *Norwegian Standard 9415: 2021 Floating aquaculture farms; Site survey, design, execution and use* (NS9415), regular maintenance and controlled feeding practices.

Reduce area of occupancy

The proposed action is not expected to reduce the area of occupancy for endangered species. The localised nature of the project and the limited duration of activities means that the large spatial areas these species occupy will largely remain unaffected. Temporary disturbances within BIAs for PBW and SRW are not expected to have adverse effects on their overall occupancy. The occupancy of shy albatross is also not expected to be significantly affected due to the localised and temporary nature of disturbances.

Fragment an existing population

The proposed action is unlikely to fragment a population. The species are typically highly mobile and can navigate around potential barriers. While light, noise or vessel disturbances may temporarily affect their behaviour, these factors are not expected to impede their overall ability to disperse or migrate.

Adversely affect habitat critical to survival

The proposed action is unlikely to adversely affect habitat critical to the survival of critically endangered or endangered species. While the PBW and SRW have BIAs overlapping the study area, the seabed disturbance from mooring blocks and anchors is highly localised, suggesting minimal impact on the extensive habitat for these species. There are no critical breeding areas near the study area for shy albatross. Given their large ranges and the proposed action's offshore location, it is unlikely to impact critical habitats or the birds' fly-over areas.

Disrupt the breeding cycle of a population

The proposed action is not expected to disrupt the breeding cycle of a population. The SRW is the only species with reproductive habitat near the Trial Site, and measures will be taken to minimise vessel disturbance to cetaceans. Entanglement and ingestion risks are low with the implementation of proper siting, design in accordance with NS9415, and regular inspection and maintenance. No significant breeding sites for shy albatross are located near the study area, and migration paths are unlikely to be significantly affect by light and vessel disturbances given the study area's small size relative to their migration distance.

Reduce habitat quality

The Trial Site lacks sensitive seabed features and direct impacts are minor and localised, so habitat is not expected to be affected. Trial aquaculture infrastructure would not significantly alter seabird and shorebird habitats. The temporary nature and proposed decommissioning mean there would not be long-term impacts.

Result in invasive species becoming established

With appropriate management, vessel movements are not expected to introduce an invasive species. Vessels will comply with Australian ballast water and biofouling guidelines, making the introduction of invasive species through these means highly improbable. The risk from submerged infrastructure is low, as open ocean sites are less prone to fouling.

Introduce disease

With a Biosecurity Management Plan, certified healthy fish, preventive measures such as freshwater bathing, and Trial Site characteristics that further diminish disease introduction risks, the proposed action is not expected to introduce a disease.

Interfere with recovery

Recovery plans identify threats such as entanglement, vessel disturbance, noise, and habitat modification for marine mammals, and pollution and infrastructure interactions for seabirds. Impacts are expected to be minor, temporary, and localised, with measures in place to control them. Therefore, the proposed action is unlikely to impede the SRW, PBW or shy albatross's recovery.

Vulnerable species (Black-browed albatross and wandering albatross)

Lead to a long-term decrease in an important population

The proposed action's potential impact on vulnerable species is considered low. Impacts on these species are expected to be localised, minor and temporary, with control measures to mitigate potential risks.

Albatrosses may forage or fly over the study area. Net integrity will be maintained and fish fed in a way to reduce wildlife attraction, with the aim of minimising entanglement. Albatross migration paths may be affected by light emissions, but any detours are not expected to affect their energy expenditure to a degree that affects their survival.

Reduce the area of occupancy

The proposed action is unlikely to reduce the area of occupancy for vulnerable marine species. While foraging BIAs for albatrosses occur over the Trial Site, these species have large distribution ranges across Victoria and Tasmania's continental shelf waters, making a reduction in their area of occupancy from the trial unlikely.

Fragment an important population

The project is unlikely to fragment important populations of albatross. No significant barriers to dispersal have been identified, and the study area's small footprint and lack of critical habitat mean that transient individuals can use other areas without being displaced.

Adversely affect habitat critical to survival

The proposed action is not expected to adversely affect critical habitats for vulnerable species. Foraging BIAs for albatrosses occur over the study area; however, with the species' wide-ranging habits and the Trial Site's localised footprint no impact on critical habitats or nesting areas is anticipated.

Disrupt the breeding cycle

The project is unlikely to disrupt the breeding cycles of vulnerable species. Albatross migration would not be significantly impacted given the study area's small size compared to their travel distances.

Reduce habitat quality

The Trial Site lacks sensitive seabed features and direct impacts are minor and localised, so habitat is not expected to be affected. Trial aquaculture infrastructure would not significantly alter seabird and shorebird habitats. The temporary nature and proposed decommissioning mean there would not be long-term impacts.

Result in invasive species becoming established

With appropriate management, vessel movements are not expected to introduce an invasive species. Vessels will comply with Australian ballast water and biofouling guidelines, making the introduction of invasive species through these means highly improbable. The risk from submerged infrastructure is low, as open ocean sites are less prone to fouling.

Introduce disease

With a Biosecurity Management Plan, certified healthy fish, preventive measures such as freshwater bathing, and Trial Site characteristics that further diminish disease introduction risks, the proposed action is not expected to introduce a disease.

Interfere with recovery

Recovery plans identify threats such as pollution and infrastructure interactions for seabirds. Impacts are expected to be minor, temporary, and localised, with measures in place to control them. Therefore, the proposed action is unlikely to impede albatross species' recovery.

Critically endangered and endangered ecological communities

Benthic surveys of the Trial Site did not identify the Giant Kelp Marine Forests of South East Australia or suitable habitat. Therefore the proposed action is not expected to have a significant impact on the ecological community.

4.1.4.7 Do you think your proposed action is a controlled action? *

No

4.1.4.9 Please elaborate why you do not think your proposed action is a controlled action. *

An assessment of potential impacts on threatened species and ecological communities, shows the impacts are minor, localised and temporary, and that the proposed action is unlikely to have a significant impact. On this basis, the proposed action is not considered to be a controlled action.

4.1.4.10 Please describe any avoidance or mitigation measures proposed for this action and attach any supporting documentation for these avoidance and mitigation measures. *

The relatively small scale of the proposed action combined with its temporary nature inherently reduce the potential for long-term environmental impacts. Site-specific operational plans and practices will build upon existing industry best practices applied in Tasmanian aquaculture. The proposed action will be delivered under several project-specific management plans, including:

- An **Infrastructure Management Plan**, specifying the infrastructure design, operations, inspection and maintenance requirements;
- A **Research and Operations Plan**, outlining procedures for operations, such as escapee prevention, towing nets, and vessel mooring;
- A **Wildlife Management Plan**, addressing measures to minimise vessel interactions and entanglement with marine mammals and reptiles, methods of wildlife exclusion and deterrence, and response actions. Compliance with EPBC Regulations 2000 Part 8 Division 8.1;
- A **Biosecurity Management Plan**, defining methods to prevent the introduction or spread of pathogens between wild and farmed species, and between different farmed species. Compliance with the Biosecurity (Salmonid Biosecurity Zones) Regulations 2022 will be required to minimise the potential for pathogens to spread from salmonids to wild fish species;
- A **Waste Management Plan** defining methods to prevent solid wastes (rubbish) entering the environment and monitoring and mitigating organic wastes reporting to the environment; and

- A **Monitoring Program**, defining the minimum compliance monitoring requirements (water quality, benthic environment, sediments) and research monitoring requirements.

The Infrastructure Management Plan and the Research and Operations Plan are under development and can be provided for acceptance prior to commencement of the proposed action.

Infrastructure Management Plan

Minimum requirements for the Infrastructure Management Plan include:

- All moorings and net systems must be designed to NS9415 and certified by a suitably qualified entity
- Inspections and maintenance in accordance with NS9415
- Net cleaning to be in accordance with Salmon Tasmania's Environmental Best Management Practice Guideline for in situ Net Cleaning of Salmon Cages Using Marine Inspector Cleaner
- Regular inspections, maintenance and response measures to manage marine debris, and
- Incident reporting and investigation procedures.

Research and Operations Plan

The Research and Operations Plan will describe procedures for day-to-day operations. The procedures are based on industry best practice and seek to prevent environmental harm and protect worker health and safety. It will also include a summary of the research portfolio, including a compendium on the projects, project team members and methodologies.

Wildlife Management Plan (**Att 7 – Wildlife MP**)

The Wildlife Management Plan will focus on aquaculture operations and managing attraction of and interactions with wildlife, including marine mammals and birds. As the proposed action is planned in an offshore site where there has been no previous aquaculture, it is expected that there will be fewer wildlife interactions than other locations in Tasmania. Nevertheless, best practice exclusion and response measures will be employed.

The Wildlife Management Plan will address:

- Exclusion procedures, including inspections and maintenance of exclusion systems
- Deterrent measures as appropriate for the site and scale of activity
- Response procedures if wildlife does enter aquaculture pens
- Interactions with wildlife during diving operations
- Protocols for interactions with cetaceans, marine mammals, marine reptiles, sharks and birds, and
- Incident response, investigation and reporting requirements.

Biosecurity Management Plan (**Att 8 – Biosecurity MP**)

An overarching Biosecurity Management Plan has been prepared for the proposed activity; specific requirements will be added as required as different aquaculture species are added to the trial. The Plan addresses all aspects of fish health management, including:

- The process for marine inputs, including required health declarations
- Fish health monitoring, including water quality within the aquaculture pens
- Escape prevention and response
- Feeding practices

- Bathing operations
- Management of mortalities, including significant mortality events
- Vaccinations and therapeutic medication, and
- Harvesting and processing.

Waste Management Plan (**Att 9 – Waste MP**)

The Waste management Plan focusses on ensuring that protocols are in place to prevent solid wastes (rubbish) from entering the marine environment and appropriately managing organic wastes to effectively mitigate risk of environmental impacts.

Monitoring Plan (**Att 10 – Monitoring program**)

The Monitoring Program describes monitoring requirements for compliance and research purposes. The plan specifies monitoring purpose, location, frequency, equipment and data collection requirements.

4.1.4.11 Please describe any proposed offsets and attach any supporting documentation relevant to these measures. *

As no significant impacts are anticipated, no offsets are proposed as part of the action.

4.1.5 Migratory Species

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Direct impact	Indirect impact	Species	Common name
No	No	Actitis hypoleucos	Common Sandpiper
No	No	Apus pacificus	Fork-tailed Swift

Direct impact	Indirect impact	Species	Common name
No	No	Ardenna carneipes	Flesh-footed Shearwater, Fleshy-footed Shearwater
No	No	Ardenna grisea	Sooty Shearwater
No	No	Balaenoptera borealis	Sei Whale
Yes	Yes	Balaenoptera musculus	Blue Whale
No	No	Balaenoptera physalus	Fin Whale
No	No	Calidris acuminata	Sharp-tailed Sandpiper
No	No	Calidris canutus	Red Knot, Knot
No	No	Calidris ferruginea	Curlew Sandpiper
No	No	Calidris melanotos	Pectoral Sandpiper
No	No	Caperea marginata	Pygmy Right Whale
No	No	Carcharodon carcharias	White Shark, Great White Shark
No	No	Chelonia mydas	Green Turtle
No	No	Diomedea antipodensis	Antipodean Albatross
No	No	Diomedea epomophora	Southern Royal Albatross
Yes	Yes	Diomedea exulans	Wandering Albatross
No	No	Diomedea sanfordi	Northern Royal Albatross
Yes	Yes	Eubalaena australis	Southern Right Whale
No	No	Gallinago hardwickii	Latham's Snipe, Japanese Snipe
No	No	Hirundapus caudacutus	White-throated Needletail
No	No	Isurus oxyrinchus	Shortfin Mako, Mako Shark
No	No	Lagenorhynchus obscurus	Dusky Dolphin
No	No	Lamna nasus	Porbeagle, Mackerel Shark
No	No	Limosa lapponica	Bar-tailed Godwit
No	No	Macronectes giganteus	Southern Giant-Petrel, Southern Giant Petrel
No	No	Macronectes halli	Northern Giant Petrel

Direct impact	Indirect impact	Species	Common name
Yes	Yes	Megaptera novaeangliae	Humpback Whale
No	No	Numenius madagascariensis	Eastern Curlew, Far Eastern Curlew
No	No	Orcinus orca	Killer Whale, Orca
No	No	Phoebetria fusca	Sooty Albatross
No	No	Sternula albifrons	Little Tern
No	No	Thalassarche bulleri	Buller's Albatross, Pacific Albatross
No	No	Thalassarche carteri	Indian Yellow-nosed Albatross
Yes	Yes	Thalassarche cauta	Shy Albatross
No	No	Thalassarche chrysostoma	Grey-headed Albatross
No	No	Thalassarche impavida	Campbell Albatross, Campbell Black-browed Albatross
Yes	Yes	Thalassarche melanophris	Black-browed Albatross
No	No	Thalassarche salvini	Salvin's Albatross
No	No	Thalassarche steadi	White-capped Albatross

4.1.5.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

Yes

4.1.5.2 Briefly describe why your action has a direct and/or indirect impact on these protected matters. *

Migratory species that have the potential to occur near the Trial Site (**Att 4 - MNES assessment**, Section 2) fall into the same categories as those identified for threatened species:

- Marine mammals
- Marine reptiles
- Sharks, rays and fish, and
- Seabirds and shorebirds.

Of the species with the potential to occur in the area, six are likely to experience direct or indirect impacts: southern right whale, pygmy blue whale, humpback whale (Megaptera novaeangliae), shy albatross, black-browed albatross and wandering albatross.

The types of impacts predicted to affect migratory species are the same as those presented for threatened species.

4.1.5.4 Do you consider this likely direct and/or indirect impact to be a Significant Impact? *

No

4.1.5.6 Describe why you do not consider this to be a Significant Impact. *

Att 4 - MNES assessment, section 3 assess potential impacts to migratory species. This section focuses on species that are listed only as migratory; potential impacts on threatened species that are also migratory are assessed under threatened species. Migratory species that were not assessed as threatened species include:

- Three species of marine mammals (pygmy right whale, killer whale, dusky dolphin)
- Two sharks (shortfin mako, porbeagle), and
- Ten seabirds and shorebirds.

There is no known critical habitat for the identified migratory species in the area of the Trial Site. Therefore, the proposed action would not substantially modify, destroy, or isolate an area of important habitat.

As discussed for threatened species, the proposed action is highly unlikely to result in an invasive species that is harmful to migratory species establishing in the species habitat.

There is no evidence that any migratory listed cetaceans meet the criteria of an ‘ecologically significant proportion’ of a population in the study area. Additionally migratory species that occur in the area are highly mobile (e.g. marine mammals and sharks) or the Trial Site does not offer suitable breeding habitat (e.g. for shorebirds). Therefore, the proposed action would not seriously disrupt the lifecycle of an ecologically significant proportion of the population of a migratory species.

4.1.5.7 Do you think your proposed action is a controlled action? *

No

4.1.5.9 Please elaborate why you do not think your proposed action is a controlled action. *

An assessment of potential impacts on migratory species, shows the impacts are minor, localised and temporary, and that the proposed action is unlikely to have a significant impact. On this basis, the proposed action is not considered to be a controlled action.

4.1.5.10 Please describe any avoidance or mitigation measures proposed for this action and attach any supporting documentation for these avoidance and mitigation measures. *

The mitigation measures proposed above for threatened species are also considered suitable to mitigate potential impacts on migratory species.

4.1.5.11 Please describe any proposed offsets and attach any supporting documentation relevant to these measures. *

As no significant impacts are anticipated, no offsets are proposed as part of the action.

4.1.6 Nuclear

4.1.6.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.6.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The proposed action does not include nuclear aspects.

4.1.7 Commonwealth Marine Area

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

—

4.1.7.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

Yes

4.1.7.2 Briefly describe why your action has a direct and/or indirect impact on these protected matters. *

The Trial Site is located entirely outside of Tasmanian territorial waters, within the Commonwealth marine area. Potential impacts on the Commonwealth marine area are assessed in **Att 4 - MNES assessment**, Section 3, Table 3.1, p55.

A search of the Underwater Cultural Heritage database on the 2 January 2024 identified two known shipwrecks within the broader area, the Meteor (ID no. 7501) and the Blythe Star (ID no. 6939). There is a potential for additional previously unknown shipwrecks to be present within the Study area. All shipwrecks are protected by the Underwater Cultural Heritage Act 2018.

A search of the Aboriginal Heritage Register did not identify any Aboriginal cultural heritage values within the Study area. However, there remains a potential for Aboriginal cultural heritage values to be present within the Commonwealth marine area. If present, these values are protected by the Underwater Cultural Heritage Act 2018.

Finfish aquaculture leads to the generation of nutrients through feed and fish wastes, which has the potential to affect local water quality. Given the limited number of pens, low stocking density and active marine environment, the extent of any nutrient enrichment is expected to be highly localised, and would not have an impact on any threatened species or ecological communities. Nutrient sources from the proposed action are discussed below:

- Feed rates are tightly controlled to minimise feed wastage and subsequent nutrient release. Uneaten feed pellets sink in the water column, with currents expected to disperse any pellets, rather than the pellets accumulating beneath the pens. Over time, the pellets are consumed by benthic fauna or decompose. Of the 320 t of feed forecast to be fed during the trial, approximately 180 kg (0.03%) of feed is expected to be uneaten; this wastage rate is based on existing recorded feed efficiency in Tasmanian aquaculture sites.
- Solid fish waste (faeces) is estimated to be in the order of 25 t over the three-year trial (or approximately 1 t per month). As for uneaten feed, ocean currents are predicted to help disperse fish wastes, limiting the amount accumulating beneath the aquaculture pens. Over time, faeces are consumed by benthic fauna or decompose.
- The Tasmanian Environmental Protection Agency has developed an accepted standard to estimate the amount of feed converted to dissolved inorganic nitrogen (DIN, including nitrate, nitrite and ammonia) and released into the environment. Of the nitrogen present in feed, 5% is released to the environment and 85% of that is as DIN (i.e. 4.23% of the nitrogen in feed is released as DIN). Based on the feed types to be used in the trial, it is estimated that 360 kg DIN will be released over the course of the trial, which is an insignificant volume in the context of the open waters of the Bass Strait.

Other potential impacts on the Commonwealth Marine Environment are associated with potential impacts on protected species, which are addressed under Threatened Species and Migratory Species.

4.1.7.4 Do you consider this likely direct and/or indirect impact to be a Significant Impact? *

No

4.1.7.6 Describe why you do not consider this to be a Significant Impact. *

Potential impacts on the Commonwealth Marine Environment are assessed in the attached MNES Identification and Assessment Report (**Att 4 – MNES assessment**), Section 3, Table 3.1, p55.

Result in a known or potential pest species becoming established in the Commonwealth marine area

The introduction of pest species in the Research Trial Site could potentially occur as a result of vessel activities and/or aquaculture infrastructure and species. The project will use vessels that comply with legislative and standard control measures for managing hull fouling and ballast water. In addition, approved Biosecurity Management Plans will be developed to ensure the likelihood of a pest species becoming established is low.

Modify, destroy, fragment, isolate or disturb an important or substantial area of habitat such that an adverse impact on marine ecosystem functioning or integrity in a Commonwealth marine area results

Some temporary environmental disturbances may occur as a result of the proposed action. These disturbances may cause some animals to avoid the Trial Site. However, given its small size in relation to the extensive distributions of most species and its temporary nature, the proposed action is not expected to have any adverse impact on ecosystem function or integrity within the Commonwealth Marine Area.

Have a substantial adverse effect on a population of a marine species or cetacean including its life cycle and spatial distribution

No substantial adverse effects have been identified as a result of the proposed action and no significant impacts on threatened and migratory listed species have been identified (as documented in previous section).

Impacts resulting from light or noise emissions, planned discharges and accidental releases, or vessels in the Trial Site are expected to be minor, localised and temporary, and are also unlikely to affect the life cycle or spatial distribution of any threatened or migratory species.

Substantially modify air quality or water quality which may adversely impact on biodiversity, ecological integrity, social amenity or human health

Atmospheric emissions have the potential to result in localised reduction in air quality.

Similarly, planned discharges and accidental releases could impact the water quality in and around the Trial Site. Discharge volumes are expected to be small and any effects on water quality would be minor and temporary as it would rapidly dilute in the high-energy waters of Bass Strait.

Therefore, the proposed action is not expected to result in any substantial change in air or water quality and so will not adversely affect biodiversity, ecological integrity, social amenity or human health.

Result in persistent organic chemicals, heavy metals, or other potentially harmful chemicals accumulating in the marine environment such that biodiversity, ecological integrity, social amenity or human health may be adversely affected

There are no planned discharges of organic chemicals, heavy metals, or other potentially harmful chemicals into the Commonwealth marine environment.

The accidental release of fuel, and other chemicals in the Trial Site could reduce water and sediment quality. If the accidental release were substantial, it could adversely affect biodiversity and ecological integrity. However, with well-established preventative control measures and spill response procedures in place, large-scale spills are unlikely, and any impacts will be rapidly mitigated.

Have a substantial adverse impact on heritage values of the Commonwealth marine area, including damage or destruction of an historic shipwreck.

There are no known underwater heritage values close to the Trial Site. Impacts are not expected.

4.1.7.7 Do you think your proposed action is a controlled action? *

No

4.1.7.9 Please elaborate why you do not think your proposed action is a controlled action. *

An assessment of potential impacts on the Commonwealth marine area, shows the impacts are minor, localised and temporary, and that the proposed action is unlikely to have a significant impact. On this basis, the proposed action is not considered to be a controlled action.

4.1.7.10 Please describe any avoidance or mitigation measures proposed for this action and attach any supporting documentation for these avoidance and mitigation measures. *

The mitigation measures proposed above for threatened species are also considered suitable to mitigate potential impacts on migratory species.

4.1.7.11 Please describe any proposed offsets and attach any supporting documentation relevant to these measures. *

As no significant impacts are anticipated, no offsets are proposed as part of the action.

4.1.8 Great Barrier Reef

4.1.8.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.8.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The proposed action is not located near the Great Barrier Reef, and therefore no impacts are expected.

4.1.9 Water resource in relation to large coal mining development or coal seam gas

4.1.9.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.9.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The proposed action does not relate to coal mining or coal seam gas.

4.1.10 Commonwealth Land

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

—

4.1.10.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.10.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The proposed action is not located on or near Commonwealth land, and therfore no impacts are expected.

4.1.11 Commonwealth Heritage Places Overseas

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

—

4.1.11.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.11.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The proposed action is not near Commonwealth Heritage Places Overseas, therefore no impacts are expected.

4.1.12 Commonwealth or Commonwealth Agency

4.1.12.1 Is the proposed action to be taken by the Commonwealth or a Commonwealth Agency? *

No

4.2 Impact summary

Conclusion on the likelihood of significant impacts

You have indicated that the proposed action will likely have a significant impact on the following Matters of National Environmental Significance:

None

Conclusion on the likelihood of unlikely significant impacts

You have indicated that the proposed action will unlikely have a significant impact on the following Matters of National Environmental Significance:

- World Heritage (S12)
- National Heritage (S15B)
- Ramsar Wetland (S16)
- Threatened Species and Ecological Communities (S18)
- Migratory Species (S20)
- Nuclear (S21)
- Commonwealth Marine Area (S23)
- Great Barrier Reef (S24B)
- Water resource in relation to large coal mining development or coal seam gas (S24D)
- Commonwealth Land (S26)
- Commonwealth Heritage Places Overseas (S27B)
- Commonwealth or Commonwealth Agency (S28)

4.3 Alternatives

4.3.1 Do you have any possible alternatives for your proposed action to be considered as part of your referral? *

No

4.3.8 Describe why alternatives for your proposed action were not possible. *

BECRC initially investigated a potential trial site approximately 700m closer to the Tasmanian coastline. Data for a baseline survey across a broad area was collected between March 2021 and December 2022 (**Att 5 – BEZ baseline surveys 2022**). Included in the scope of the baseline survey was seafloor mapping, sediment and benthic habitat characterisation, hydrodynamics characterisation, and biological community characterisation. This baseline survey provided initial data to plan for a more detailed site characterisation survey (**Att 6 – Marine enviro assessment**), and for industry partners to feed into their project planning processes.

Benthic habitat surveys of the initial site identified the presence of dense sponge communities and bedrock. Due to the natural value of sponge communities and sensitive nature of this habitat type and the unsuitable seabed geology, the original potential trial site was deemed unsuitable, and investigations were abandoned at this site.

A subsequent survey of the proposed Trial Site, involving bathymetry, benthic habitat mapping, sediment composition and ecological community characterisation has determined the Trial Site presented in this referral as suitable for the proposed activities. The attached Marine Environmental Assessment of a Trial Site for a Proposed Blue Economy Zone (**Att 6 – Marine enviro assessment**) provides the outcomes of the site investigations.

Further information on the justification for the site location is presented in **Att 1 - Ext project description**, Section 2.2.

5. Lodgement

5.1 Attachments

1.2.1 Overview of the proposed action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 1 - Ext project description.pdf #1 Extended description of the project proposal	25/08/2024	No	High

1.2.6 Commonwealth or state legislation, planning frameworks or policy documents that are relevant to the proposed action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 2 - MOU - Cth & Tas.pdf Signed Memorandum of Understanding between the Commonwealth and Tasmanian governments regarding the management of the Blue Economy Zone	31/03/2022	No	High
#2.	Link	National Aquaculture Strategy https://www.agriculture.gov.au/agriculture-land/..			High
#3.	Link	Permit Supporting Information Guidelines https://nre.tas.gov.au/Documents/Permit%20Suppor..			High

1.2.7 Public consultation regarding the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 1 - Ext project description.pdf #1 Extended description of the project proposal	25/08/2024	No	High

1.3.2.18 (Person proposing to take the action) If the person proposing to take the action is a corporation, provide details of the corporation’s environmental policy and planning framework

	Type	Name	Date	Sensitivity	Confidence
#1.	Link	Sustainability Statement https://blueeconomycrc.com.au/sustainability-sta..			High

2.2.5 Tenure of the action area relevant to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 2 - MOU - Cth & Tas.pdf Signed Memorandum of Understanding between the Commonwealth and Tasmanian governments regarding the management of the Blue Economy Zone	31/03/2022	No	High

3.1.1 Current condition of the project area's environment

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 3 - Fishing data.pdf Report on commercial fishing activity near the Blue Economy Zone.	26/07/2022	No	High
#2.	Document	Att 4 - MNES assessment.pdf Desktop assessment of Matters of National Environmnetal Significance	17/06/2024	No	High
#3.	Document	Att 5 - BEZ baseline survey 2022.pdf Baseline environmental surveys of the Blue Economy Zone, including areas outside the Trial Site	19/12/2022	No	High

#4.	Document	Att 6 - Marine enviro assessment.pdf Baseline environmental surveys of the Trial Site	21/05/2024	No	High

3.1.4 Gradient relevant to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 5 - BEZ baseline survey 2022.pdf Baseline environmental surveys of the Blue Economy Zone, including areas outside the Trial Site	19/12/2022	No	High
#2.	Document	Att 6 - Marine enviro assessment.pdf Baseline environmental surveys of the Trial Site	21/05/2024	No	High

3.2.1 Flora and fauna within the affected area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 4 - MNES assessment.pdf Desktop assessment of Matters of National Environmnetal Significance	17/06/2024	No	High
#2.	Document	Att 6 - Marine enviro assessment.pdf Baseline environmental surveys of the Trial Site	21/05/2024	No	High

3.2.2 Vegetation within the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 6 - Marine enviro assessment.pdf Baseline environmental surveys of the Trial Site	21/05/2024	No	High

3.3.2 Indigenous heritage values that apply to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Link	Cultural Licence to Operate in the Blue Economy https://blueeconomycrc.com.au/project/cultural-l..			High

3.4.1 Hydrology characteristics that apply to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Link	Assessment of the conservation values of the Bass Strait sponge beds area https://www.agriculture.gov.au/sites/default/fil..			High
#2.	Link	The wave climate of Bass Strait and South-East Australia https://www.researchgate.net/publication/3594507..	04/03/2022		High

#3.	Link	Wind speed and direction rose http://www.bom.gov.au/cgi-bin/climate/cgi_bin_sc..	High

4.1.4.2 (Threatened Species and Ecological Communities) Why your action has a direct and/or indirect impact on the identified protected matters

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 4 - MNES assessment.pdf Desktop assessment of Matters of National Environmnetal Significance	17/06/2024	No	High

4.1.4.6 (Threatened Species and Ecological Communities) Why you do not consider the direct and/or indirect impact to be a Significant Impact

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 4 - MNES assessment.pdf Desktop assessment of Matters of National Environmnetal Significance	17/06/2024	No	High

4.1.4.10 (Threatened Species and Ecological Communities) Avoidance or mitigation measures proposed for this action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 10 - Monitoring program.pdf Description of proposed regulated monitoring for the proposed action.	31/05/2024	No	High
#2.	Document	Att 7 - Wildlife MP.pdf Management measures to reduce potential impacts on wildlife	30/06/2024	No	High
#3.	Document	Att 8 - Biosecurity MP.pdf Describes biosecurity measures to reduce the potential for transmission of pathogens to and from wildlife and livestock	30/06/2024	No	High
#4.	Document	Att 9 - Waste MP.pdf Proposed measures to reduce potential impacts of solid and liquid waste on the environment	30/06/2024	No	High

4.1.5.2 (Migratory Species) Why your action has a direct and/or indirect impact on the identified protected matters

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 4 - MNES assessment.pdf Desktop assessment of Matters of National Environmnetal Significance	17/06/2024	No	High

4.1.5.6 (Migratory Species) Why you do not consider the direct and/or indirect impact to be a Significant Impact

	Type	Name	Date	Sensitivity	Confidence

#1.	Document	Att 4 - MNES assessment.pdf Desktop assessment of Matters of National Environmnetal Significance	17/06/2024	No	High

4.1.7.2 (Commonwealth Marine Area) Why your action has a direct and/or indirect impact on the identified protected matters

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 4 - MNES assessment.pdf Desktop assessment of Matters of National Environmnetal Significance	17/06/2024	No	High

4.1.7.6 (Commonwealth Marine Area) Why you do not consider the direct and/or indirect impact to be a Significant Impact

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 4 - MNES assessment.pdf Desktop assessment of Matters of National Environmnetal Significance	17/06/2024	No	High

4.3.8 Why alternatives for your proposed action were not possible

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 1 - Ext project description.pdf #1 Extended description of the project proposal	25/08/2024	No	High
#2.	Document	Att 5 - BEZ baseline survey 2022.pdf Baseline environmental surveys of the Blue Economy Zone, including areas outside the Trial Site	19/12/2022	No	High
#3.	Document	Att 6 - Marine enviro assessment.pdf Baseline environmental surveys of the Trial Site	21/05/2024	No	High

5.2 Declarations

Completed Referring party's declaration

The Referring party is the person preparing the information in this referral.

ABN/ACN	64634684549
Organisation name	BLUE ECONOMY CRC-CO LTD
Organisation address	7248 TAS
Representative's name	Angela Williamson
Representative's job title	Director

Phone	0456987505
Email	angela.williamson@blueeconomycrc.com.au
Address	PO Box 897, Launceston, TAS, 7250

☑ Check this box to indicate you have read the referral form. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

☑ By checking this box, I, **Angela Williamson of BLUE ECONOMY CRC-CO LTD**, declare that to the best of my knowledge the information I have given on, or attached to this EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

Completed Person proposing to take the action's declaration

The Person proposing to take the action is the individual, business, government agency or trustee that will be responsible for the proposed action.

ABN/ACN	64634684549
Organisation name	BLUE ECONOMY CRC-CO LTD
Organisation address	7248 TAS
Representative's name	John Whittington
Representative's job title	CEO
Phone	0439335429
Email	john.whittington@blueeconomycrc.com.au
Address	PO Box 897, Launceston, TAS, 7250

☑ Check this box to indicate you have read the referral form. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

☑ I, **John Whittington of BLUE ECONOMY CRC-CO LTD**, declare that to the best of my knowledge the information I have given on, or attached to the EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. I declare that I am not taking the action on behalf or for the benefit of any other person or entity. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

✔ Completed Proposed designated proponent's declaration

The Proposed designated proponent is the individual or organisation proposed to be responsible for meeting the requirements of the EPBC Act during the assessment process, if the Minister decides that this project is a controlled action.

Same as Person proposing to take the action information.

☑ Check this box to indicate you have read the referral form. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

☑ I, **John Whittington of BLUE ECONOMY CRC-CO LTD**, the Proposed designated proponent, consent to the designation of myself as the Proposed designated proponent for the purposes of the action described in this EPBC Act Referral. *

☐ I would like to receive notifications and track the referral progress through the EPBC portal. *