SOUTH COAST MARICULTURE

ANNUAL ENVIRONMENTAL MANAGEMENT REPORT

July 2023 - June 2024

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Developed by South Coast Mariculture

South Coast Mariculture Annual Environmental Management Report

July 2023 - June 2024

More information

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Cover image: Varied Operations at South Coast Mariculture Leases 2024

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Declaration of Compliance

Project Name	**Jervis Bay Commercial Shellfish Aquaculture Leases**
Project Application Number	**SSI-5657**
Description of Project	**Commercial Shellfish Aquaculture in Jervis Bay**
Project Address	**Shed 5, 6 Bolton Road, Huskisson, NSW 2540**
Proponent	**South Coast Mariculture Pty Ltd**
Title of Compliance Report	**South Coast Mariculture Annual Environmental Management Report July 2023 – June 2024**
Date	**1st July 2024**

I declare that I have reviewed relevant evidence and prepared the contents of the attached Compliance Report to the best of my knowledge:

• the Annual Environmental Management Report has been prepared in accordance with all relevant conditions of consent;

• the Annual Environmental Management Report has been prepared in accordance with the Compliance Reporting Post Approval Requirements;

• the findings of the Annual Environmental Management Report are reported truthfully, accurately and completely;

• due diligence and professional judgement have been exercised in preparing the Annual Environmental Management Report and

• the Annual Environmental Management Report is an accurate summary of the compliance status of the development.

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Notes:

• Under section 10.6 of the Environmental Planning and Assessment Act 1979 a person must not include false or misleading information (or provide information for inclusion in) a report of monitoring data or an audit report produced to the Minister in connection with an audit if the person knows that the information is false or misleading in a material respect. The proponent of an approved project must not fail to include information in (or provide information for inclusion in) a report of monitoring data or an audit report produced to the Minister in connection with an audit if the person knows that the information is materially relevant to the monitoring or audit. The maximum penalty is, in the case of a corporation, $1 million and for an individual, $250,000; and

• The Crimes Act 1900 contains other offences relating to false and misleading information: section 307B (giving false or misleading information – maximum penalty 2 years' imprisonment or 200 penalty units, or both).

Name of Authorised Reporting Officer	**Paransheel**
Title	**Compliance and R&D Manager**
Qualification	**MSc Honours Marine Science and Management**
Company	**South Coast Mariculture**
Company Address	**Shed 5, 6 Bolton Road, Huskisson NSW 2540**

Executive Summary

This report details the performance of the South Coast Mariculture marine aquaculture leases between 1st July 2023 and 31st June 2024. The report complies with State Significant Infrastructure Approval SS1-5657 that an Annual Environmental Management Report be submitted to the NSW Department of Planning and Environment, the NSW Office of Environment and Heritage and the Commonwealth Department of Environment and Energy.

For the purposes of this report, the South Coast Mariculture leases will be referred to as:

AL 15/001 = Callala North Lease
AL 15/002 = Callala South Lease
AL 15/003 = Vincentia Lease

The report covers a range of activities including construction and deployment; operation and maintenance; environmental monitoring and biosecurity; research; transport of spat; marine fauna interactions; navigational interactions; compliance with standards and performance measures and community engagement.

The report highlights compliance with consent conditions and provides examples of where and when standards were exceeded. The report also identifies any non-compliance issues during this review period.

During this reporting period, there was:

- successful continued stocking of Callala North lease (AL 15/001) and Callala South Lease (AL 15/002) with Blue Mussel spat *(Mytilus galloprovincialis)*;
- successful harvest of mussels from Callala North lease (AL 15/001); and Callala South Lease (AL15/002)
- no significant unexplained mortality or illness of mussels;
- no new introduced pest/species identified on the lease;
- no aquatic fauna entanglement incidents:
- four marine fauna interactions recorded within and around the SCM marine lease (AL 15/001); only pods of seals, penguins were observed and no whales
- operational training of interested staff in HACCP, Food Safety Program, Contributing to Workplace Health and Safety & First Aid Training
- one intensive beach clean-up with Ocean Watch: Tide to tip and one beach clean-up after severe

weather conditions to control and address marine plastic pollution.

- employment of 19 full-time, 1 part-time and 11 casual staff members at South Coast Mariculture

This report also outlines any incidents related to operational matters that occurred on the South Coast Mariculture leases during the reporting period including:

- Zero infrastructure malfunctions.
- Marine fauna monitoring with zero entanglements and four recorded sightings within and around the lease area.
- One feedback registered in FY2023-FY2024
- no major incidents occurred, and seven minor incidents; all recorded within Sea Flux

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List of Abbreviations

BAP	Best Aquaculture Practices
EMP	Environmental Management Plan
HACCP	Hazard Analysis Critical Control Point
IALA	International Association of Lighthouse Authorities
IEA	Independent Environmental Audit
NSW DPI	New South Wales Department of Primary Industries
NSW DPIE	New South Wales Department of Planning and Environment
JBMP	Jervis Bay Marine Park
NSW RMS	New South Wales Roads and Maritime Service
SCM	South Coast Mariculture Pty Ltd
SDS	Safety Data Sheets
SRO	Sydney Rock Oyster
TOC	Total Organic Carbon
UoN	University of Newcastle
UTS	University of Technology Sydney
WH&S	Work Health and Safety

1. Introduction

South Coast Mariculture Pty Ltd (SCM) has achieved significant progress in establishing extensive commercial aquaculture leases (Figure 1) in the marine embayment of Jervis Bay, NSW, under the State Significant Infrastructure Approval SSI–5657 granted by Fisheries NSW, a division of the NSW Department of Primary Industries (NSW DPI), through the NSW Government Department of Planning and the Environment (NSW DPIE). According to the aquaculture permit, AP2554 issued by NSW DPI, South Coast Mariculture (SCM) is licensed to cultivate various marine bivalves on the lease, including-

- Akoya (Pearl) (*Pinctada imbricata*)
- Blue Mussel (*Mytilus galloprovincialis*)
- Commercial Scallop (*Pecten fumatus*)
- Doughboy Scallop (*Mimachlamys asperrima*)
- Native Oyster (*Ostrea angasi*)
- Sydney Rock Oysters (Diploid) (*Saccostrea glomerata*)

SCM has engaged in extensive collaboration with NSW DPI, alongside local, state, and federal government entities, community organizations, private enterprises, and various stakeholders. This collaborative effort aims to ensure that all aspects of planning, development, infrastructure deployment, operational procedures, and environmental management related to SCM's leases align with the conditions outlined in SSI–5657. This concerted approach is designed to achieve a development that not only complies with regulatory requirements but also delivers a net positive impact on the environment, enhances the well-being of the local community, and contributes positively to the Jervis Bay region.

Jervis Bay stands out among the limited marine embayments along the NSW coast that are conducive to extensive aquaculture, alongside Port Stephens and Twofold Bay. Port Stephens is renowned for its established edible oyster industry, supported by favorable environmental conditions and longstanding expertise in oyster cultivation. Twofold Bay, on the other hand, is distinguished by its extensive Blue Mussel aquaculture operations, leveraging the bay's unique marine environment to sustainably produce this sought-after shellfish species (Joyce et al., 2010)

Each of these locations represents a distinct opportunity for aquaculture, characterized by their specific ecological characteristics and existing industry practices. Jervis Bay, with its pristine waters and strategic location, offers a promising setting for SCM's innovative aquaculture initiatives, aiming to contribute

positively to the region's economic growth while maintaining environmental integrity.

The successful operation of South Coast Mariculture's Commercial Extensive Aquaculture Leases hinges upon maintaining the pristine quality of the surrounding marine environment. To achieve this, SCM prioritizes stringent environmental management practices, ensuring the preservation of marine biodiversity and water quality. Additionally, SCM places a strong emphasis on animal welfare, adhering to rigorous standards that govern the ethical treatment and health of cultured marine organisms.

In alignment with its commitment to sustainability and responsibility, SCM operates in accordance with Best Aquaculture Practices (BAP). These globally recognized standards are endorsed by esteemed organizations such as the Global Food Safety Initiative and the Global Sustainable Seafood Initiative. By adhering to BAP guidelines, SCM not only upholds high standards of food safety but also promotes sustainable practices that minimize environmental impact and support the long-term health of aquatic ecosystems.

Transparency is fundamental to SCM's approach. The company maintains open and honest communication in all interactions concerning the marine environment, fostering trust and accountability with stakeholders. Through these practices, SCM strives to set a benchmark for responsible aquaculture, ensuring that its operations not only meet regulatory requirements but also contribute positively to the broader goals of environmental sustainability and community well-being.

Figure 1: Regional Map of Jervis Bay and the locations for the current South Coast Mariculture Commercial Extensive Aquaculture Leases (Source: Fisheries NSW 2012).

1.1 Current Lease Site Locations

The SCM leases (Figure:1 & 2) occupy a total area of 50 hectares between the coordinates:

- AL15/001 (Callala North) - 20 hectares (Coordinates: -35° 1' 11.899" 150° 42' 39.666"; -35° 1' 27.615" 150° 42' 53.655"; -35° 1' 33.944" 150° 42' 43.147"; -35° 1' 18.228" 150° 42' 29.158");
- AL15/002 (Callala South) - 20 hectares (Coordinates: -35° 1' 38.188" 150° 42' 21.156"; -35° 1' 53.796" 150° 42' 35.324"; -35° 2' 0.206" 150° 42' 24.887"; -35° 1' 44.597",-150° 42' 10.720"); and
- AL15/003 (Vincentia) - 10 hectares (Coordinates: -35° 3' 35.483" 150° 41' 13.244"; -35° 3' 42.122" 150° 41' 21.910"; -35° 3' 49.960" 150° 41' 13.027"; -35° 3' 43.321" 150° 41' 4.361").

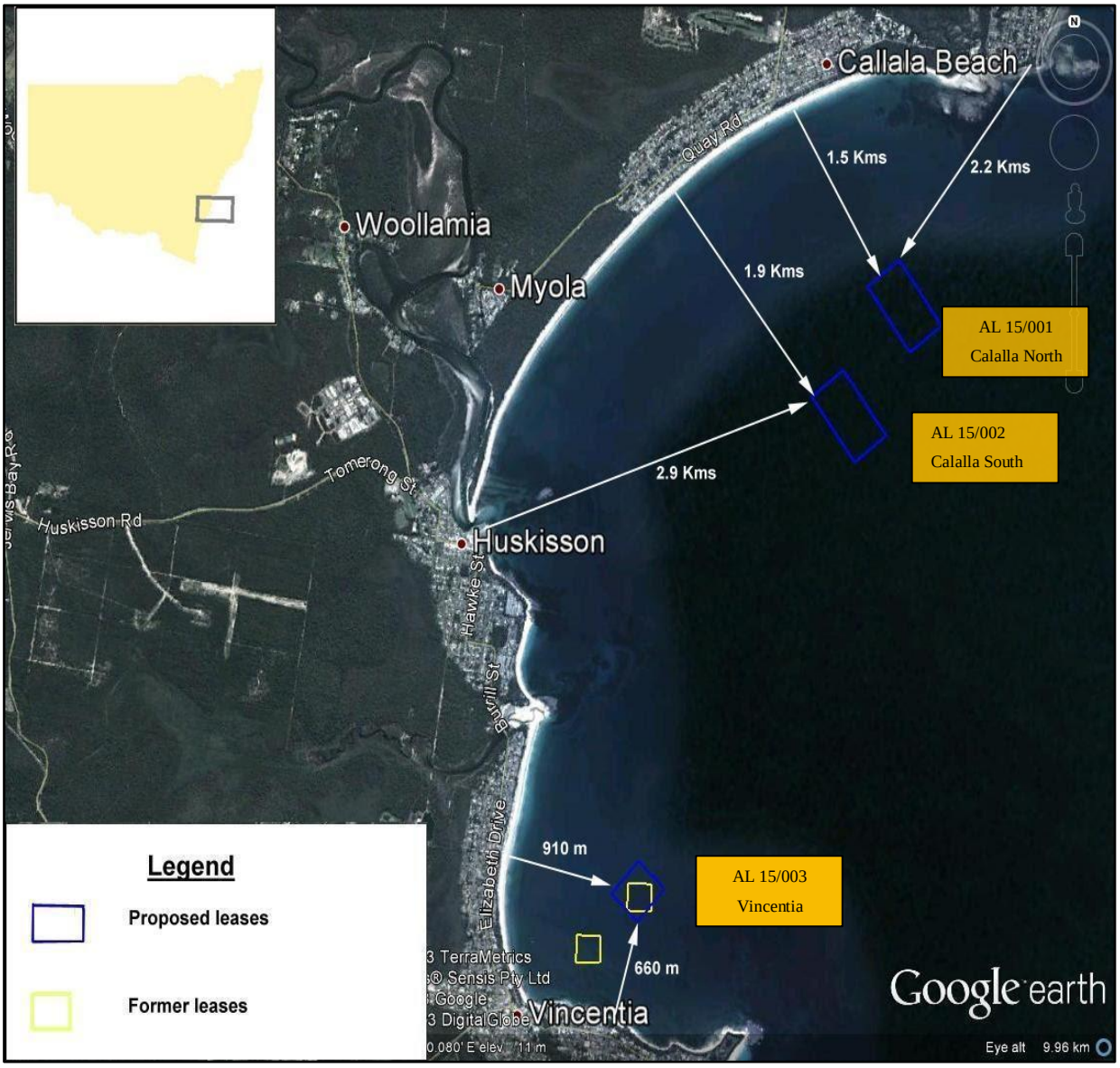


Figure 2: Location of the Commercial Shellfish Aquaculture Leases and the former Blue Mussel leases in Jervis Bay (Source: Fisheries NSW, 2013).

The Callala Leases (north and south) are located approximately 1.5 km and 1.9 km southeast of Callala Beach, respectively. The Vincentia Lease is approximately 660 m north of Orion Beach in Vincentia (Figure 2).

In compliance with consent condition E7 of the State Significant Infrastructure Approval SSI-5657 the Annual Environmental Management Report will assess the environmental and socio-economic impacts of the South Coast Mariculture Commercial Extensive Aquaculture Leases, evaluate the effectiveness of mitigation, monitoring and management measures, and make modifications to the operation of the leases in accordance with the report findings.

The annual environment report will consist of the following information:

- The standards and performance measures that apply to the development;
- Description of the operations that have been carried out during the reporting period;
- Annual water and benthic monitoring report;
- Non-compliance report and actions taken to meet compliance
- Annual marine fauna interaction/observations report;
- Annual navigation incidents report;
- Annual complaints report;
- Annual diseases, parasites and pests report;
- Annual structural integrity and stability report and;
- Details of monitoring results with commentary on any effects of the development compared to relevant guidelines, pre-lease sampling or control sites and an analysis of any trends or key findings.

2. SCM Commercial Extensive Aquaculture Lease Operational Status

2.1 Vincentia AL15/003

The Vincentia lease AL15/003 has not yet been developed. As part of a recent request for modification of leases, NSW DPI and SCM are seeking approval from NSW DPHI and the Minister of Planning and Public Spaces to modify the activities approved under SSI-5657 (APPENDIX:F RDOC24/49207 NSW DPI, 2024). The proposed modification involves the relocation of this lease from Vincentia to Callala Beach (Figure: 3).

2.2 Callala South AL15/002

The Callala South lease AL15/002 has been developed under Stage 3 Full Commercialisation March 2023 and will be further modified based on the recent request for modification.

The current lease will be relocated slightly northwest of their current position and an expansion of these leases from 20 to 25 ha. The proposed leases will still be within the Habitat Protection Zone of Jervis Bay Marine Park (JBMP) as are the current approved lease sites (Figure: 3).

2.3 Callala North AL15/001

The infrastructure for the Callala North lease AL15/001 was initially installed in June 2019. This infrastructure includes 6-meter screw anchors positioned at the end of each system, connected to lengths

of chain and polypropylene, with support buoys attached along each backbone rope. Additionally, four navigation buoys are placed at the corners of the commercial lease area.

In May 2020, the lease was first seeded with wild-caught *Mytilus galloprovincialis* spat translocated from Twofold Bay lease AL06/002. Commercial harvesting commenced in November 2020 after three years of mussel farming on 20 lines. South Coast Mariculture (SCM) then initiated Stage 3 Full Commercialisation during FY22-23 to develop the lease further. This involved installing 25 new lines between AL15/001 and AL15/002 to enhance farming capacity.

During FY23-24, SCM continued normal farming operations as seeding *Mytilus galloprovincialis*, along with routine inspections and maintenance of the infrastructure at both Callala North (AL15/001) and Callala South (AL15/002).

As part of a modification request (APPENDIX:F APPENDIX:F RDOC24/49207 NSW DPI, 2024), the lease AL15/001 is planned to be relocated northwest and expanded from 20 hectares to 25 hectares (Figure: 3).

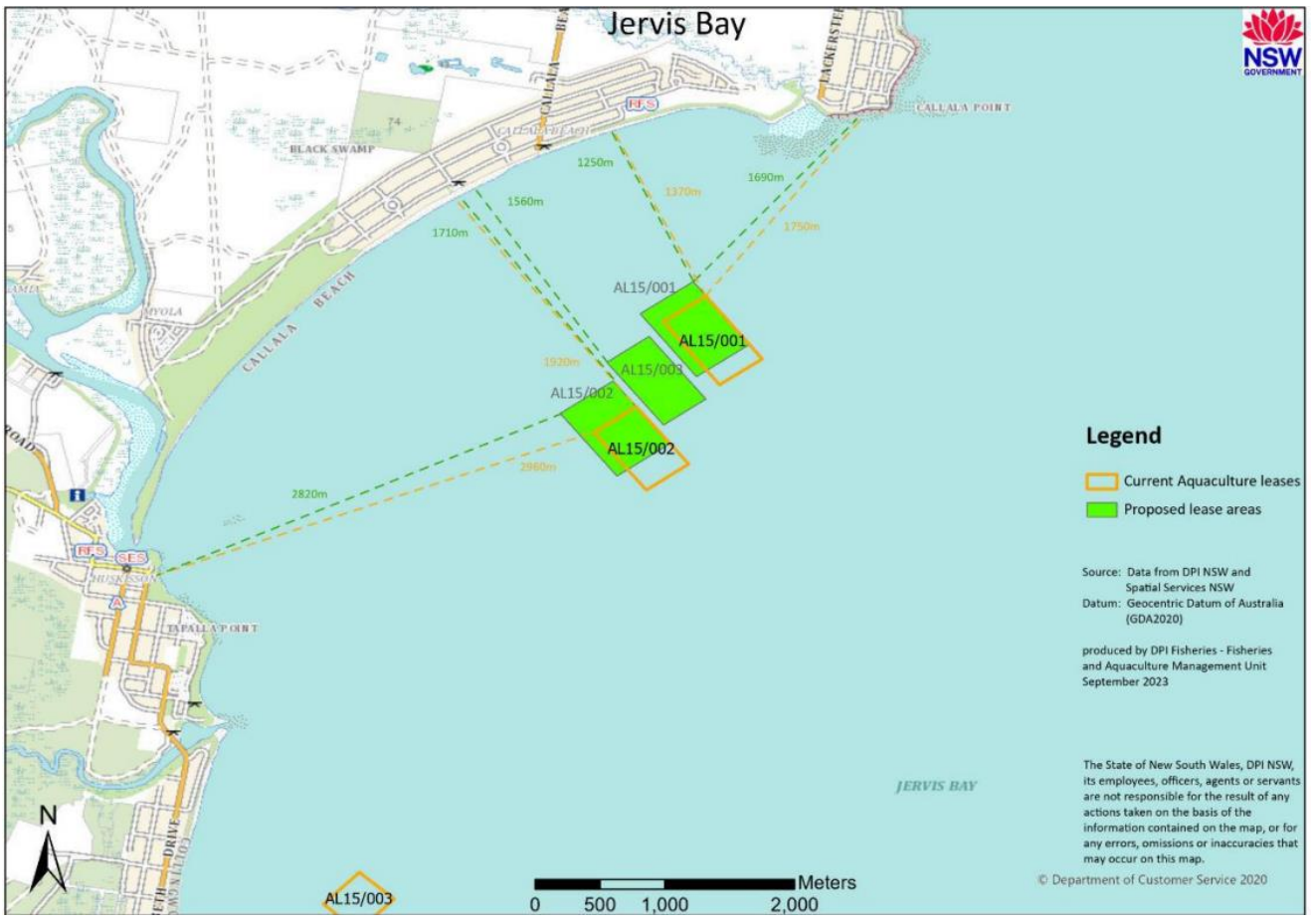


Figure 3: Map of Jervis Bay showing the current location (orange outline) and proposed location (green-

filled polygons) of the three leases (Source: NSW DPI, 2024).

2.4 Deployment

Based on the forecast of operations in the Annual Report FY22-23, the following deployments were undertaken in FY22-23 as

- No new grow-out lines were deployed at Jervis Bay. 25 lines deployed as part of Stage: 3 Full Commercialisation in FY22-23 were routinely inspected and maintained.

- Regular monitoring, repairs, and calibration of sensor equipment was carried out for 1.7m wide Xylem Water Quality Monitoring Sensor- Weather Buoy in the Jervis Bay and Twofold Bay leases. These buoys were installed during December 2022 and March 2023 in Jervis Bay and Twofold Bay leases respectively under the NSW Flood Sector Development Funding initiative with South Coast Mariculture and the University of Technology (UTS) (Figure:4). The real-time monitoring information is shared with UTS, Jervis Bay Marine Park (JBMP), Royal Australian Navy and other interested parties since the installation. Public Access is also available via these links Jervis Bay Weather Buoy and Twofold Bay Weather Buoy.

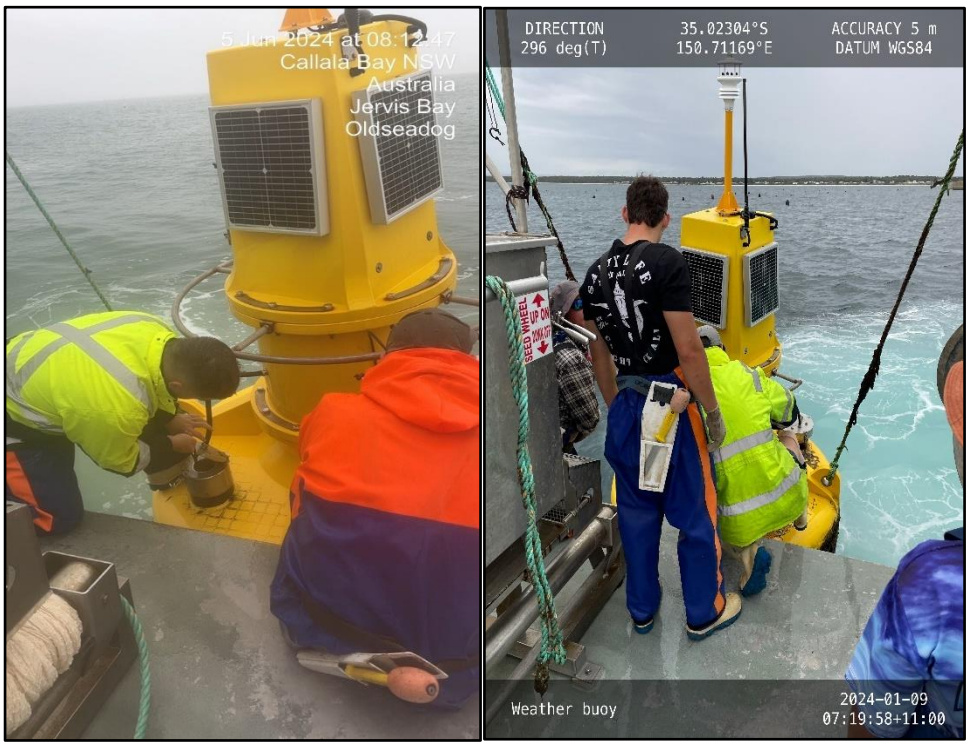


Figure 4: Regular maintenance of Water Quality Monitoring Sensors deployed in Jervis Bay and Twofold Bay Leases (Source: SCM, 2024)

- South Coast Mariculture conducted small-scale oyster fattening trials in Jervis Bay and Twofold Bay leases. This experiment proposed to gather valuable information and a better understanding of this culture practice. with Sydney Rock Oyster (SRO) spp. Sydney Rock Oyster (SRO) in Jervis Bay and Pacific Oyster and SRO in Twofold Bay were grown in SEAPA oyster Baskets (Figure:5). The overall growth rate of oysters was evaluated over 2-4 months, where meat quality was inspected every 2 weeks. Oyster baskets were regularly cleaned and maintained to control excessive biofouling and restricted growth of spp.

Figure 5: Seapa Oyster baskets used for oyster fattening trials at Jervis Bay and Twofold Bay (Source: SCM, 2024)

- In line with NSW DPI Translocation protocol (Appendix: C), no mussel spat was translocated from SeaGen Aquaculture hatchery in Newhaven, Victoria. Initially, the mussel brood stock to be used for the production of this spat was sourced from Twofold Bay and Jervis Bay. Animal Biosecurity NSW DPI conducted histopathological analysis before the breeding program but the broodstock was deemed unfit for translocation.

2.5 Forecast of operations for the next reporting period

SCM will incorporate new deployments in FY 2023-2024 as

1. Upon approval of the proposed modification request at Jervis Bay (APPENDIX:F RDOC24/49207 NSW DPI, 2024), South Coast Mariculture will conduct the deployment of new lease infrastructure

and decommissioning as per Appendix 1: Construction Deployment Plan and Traffic Management Plan. The Environmental Management Plans will be updated considering this modification.

2. Experimentation will continue to understand the effect of variation in the orientation of buoys on production levels during heavy weather conditions. It will also determine if any visual pollution caused by exposed buoys is controlled for residents of Callala Beach.

3. SCM and SeaGen Aquaculture will conduct breeding program upon required improvements are set in place. Mussel Spat produced by SeaGen Aquaculture Pty Ltd at their source hatchery in Newhaven, Victoria under this program will be translocated as per NSW DPI Translocation protocol (Appendix: C). Blue mussel spat produced under this protocol may only be imported into NSW to farm blue mussels under Section 144 (Aquaculture Permit) of the NSW Fisheries Management Act 1994. The mussel brood stock used for production of this spat will be of NSW origin only, undergo histopathological analysis before undergoing the breeding program.

4. Also, in accordance with Aquaculture Permit Certificate AP2554 Class A Extensive, SCM will translocate Sydney Rock Oyster (*Saccostrea glomerata*) Spat from by SeaGen Aquaculture Pty Ltd, Victoria to NSW Waters (Appendix: D). NSW Department of Primary Industries (NSW DPI) Fisheries Officer under the Fisheries Management Act 1994 or Authorised Officer under the NSW Biosecurity Act 2015 may examine batches of Blue Mussel Spat and Sydney Rock Oyster spat shipped from the source hatchery for SeaGen Aquaculture Pty Ltd at any time once a shipment enters NSW to ensure that the shipment complies with the protocol, the provisions of the NSW Biosecurity Act 2015, the Biosecurity Regulation 2017, the Fisheries Management Act 1994 and the Fisheries Management (Aquaculture) Regulation 2017.

5. Over the past few years, the mussel farming operations in leases AL15/001 and AL15/002 have evolved significantly. However, managing these operations using a single vessel has become increasingly cumbersome. To address this challenge, the team has recently acquired a second vessel which will undergo necessary modifications to ensure its suitability for marine farming activities during the fiscal year 2024-2025. Upon its launch in Jervis Bay, the operational strategy will pivot to a dual-vessel approach. This restructuring involves distributing farming responsibilities across two distinct teams, each operating independently on their respective vessels. The flagship vessel, Blue Revolution, will maintain its pivotal role as the primary vessel for SCM operations in Jervis Bay. This strategic expansion aims to enhance operational efficiency and overall productivity in our marine farming endeavours.

3. Outcomes and actions from the previous Annual Environmental Report (July 2022-June2023)

As per the Department's feedback- Annual Review of the 2022 – 2023 report, the Annual Report FY22-23 was considered generally satisfied resulting in no outcomes and the actions to be addressed from the previous annual report.

4. Operations and Maintenance

4.1 Stock Management

The Callala North lease was initially stocked in May 2020 with spat transported from Twofold Bay. Since then, all mussel spat used in the operations has been sourced exclusively from Twofold Bay. Moving forward, SCM plans to maintain this sourcing strategy, continuing to harvest mussels at Jervis Bay. Additionally, we intend to conduct spat translocations from both Twofold Bay (Appendix: B) and a registered hatchery, pending approval of our breeding program and broodstock, under the new NSW DPI Translocation Protocol (Appendix: C). This approach ensures adherence to regulatory guidelines while supporting the sustainable growth of our mussel farming endeavours.

During the fiscal year 2023-2024, due to no progress in spat translocation from the Victorian hatchery, all spat required for the operations was sourced from the Twofold Bay lease. This decision ensured continuity and stability in our mussel farming activities despite the challenges encountered with external spat sources.

The spat stocking from July 2023 proceeded as follows:

Table 1: Callala North Lease (AL 15/001) stocking records July 2023 - June 2024 (Source: SCM, 2024)

Shipment Logbook Number	Date of Shipment	Source Estuary	Source Lease	Weight (kg)	Destination Estuary	Destination Lease
18690	03/07/2023	Twofold Bay #52	AL 08/098	4800	Jervis Bay #25	AL 15/001
18691	4/7/2023	Twofold Bay #52	AL 08/098	4400	Jervis Bay #25	AL 15/001
18693	30/1/2024	Twofold Bay #52	AL 08/098	4800	Jervis Bay #25	AL 15/001
18694	8/2/2024	Twofold Bay #52	AL 08/098	4800	Jervis Bay #25	AL 15/001

18695	14/2/2024	Twofold Bay #52	AL 08/098	4000	Jervis Bay #25	AL 15/001
18696	15/2/2024	Twofold Bay #52	AL 08/098	4800	Jervis Bay #25	AL 15/001
18697	20/2/2024	Twofold Bay #52	AL 08/098	4000	Jervis Bay #25	AL 15/001
18698	21/2/2024	Twofold Bay #52	AL 08/098	4000	Jervis Bay #25	AL 15/001
18699	26/2/2024	Twofold Bay #52	AL 08/098	4800	Jervis Bay #25	AL 15/001
18700	27/2/2024	Twofold Bay #52	AL 08/098	4800	Jervis Bay #25	AL 15/001
17650	6/3/2024	Twofold Bay #52	AL 08/098	4800	Jervis Bay #25	AL 15/001
17618	7/3/2024	Twofold Bay #52	AL 08/098	4000	Jervis Bay #25	AL 15/001
17639	11/3/2024	Twofold Bay #52	AL 08/098	4800	Jervis Bay #25	AL 15/001
19751	25/3/2024	Twofold Bay #52	AL 08/098	2800	Jervis Bay #25	AL 15/001
19752	14/5/2024	Twofold Bay #52	AL 08/098	4800	Jervis Bay #25	AL 15/001
19753	29/5/2024	Twofold Bay #52	AL 08/098	4800	Jervis Bay #25	AL 15/001
19754	25/06/2024	Twofold Bay #52	AL 08/098	4800	Jervis Bay #25	AL 15/001

Spat collection and transportation adhered strictly to the guidelines outlined in the NSW Blue Mussel Spat Translocation Procedure (Appendix: B). NSW DPI and other regulatory bodies were notified 48 hours before spat harvesting where feasible as disruptions caused by sudden weather fluctuations, directly impact both spat harvesting and seeding processes.

The health and growth of the mussel stock at the Callala North lease were meticulously monitored through routine visual inspections, with detailed records maintained using the Marine Farming app. Throughout the monitoring period, the mussels demonstrated excellent health, survival rates, and growth performance. There were no instances of disease outbreaks, pest infestations, or mortality reported during these comprehensive inspections.

This robust monitoring and adherence to procedural guidelines underscore the commitment to maintaining high standards of farming practices, ensuring the sustainability and success of the mussel farming operations at Callala lease.

4.2 Harvest

Harvesting operations at the first stocked Callala North lease (AL15/001) began in November 2020. During harvest, the longlines are lifted from the water using the vessel davits and winches, and the mussels are harvested from the grow-out lines, tumbled to eliminate fouling, and sorted to exclude damaged specimens and any extraneous material. The stripped ropes and buoys are carefully stored for cleaning and subsequent redeployment. Any organic waste accumulated during harvesting is retained onboard and later disposed of onshore.

The harvested mussels are gathered into large harvest bags on the deck of the work vessel, Blue Revolution (Figure 6). Once the desired quantity of mussels has been harvested, they are transported to South Coast Mariculture's Processing Facility in Huskisson for further processing and packaging for market distribution.

Each harvest is allocated a unique Product Receival Number (PRN) as documented in the harvest docket, ensuring comprehensive traceability of the product. This docket includes crucial details such as the origin of the product and pertinent environmental factors like water temperature and the condition of the harvested mussels.

This structured approach to harvesting and documentation determines the quality assurance and traceability standards, of the mussel farming operations at Callala leases.

Figure 6: Harvest operation on Blue Revolution 2021. (Source: SCM, 2021)

4.3 Mussel Line Infrastructure

The mussel line infrastructure at South Coast Mariculture's Callala North (AL 15/001) and Callala South (AL 15/002) leases undergoes regular inspections since its initial deployment. Each workday, SCM staff

conduct visual inspections upon arrival at both leases to identify and address any infrastructure issues that may require maintenance.

Weekly routine inspections are systematically carried out, and necessary maintenance activities are promptly executed as needed. This encompasses checking and maintaining various components of the infrastructure such as buoys, anchors, ropes, chains, connectors, cardinal markers, and weather buoy infrastructure. In the event of damaged or dislodged farm infrastructure reported by members of the public or marine parks and reaching the shore, our team promptly retrieves it at the earliest opportunity.

All maintenance activities are meticulously documented using Seaflux, a cloud-based vessel management software that comprehensively records site-specific and operational activities. Seaflux also serves as the repository for training logs, incident reports, and any other farm-related observations, ensuring thorough documentation and accountability.

4.4 Biofouling Removal

The lease infrastructure is naturally colonised by a range of marine biofouling organisms, including algae, ascidians, and barnacles. The removal of this biofouling is important to reduce resistance to currents and wave action which may jeopardise the integrity of the infrastructure e.g., stress moorings.

Buoys and ropes removed from the lease during harvest are cleaned onboard (Figure:7) and dried at the equipment yard before being re-deployed for spat stocking. Any organic waste generated onboard is collected to be disposed of at landfill facilities.

Figure 7: Biofouling being removed from an oyster stack and buoy during harvest. (Source: SCM, 2024)

4.5 Waste Management

SCM manages the disposal of all domestic waste originating from the wheelhouse, as well as organic waste generated during harvest and processing, directing it to landfill as outlined in Table 2. To maintain effective waste management practices, all waste storage containers undergo weekly inspections. These inspections ensure that containers are utilized efficiently, and that waste is securely contained until disposal.

Efficient waste management is crucial to minimizing environmental impact and complying with regulatory standards, to carry out sustainable operations in mussel farming.

Table 2: Summary of waste generated by the South Coast Mariculture operations 2023-2024 (Source: SCM, 2024).

Waste Type	Quantity	Date	Method/Place of Disposal
Domestic Waste from Wheelhouse	5-7 kg per week	During harvest and lease operations FY 2023- 2024	Brought to shore for landfill
Organic Waste from Harvest and Processing	15 tonnes (annual estimate)	FY 2023 - 2024	Landfill

Regular monitoring of skips and bins is conducted to prevent any potential cross-contamination. Additionally, SCM rigorously oversees all waste removed from the site, including materials earmarked for reuse, to maintain strict adherence to contamination prevention measures.

In pursuit of sustainable practices, SCM consistently evaluates the types of surplus materials generated. Where feasible, adjustments to site design and operational procedures are made to minimize the volume of materials destined for landfills.

As part of our commitment to sustainability, SCM prioritizes the use of recyclable packaging materials wherever possible. This approach aligns with our broader efforts to reduce environmental impact and promote responsible waste management practices within the mussel farming industry.

4.6 Land-Based Operations

- South Coast Mariculture operates a mussel and oyster processing facility at 6 Bolton Road, Huskisson where the harvested product is cleaned, graded, and packed for the market.

- Jervis Bay Shellfish Market at Unit-1, 6 Bolton Road Huskisson is a local shellfish market, making fresh shellfish available to locals on most days since December 2021.
- SCM also operates an office and storage space for lease infrastructure components, gear and vehicles at 1A Erina Road, Huskisson.
- In light of recent development, parts of the 4 Bolton Road, Huskisson have been secured as well. It comprises of new site office, storage shed, and maintenance shed.

Advancements at the SCM Processing Facility-

1. According to the FY 22-23 report, significant developments have been implemented at SCM Processing Facility in compliance with local council regulations to enhance future processing operations. These enhancements include the installation of a new built-in chiller and freezer facility, dedicated areas for product grading, inspection, and packaging, as well as designated spaces for maintenance and storage. Most of these areas were fully operational during FY 2023-2024 following the completion of ongoing development efforts. Additionally, a new storage shed, maintenance shed, and office have been established at 4 Bolton Road, Huskisson. Both of these units are interconnected to streamline operations and facilitate seamless stock movement between the storage shed and processing areas.

2. The stock holding capacity of the wet storage tanks at South Coast Mariculture has recently been doubled due to relocation and ongoing development initiatives. This expanded wet storage facility has significantly boosted the efficiency of harvesting and processing operations. It allows for mussels to be harvested the day before processing and dispatch, as well as before anticipated high rainfall events, thereby optimizing operational flexibility and responsiveness.

3. In FY 2023-2024, SCM further developed mussel cook-up line to diversify its product range. This development lays the groundwork for automation of product processing, packaging and aims to expand SCM's offerings and meet evolving market demands.

4. SCM has successfully installed a KIX mill onsite to process various by-products from the cook-up line, out-of-spec products from the live and cooking lines, and byssal threads extracted during the

debyssing process. This milling process operates under controlled temperatures and processing cycles, producing dehydrated products. The versatility of this technology allows for the production of varied products, including dried or powdered meat, shell, and combinations thereof, contributing to SCM's efforts in maximizing resource utilization minimizing waste and emphasising on sustainable farming and processing practices.

5. SCM is set to embark on a collaborative initiative with University of Newcastle (UoN) experts aimed at optimizing the product line through advanced KIX mill operations. The collaboration will entail UoN conducting a thorough desktop audit focusing on mussel and oyster proteins, omega-3 fatty acids, and calcium carbonate content. Additionally, detailed analyses and characterization of mussel and oyster meats, shells, and powders will be performed. This partnership with UoN is designed to facilitate the development of highly refined products that meet stringent purity standards. These efforts are expected to support SCM in crafting robust commercial business strategies and pathways, contingent upon compliance with regulatory requirements. The collaboration underscores SCM's commitment to leveraging scientific expertise to enhance product innovation and market competitiveness in the seafood industry.

4.7 Equipment and Vessel Maintenance

The SCM farm team and contracted personnel conduct regular checks, visual inspections, and detailed examinations to uphold safety and optimize the performance of all equipment in use. These measures ensure operational reliability and adherence to safety protocols.

Seaflux, a cloud-based vessel management software, plays a pivotal role in streamlining operations by regulating all data entry for vessel safety and maintenance logs (Table 3). It enables efficient implementation of maintenance schedules, comprehensive reporting, and facilitates the establishment of safety benchmarks and leadership initiatives among the crew.

This integrated approach not only enhances operational efficiency but also fosters a proactive safety culture within SCM, ensuring that equipment is maintained at peak performance levels to support sustainable and safe mussel farming operations.

Table 3: Summary of documentation recorded via Seaflux for equipment and vessel maintenance (Source: SCM, 2024).

Vessel logs	Fundamental documentation
Safety	Safety Equipment Checks include watertight hatches, electric bilge pumps + alarms, VHF radio, anchoring equipment, charts publication + navigation equipment and gantry ropes. Safety Drills include anchors, emergency procedure engine failure, fire, grounding collision, pollution, and anchor drill
Maintenance	The maintenance schedule for lights, emergency batteries, grease gun etc.
Health and safety checks	Incident, Accident and Medical Register, Hazard Register, Health and Safety Meetings and Dangerous Goods, Register.

5. Chemical Use, Disease, and Introduced Pests

5.1 Chemical Use

No chemicals have been applied to the marine leases operated by South Coast Mariculture. However, at the SCM Processing Facility, strict adherence to NSW Food Authority guidelines is maintained regarding water disinfection and cleaning procedures. Incoming seawater in the wet storage tanks undergoes disinfection using UV lamps and ozone. After the tanks are emptied, they are cleaned using a chlorine-based detergent that is food-safe, followed by sanitization with a food-safe sanitizer, utilizing potable water exclusively.

Safety Data Sheets (SDS) for all chemicals used in the cleaning and maintenance of equipment and machinery are readily available onsite. Additionally, SCM maintains a separate inventory detailing the chemicals and sprays employed for routine maintenance tasks.

These measures ensure compliance with food safety standards and underscore SCM's commitment to utilizing safe and effective cleaning practices throughout its processing operations.

5.2. Disease and Introduced Pests

The risk of endemic diseases and parasites impacting the mussels on our leases is assessed as very low. To proactively manage this risk, South Coast Mariculture has implemented several preventative measures to safeguard the cultured stock:

- Prior inspection of spat health before stocking.
- Adherence to the NSW DPI Blue Mussel spat translocation biosecurity protocol (Twofold Bay to Jervis Bay) (refer to Appendix: B).
- Rigorous biofouling management practices.
- Maintaining appropriate stocking densities to optimize health and growth conditions.
- Regular inspection of mussel health during harvesting and stocking operations.
- Collection of samples for laboratory examination, where applicable.
- Strict maintenance of personnel and farm equipment hygiene standards.

During harvesting or stocking activities, mussels are routinely inspected to evaluate their health and survival rates. Spat received from Twofold Bay undergoes thorough inspection according to the NSW DPI Blue Mussel spat translocation biosecurity protocol both before and after harvest and restocking, enabling prompt identification of any mortalities attributable to unforeseen environmental factors. All pertinent records are documented and managed within the Marine Farming app and Seaflux, ensuring comprehensive traceability and adherence to regulatory standards. These measures collectively reinforce SCM's commitment to maintaining the health and sustainability of the mussel farming operations.

5.3. Disease and Parasites

The health status of the stock has been regularly inspected, including the potential occurrence of disease and parasites. There has been no significant disease or parasitic event on the South Coast Mariculture Callala North and South lease during the reporting period.

Naturally occurring barnacle over-catch has been identified as an issue that negatively impacts the appearance and marketability of the mussels. Barnacle over-catch is scraped off the mussels at the SCM land-based processing facility before the sale so that the mussel appearance meets consumer quality specifications. The incidence of barnacle over-catch is being monitored through production and processing records.

5.4. Stock Mortality and Disease

There have been no notable instances of mortality or disease outbreaks on the South Coast Mariculture leases at Callala North (AL 15/001) and Callala South (AL15/002). Marine scavenger species such as small fish and crustaceans, which inhabit the leases, are expected to promptly consume any Blue Mussel mortalities that might occur.

In the event of an unexpected and significant mortality or health concern, samples from affected mussels will be promptly collected and sent to an accredited veterinary laboratory for thorough diagnosis. This proactive approach ensures that any emerging issues are swiftly identified and addressed, maintaining the health and integrity of the mussel farming operations at South Coast Mariculture.

5.5.Transfer of Spat

All transfers of juvenile seed stock (spat) to South Coast Mariculture's marine leases have strictly adhered to the NSW DPI Blue Mussel Spat Translocation Protocol, as stipulated by the conditions of aquaculture permit AP2554. This protocol includes specific guidelines for pre-translocation inspections, pre-deployment treatment of spat in Jervis Bay, reporting requirements, and documentation for shipment.

NSW DPI Fisheries Officers have conducted multiple inspections of spat translocations and have confirmed that SCM consistently complies with the protocol's requirements.

In an effort to optimize spat supply for marine leases in both Jervis Bay and Twofold Bay, SCM has collaborated with SeaGen Aquaculture Hatchery to acquire the NSW Spat Translocation protocols for both Blue mussel spat and Sydney Rock Oyster spat (refer to Appendix: C & D), effective June 2023. This collaborative initiative aims to enhance operational efficiency and ensure continued adherence to regulatory standards in spat management across multiple locations.

5.6 Introduced Pests

The potential spread of marine pests through ballast water and vessel hull biofouling is a recognized concern (Commonwealth of Australia, 2009). Transferring cultured spat, particularly in their early developmental stages, to grow-out farms poses risks of introducing invasive species that may hitchhike on the spat. Such introductions can significantly impact local ecosystems and native species (McKindsey et al., 2007).

To mitigate these risks, South Coast Mariculture (SCM) ensures that all service vessels and infrastructure sourced from outside New South Wales (NSW) comply with the National Biofouling Management

Guidelines for Commercial Fishing Vessels (Commonwealth of Australia, 2009). If a vessel originates from a port known for significant marine pest issues, SCM conducts a risk assessment and implements appropriate mitigation measures to prevent the translocation of pests.

From July 2023 to June 2024, SCM did not introduce any new vessels to the lease sites from outside NSW, thereby minimizing the risk of introducing marine pests through vessel movements.

Naturally, SCM's lease infrastructure has been colonized by various marine biofouling organisms, including algae, ascidians, molluscs, and barnacles. Regular inspections are conducted to monitor biofouling organisms and detect any potential pest species early. Over the past year, no new pest species have been observed, and regular inspections have not reported any invasive species.

Furthermore, as part of collaborative efforts with the University of Newcastle (UoN) honours projects, extensive sampling has confirmed the absence of pests or invasive species associated with SCM's leases in Jervis Bay. This ongoing vigilance and collaboration underscore SCM's commitment to maintaining biosecurity and environmental stewardship in its aquaculture operations.

5.7 Training

SCM has actively conducted regular on-the-job training for its operations and proccessing staff to align with the objectives outlined in the Environmental Management Plan.

This training encompasses several critical areas:

- Waste management training to ensure proper handling and disposal practices.
- Chemical handler training to safely manage and use chemicals by regulatory guidelines.
- Stock health and pest identification training to enhance awareness and early detection capabilities.
- Training on standard operating procedures (SOPs) to promote consistency and adherence to established protocols.

Additionally, four staff members have been certified as Approved Samplers under the NSW Food Authority NSW Shellfish Program, following comprehensive water and meat sampling training provided by the University of Tasmania.

Furthermore, specialized training initiatives have been implemented to address specific workplace requirements:

- Hazard Analysis Critical Control Point (HACCP) training to ensure food safety and compliance with industry standards.
- Food Safety Program training to maintain high standards in food handling and processing.
- First Aid Training to equip staff with essential life-saving skills in emergencies.
- Contribute to Workplace Health and Safety (WH&S) training to foster a safe and secure working environment.

These training efforts have enabled SCM staff to maintain operational excellence, promote environmental stewardship, and ensure health and safety within its workforce.

6. Monitoring

6.1. Water Quality and Benthic Monitoring Program

The Water Quality and Benthic Environment Monitoring Program has been implemented by South Coast Mariculture to assess and mitigate potential impacts from the operations and is consistent with consent conditions issued under SSI-5657. The program includes monitoring of water quality, seabed surveys, sedimentary characteristics (including TOC), benthic macroinvertebrates and fish; samples and video footage taken from the leases.

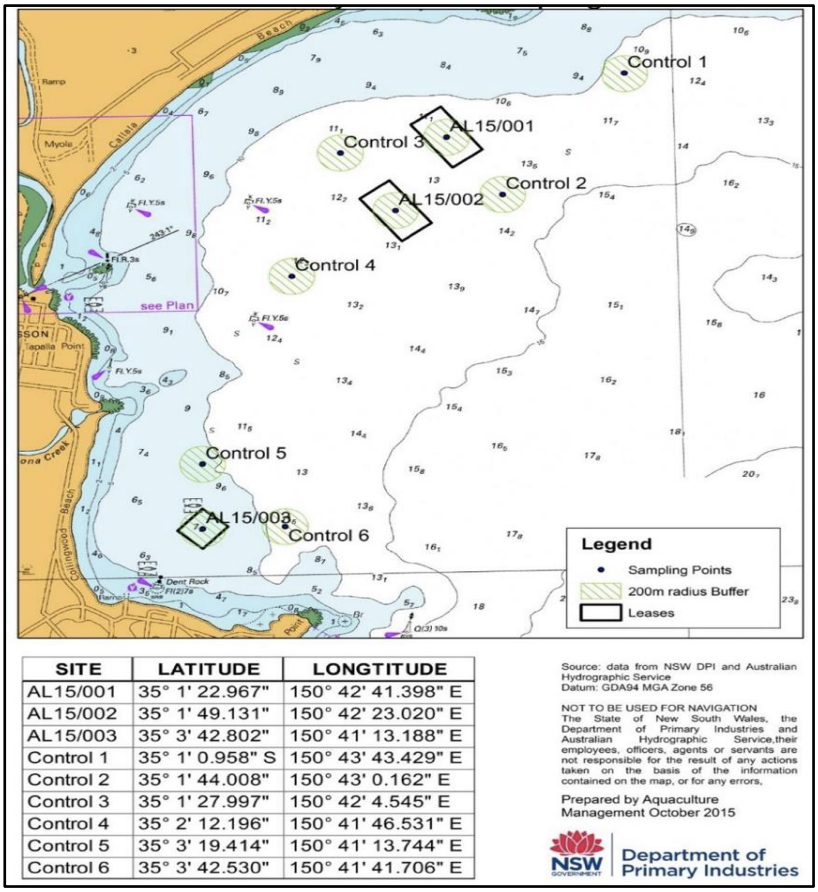
6.1.1 Summary of Baseline Benthic Survey- July 2019

The first Baseline survey event for the Water Quality and Benthic Environment Monitoring Program was conducted by the University of Newcastle (UoN) in July 2019. The Baseline survey was intended to provide pre-farming measurements of the range of variables that have been approved in order to assess the environmental performance of the shellfish leases (Platell et al., 2020). The results from future sampling events within and around the shellfish leases are referenced against both this baseline data and the data collected concurrently at the control sites (Figure:8).

The second sampling event (Update 1) for the Water Quality and Benthic Environment Monitoring Program was conducted in August 2020, followed by the third sampling survey (Update 2) in July 2022 by UoN. All benthic survey reports are available on the SCM website (www.southcoastmariculture.com.au).

6.1.2 Summary of Benthic Survey Update 1- August 2020

In August 2020, sampling of the water quality and seabed environment was undertaken at the preexisting southern (Vincentia (AL 15/003)) and new northern (Callala North (AL 15/001 and Callala South (AL 15/002) lease sites, with two associated controls for each lease, in Jervis Bay. This sampling represents the Update 1 survey and was sampled in the same way as for the Baseline study in July 2019, enabling unconfounded comparisons.



SITE	LATITUDE	LONGTITUDE
AL15/001	35° 1' 22.967"	150° 42' 41.398" E
AL15/002	35° 1' 49.131"	150° 42' 23.020" E
AL15/003	35° 3' 42.802"	150° 41' 13.188" E
Control 1	35° 1' 0.958" S	150° 43' 43.429" E
Control 2	35° 1' 44.008"	150° 43' 0.162" E
Control 3	35° 1' 27.997"	150° 42' 4.545" E
Control 4	35° 2' 12.196"	150° 41' 46.531" E
Control 5	35° 3' 19.414"	150° 41' 13.744" E
Control 6	35° 3' 42.530"	150° 41' 41.706" E

Figure 8: Map showing sampling points for benthic sampling program (Source: NSW DPI 2015). Benthic Environment Monitoring Program.

Water quality varied little among the nine sites and between bottom and surface waters. The waters were cool (16°C), pH was 7.7 and waters were always fully saturated with oxygen. Salinities were slightly less than seawater (32-33) and also of that recorded in Baseline, likely related to heavy rainfalls in late July 2020.

Remote Operated Vehicle (ROV) surveys showed that the seabed at all sites was sandy substrates, with

drift algae and small attached macrophytes sometimes present. Small sharks and rays, sea stars and some fish of commercial and recreational importance were observed, as also smaller fish species that were associated with drift algae. Masses of drift algae were present at four sites but were not structured in "rows" recorded during Baseline and kelp fragments were still only recorded at Vincentia.

Neither flathead (Platycephalus spp.) and large schools of Yellowtail Scad were observed during ROV, unlike Baseline, although they were "captured" using BRUVS. Single and small clumps of mussels were sometimes observed on the seabed at CN.L, but with no evidence of darker sediments around those mussels that could imply sediment anoxia. The mooring base now has a substantial amount of encrusting organisms that have developed since the Baseline and may eventually impact the durability of the structure. No further inspections of the leased infrastructure or the mussels themselves were undertaken.

The % Total Organic Carbon (%TOC) in the sediments at the Callala North Lease site (where mussels are presently stocked) and all other sites did not change significantly between the two winter sampling periods (Baseline and Update 1), indicating that there is no statistical evidence that the stocking of mussels is acting to increase the %TOC beneath the Lease site. Thus, mean (and SE) values for %TOC at the Callala North Lease site were 0.040 (0.004) at Update 1, which was less than 0.068 (0.008) at Baseline. The lack of a significant difference means there is no requirement (as per South Coast Mariculture (2015)) to examine and enumerate the benthic macroinvertebrate taxa for this report.

The mean %TOC values from Update 1 were typically lower at Callala North and Callala South (0.040-0.070) than at Vincentia (0.137-0.195), with the %TOC at the three sites in the last location slightly (but not significantly) higher in Update 1 vs Baseline (noting that no mussels are presently stocked at this site). The apparent increase in %TOC at the three sites in Vincentia may warrant future investigation as this indicator of organic enrichment may be arising from sources that are unrelated to the stocking of mussels.

Sedimentary characteristics of mean grain size and %mud were generally similar to Baseline. Thus, the mean grain size was similar between the lease and the two control sites at each of the three locations and significantly smaller at the Vincentia location (167-193 µm) vs Callala North and Callala South (237-263 µm). This pattern in mean grain size was reflected by the %mud being higher at Vincentia (0.11-0.15) vs all other sites (0.01-0.03).

All replicates for the benthic macroinvertebrate taxa were collected, sieved and picked. During the picking of the samples, a similar range of taxa was observed to that of the Baseline. Samples are safely stored at

UoN.

Thirty-one of the 36 Baited Remote Underwater Video Systems (BRUVS) deployments recorded a total of 754 organisms. Yellowtail Scad (374) was again very common but was present in smaller schools than in Baseline. Unlike Baseline, substantial numbers of Trumpeter Whiting and Blue-spotted Flathead were observed, which partially explains the significantly higher taxa richness in Update 1.

The fish assemblages significantly differed between Update 1 and Baseline, but the biological significance is difficult to assess, given the present limited understanding of temporal (including annual) changes in fish assemblages in Jervis Bay. The fish assemblages at CN.L (where mussels are presently stocked) were not statistically significant from those of any of the other sites in the study area.

The results from this Update 1 survey, based on water quality, gross seabed characteristics, sedimentary characteristics (particularly %TOC), benthic macroinvertebrate taxa and fishes, provide no evidence that the present stocking of mussels at CN.L is having an adverse effect on the marine environment in this area of Jervis Bay (Platell et al., 2021). It is noted that annual sampling is to be continued at the same time of year (winter), with the next occasion expected to be in July/August 2022 (travel restrictions delayed the 2021 survey) after the 2020 survey.

6.1.3 Summary of Benthic Survey Update 2- July 2022

On 19 and 20 July 2022, sampling of the water quality and seabed environment was undertaken in Jervis Bay at the northern (Callala North and Callala South) lease sites, the first of which is stocked with blue mussels, and at the southern (Vincentia) lease site, with two associated controls for each lease site. This sampling represents the Update 2 survey (Appendix: A) and was sampled in the same way as for the Baseline and Update 1 studies in 2019 and 2020, respectively, enabling non-confounded comparisons. It is noted that, due to travel restrictions associated with COVID-19, sampling could not be carried out in 2021.

Water quality typically varied little among the nine sites and only occasionally between bottom and surface waters. On average, salinities were slightly less than that of seawater (32-33), waters were cool (14-15°C), pH ranged between 6.0 and 8.2 and waters were always fully saturated with oxygen. Surface salinities were lower than at depth at three of the nine sites, presumably reflecting recent rainfall and subsequent freshwater influx. Salinities were similar to Update 1, but slightly lower than in Baseline,

reflecting ongoing La Niña conditions in 2021 and 2022.

Remote Operated Vehicle (ROV) surveys were not able to be conducted in this survey, owing to poor conditions both above and below the water. Alternatively, examinations of the videos for the BRUVS deployed for the fish assemblages showed that substrates were again characterised by pale rippled sand and shell debris, drift algae and small attached macrophytes. However, owing to the limited field of view in the BRUVS, it was not possible to draw any usable comparisons between the nine sites. It is recommended that, for future Update sampling events, that ROV sampling be carried out during no rainfall days, or that a robust on-board shelter be constructed.

With regards to %TOC from the currently stocked site (Callala North Lease), no significant change was detected from that site in Baseline, with the mean (and SE) values being 0.082 (0.004) at Update 2 and 0.068 (0.008) at Baseline. %TOC differed significantly among the nine sites overall in Update 2, with mean (and SE) values ranging from 0.065 (0.007) at Callala North Control 1 (CN.C1) to 0.195 (0.092) at Callala South Control 1 (CS.C3).

Mean sediment grain size did not differ significantly between Baseline and Update 2, while % mud was significantly less in Update 2 than Baseline, with mean (SE) values overall being ~2% in Update 2 vs ~5% in Baseline. This is encouraging, despite recent La Niña conditions, as flooding waters have been linked with increases in % mud and declines in water quality in another Australian embayment. Mean grain size did not differ significantly between the nine sites in Update 2, with means (and SE) ranging from 0.125 (0.004) to 0.284 (0.067) mm for the nine study sites. In contrast, significant differences were detected for % mud, with a greater amount of these finer sediments (5-6%) at two of the Vincentia study sites vs 1-2% elsewhere.

All replicates for the benthic macroinvertebrate taxa were collected, sieved through 1 mm mesh and stored in 70% ethanol. However, the lack of a significant difference for %TOC between Baseline and Update 2, with particular reference to the stocked site, means there is no requirement (as per South Coast Mariculture (2015)) to examine and enumerate the benthic macroinvertebrate taxa for this report, and samples have been securely stored at the University to facilitate any future examinations.

Twenty seven of the four Baited Remote Underwater Video Systems (BRUVS) deployments at each of the nine sites recorded 13 species and 538 organisms, with the fish faunas being dominated by Yellowtail Scad, Blue-Spotted Flathead and Trumpeter Whiting and, for the elasmobranchs, the 4 Eastern Fiddler

Ray was most abundant. Significantly more taxa were observed in Update 2 than Baseline, while the total MaxN showed no such differences between surveys. Multivariate analyses showed that differences between Update 2 and Baseline surveys were statistically significant (as was also the case with Update 1 vs Baseline), but these may not be biologically significant, as there is still a limited understanding of the fish assemblages in the study area. It is noteworthy that fish assemblages at the site at which mussels were stocked (Callala North Lease) did not differ significantly to the fish assemblages at any other site in the study area.

The results from this Update 2 survey, based on water quality, broad seabed characteristics, sedimentary characteristics (particularly %TOC), and fishes, provide evidence that the present stocking of blue mussels at the Callala North Lease site is having no detectable effect on the marine environment in this area of Jervis Bay (Platell et al., 2023).

Following a recent modification request (APPENDIX:F RDOC24/49207 NSW DPI, 2024), South Coast Mariculture (SCM) opted not to proceed with further sampling pending the final relocation of leases. Instead, the new sampling protocol will prioritize sites surrounding the new lease coordinates. This decision was made by SCM management after completing the necessary three benthic surveys.

The University of Newcastle (UoN) will oversee the upcoming benthic survey once the lease relocation is officially finalized. This survey will coincide with the commencement of construction and decommissioning operations in FY24-25, ensuring comprehensive environmental assessment and compliance with regulatory requirements.

6.2. Biofouling Patterns on Blue Mussels in Jervis Bay- Honours Project by UoN 2023

During the last two fiscal years, the research team from the School of Environmental and Life Sciences at the University of Newcastle (UoN) investigated the impact of barnacle species on South Coast Mariculture (SCM) leases. The study explored potential mitigation strategies for barnacle overgrowth, including optimizing timing and spat size during stocking, refining stock husbandry practices, and developing effective barnacle removal techniques during processing.

The project aimed to characterize spatial and temporal patterns of biofouling on mussels and assess their relationship to mussel health and condition. SCM actively participated in sample collection and virtually attended the final seminar of the research candidate from UoN. Subsequently, SCM strategized its husbandry practices to enhance farm operations and mitigate the impact of barnacle infestation on mussel

cultivation.

This study investigated the impact of biofouling on mussel growth and condition using mussels sampled at 6-week intervals from September 2021 to January 2023, nearing harvest size (Harvest cohort). Biofouling indicators including percentage cover, suspended volume, and wet weight were found to be positively correlated, particularly between suspended volume and wet weight. However, no significant relationship was observed between mussel condition and these biofouling indicators, suggesting that current biofouling levels do not adversely affect aquaculture mussels in Jervis Bay (McAlpine., 2023).

Fifty different biofouling taxa were identified, with the highest absolute percentage cover attributed to algae (Polysiphonia sp.), hydroids (*Solanderia fusca*), and juveniles of the mussel species *Mytilus galloprovincialis*, which are relatively easy to remove post-harvest but contribute unwanted weight to dropper lines. Barnacle species (*Balanus trigonus* and Megabalanus sp.) were also noted as moderately important, posing challenges for post-harvest removal and adding to unwanted weight.

The study also assessed biofouling variations over time and depth along 7-meter dropper lines (specifically at 2 meters versus 4 meters depth). Differences in biofouling were more pronounced over time than between depths, indicating potential variations in environmental factors and spawning times among biofouling invertebrates. While no significant depth-related difference was detected in biofouling wet weight, differences in species composition were evident (McAlpine., 2023).

Analysis of species occurrence during the growth period of the Study cohort (mussels stocked in December 2021) revealed a sequential dominance pattern over time, suggesting successional changes in biofouling communities. The study noted a steady increase in biofouling indicators throughout the observation period, particularly pronounced after October 2022, implying a likely continued increase in biofouling levels with ongoing mussel stocking in Jervis Bay.

In conclusion, this study (Appendix: E) offered a valuable model for assessing biofouling dynamics and collaborating with farmers to optimize study outcomes. The complexity of findings underscores the necessity for ongoing monitoring and further research to develop effective biofouling management strategies tailored to aquaculture conditions in Jervis Bay.

7. Marine Fauna Interactions

7.1 Marine mammals

The Marine Fauna Interaction Management Plan has been meticulously developed to assess and mitigate potential impacts on marine fauna resulting from interactions with South Coast Mariculture (SCM). This comprehensive plan integrates a Marine Fauna Interaction Protocol, Marine Fauna Monitoring Program, and Observer Protocol into a unified document, recognizing the interconnected nature of these components.

The SCM Marine Fauna Interaction Committee comprises representatives from NSW National Parks and Wildlife Service, NSW DPI, and SCM itself. This collaborative effort ensures a multi-agency approach to managing and mitigating impacts on marine wildlife associated with shellfish aquaculture operations.

SCM's operations team, which boasts extensive experience in marine wildlife management around aquaculture activities, has been fully briefed on the Marine Fauna Interaction Management Plan. All team members have undergone appropriate training to ensure adherence to the plan's protocols and procedures.

Since the installation of infrastructure in June 2019, SCM has diligently monitored all marine fauna interactions within its shellfish leases. This ongoing monitoring underscores SCM's commitment to environmental stewardship and compliance with regulatory standards, ensuring the sustainable coexistence of aquaculture operations and marine ecosystems.

There have been four recorded observations (Figure:9) of marine fauna within the lease area (Table:4) during this period:

- A fairy penguin was observed feeding on easter sea garfish in the Callala lease on 19.03.2024. Due to the nature of operations, the staff was unable to capture a clear photograph of this observation for the Seaflux report.
- An Australian fur seal was sighted in proximity of marine farm lease AL15/001 on 26.03.2024. It was seen as both feeding and resting at times.
- A seal was sighted in the proximity of marine farm lease AL15/001 on 16.04.2024. It was seen actively hunting in between periods of rest at the surface of the water. At one point, the seal was seen throwing around a fish that it managed to capture.
- Three fairy penguins were observed feeding on pilchards within the proximity of the lease AL15/001 on 28.05.2024.

Dolphins are regularly seen in Jervis Bay. SCM operations team frequently observe dolphins in the bay during water sample collection or navigating to and from the leases. Whales and seals have been observed by the SCM operations crew out in the bay, but no whales have been observed within or in close proximity to the leases.

There is a local Jervis Bay Marine Mammal Research group (MMR) that monitors marine mammal numbers in and around the bay (www.marinemammalresearch.com). SCM has been in contact with MMR to suggest a possible collaboration of data gathering to improve understanding of marine mammal movement in JB. This could deliver improved management practices at SCM with regard to marine mammal interactions/contact with the leases.

Table 4: Summary of marine fauna interactions with the SCM leases July 2023 – June 2024 (Source: SCM, 2024).

Date	Observations (travelling to & from SCM lease)			Observations (in and around lease)					
	Seal	***Dolphin***	***Obs***	**Seal**	***Penguin***	***Obs***	***Nature of Interaction***	***Entangle***	***Comments & Actions***
July23-June24	only one is seen on most occasions	Number varies	Dolphin and seal sightings in the bay travelling to and from the lease						
19.03.2024					**1**	Feeding on fish	Observed from the SCM vessel	Nil	Reported To Jervis Bay Marine Park
26.03.2024				1		Feeding and resting at times	Observed from the SCM vessel	Nil	Reported To Jervis Bay Marine Park
16.04.2024				1		Actively hunting and feeding on fish	Observed from the SCM vessel	Nil	Reported To Jervis Bay Marine Park

28.05.2024					**3**	Feeding on fish	Observed from the SCM vessel	Nil	Reported To Jervis Bay Marine Park

Figure 9: Marine mammal swimming through Callala North lease (AL 15/001) (Source: SCM, 2024)

7.2 Marine Turtles

No marine turtles were observed during this reporting period as within or in close proximity to the SCM leases.

7.3 Marine Mammal Entanglement

There have been no reports of entanglements of marine mammals in SCM lease infrastructure during this reporting period.

8. Standards / Performance Measures and Environmental Targets / Strategies

Under consent conditions outlined in SSI-5657, the SCM operations team has formulated an Environmental Management Plan (EMP). This plan delineates management practices and procedures aimed at upholding standards and meeting performance measures pertinent to the SCM marine aquaculture lease development.

The EMP encompasses various sub-plans that provide detailed guidance on specific activities aligned with applicable standards and performance measures. Version 3 of the EMP was updated and approved by the Department in September 2021 to ensure ongoing compliance with SSI-657 consent conditions and operational standards for SCM's aquaculture leases. EMP Appendix 1 Construction Deployment Plan and Traffic Management Plan was updated (Version 4.2) in 2023 during the commercialisation of Al15/001 and Al15/002 leases.

Independent environmental sampling efforts have been conducted at key intervals: a Baseline survey in 2019 before lease development, an Update-1 Survey in 2020, and an Update-2 Survey in 2022 (Appendix: A) following lease development and stocking activities. These surveys have consistently indicated no significant impacts on benthic invertebrate ecology or water column chemistry within SCM marine leases or at control sites. Considering this, SCM plans to restart conducting a subsequent survey upon approval of the requested modification to SCM leases. This approach ensures continued monitoring and assessment of environmental impacts.

9. Navigational Interactions

SCM has collaborated closely with NSW RMS to ensure safe delineation of the Callala North (AL 15/001) and Callala South (AL 15/002) lease areas, prioritizing navigational safety.

The corner points of both leases are marked with IALA-compliant Spar Buoys, each designated with specific buoy color combinations and day shapes:

- North cardinal buoy: Continuous fast flashes
- East cardinal buoy: Three fast flashes
- South cardinal buoy: Six short fast flashes followed by one long flash
- West cardinal buoy: Nine fast flashes

Upon recommendation from RMS, SCM has implemented a Quick (Q) flashing speed for Lease 1 (AL15/001) at Callala and a Very Quick (VQ) flashing speed for Lease 2 (AL15/002) at Callala. This differentiation aids vessel navigation and identification between the two leases.

Additionally, midway along each lease, there are two yellow light buoys. These buoys utilize a flash character of 5 quick flashes every 20 seconds to distinguish them from the cardinal buoys, further enhancing navigational clarity and safety in the area.

9.1 Navigation Incidents

No navigational incidents have occurred during this reporting period within SCM leases.

10. Structural Integrity and Stability

The infrastructure at Callala North (AL 15/001) and Callala South (AL 15/002) leases has been systematically monitored as per the Structural Integrity and Stability Program detailed in SCM's Environmental Management Plan (EMP). Regular inspections of the lease infrastructure have been conducted weekly throughout the reporting period. These inspections focus on identifying faults, damage, excessive biofouling, and ensuring the security of lines and buoys.

Particular attention has been given to conducting inspections following severe weather events to mitigate risks such as marine fauna entanglements and navigation hazards. Detailed service inspections are carried out after each severe weather event to comprehensively assess all aspects of the infrastructure, including cardinal marks, anchors, and ropes.

Throughout the reporting period, no instances of excessive or unusual biofouling have been observed. This consistent monitoring and proactive maintenance approach ensures the structural integrity, stability, and environmental safety of the aquaculture operations in the Callala leases.

11. Compliance

The following actions have been undertaken to ensure compliance with the consent conditions of the State Significant Infrastructure Approval SS1-5657.

11.1 Training

SCM personnel including employees, contractors and subcontractors, have received appropriate induction training and have the required skills and qualifications to fulfil their respective roles competently.

Minimum environmental training has included:

- An induction onto the SCM marine aquaculture leases and land-based sites;
- A briefing on the importance of conformity with the environmental policy, procedures and requirements of the Environmental Management Plan (EMP), as well as their roles and responsibilities;
- Specialised environmental training and instruction required for undertaking allocated tasks, especially in regard to compliance with the environmental conditions of the SSI-5657 consent;
- Other specific training and instruction requirements including emergency response and operation of specific equipment; and
- Regular meetings which have included discussions on safety issues, risk assessments and controls.

11.1.1 Site Meetings, Toolbox Meetings and Contractor Meetings

Daily tasks related to SCM's marine aquaculture leases are regularly addressed through various meetings conducted as needed. These include site, toolbox, safety meetings, and contractor meetings involving staff, consultants, and subcontractors.

During these meetings, specific environmental management topics as waste management, biosecurity protocols, water quality monitoring, and infrastructure maintenance are discussed and actioned upon. Minutes are diligently recorded for all meetings, and relevant documents are documented in Seaflux.

This structured approach ensures that environmental responsibilities are effectively managed, issues are promptly addressed, and compliance with regulatory requirements is maintained. It also facilitates communication and coordination among stakeholders involved in SCM's aquaculture operations, promoting transparency and accountability.

11.2 Environmental Monitoring

A benthic monitoring program has been developed and implemented to meet condition D12. Independent benthic and water quality sampling and analysis has been carried out annually to provide baseline data plus comparative data following the stocking of the lease. Water quality, benthic fauna, sediment chemistry and particle size have been analysed as part of these surveys.

11.3 Review of Environmental Management Plans

Version 3 of the Environmental Management Plans (EMP) received approval from the Department in September 2021 following a comprehensive review process, both internally and by the Department.

The Version 3 EMPs are currently undergoing further review, with approved versions set to be made publicly accessible via the SCM website. Appendix-1, which includes the Construction Deployment Plan and Traffic Management Plan (Version 4.2), underwent specific reviews corresponding to Stage 3 Full Commercialisation of leases and Translocation of Hatchery Reared Spat, respectively.

As part of ongoing efforts, the EMP will be updated again pending approval of requested modifications, and the most recent versions will be published on the SCM website following approval by the Department. This will ensure that stakeholders, regulatory bodies, and the public have access to the latest environmental management strategies and plans governing SCM's aquaculture operations.

11.4 Annual Review of Jervis Bay Shellfish Program

The 2023 Annual reviews of harvest areas in Jervis Bay have been conditionally approved for both Callala and Vincentia harvest areas, contingent upon compliance with NSW Shellfish Program requirements by the NSW Food Authority.

Due to the establishment of new lease locations, there will be adjustments in the sampling sites around Vincentia to concentrate more intensively on sites surrounding the Callala leases. The specific sample sites will be finalized and confirmed by the NSW Shellfish Program during the upcoming reporting period.

This strategic shift in sampling locations aims to ensure thorough monitoring and compliance with regulatory standards, and operational transparency in SCM’s aquaculture activities in Jervis Bay.

11.5 Best Aquaculture Practices Certification

SCM has achieved recertification under the Best Aquaculture Practices (BAP) in Australia by satisfying the criteria outlined in the "Mollusk Farm Standard" Version 1.2, February 2023. This certification underscores SCM's adherence to international benchmarks in environmental stewardship, social responsibility, animal health and welfare, and food safety practices.

11.6 Independent Environmental Audit

As per the SSI-5657 approval conditions (E11), an independent environmental audit (IEA) final report was submitted to the department on 01.06.2022 and shared publicly upon receiving the approval.

Of the 81 conditions, a total of 19 conditions were not triggered during the audit period. There were 20 non-compliances identified during the audit, the remainder of which were determined to be compliant. Of the 20 non-compliances, 10 required corrective actions. There were also five opportunities for improvement identified. Out of the 10 non-compliances, nine have been closed, and one is under review (Condition E6 of SSI5657) to be finalised in FY24-25 (Table 5).

Table 5: Actions identified from Independent Environmental Audit (Source: SCM, 2024).

Action Identified	Audit Details	Details of Corrective Action	Completed Status and Date
Condition E6 of SSI5657	The proponent shall submit a report to the Secretary demonstrating that they have actively attempted to work with local businesses, community groups, local aboriginal communities, or other local bodies to incorporate regional tourism and local employment and/or training opportunities into the Project. Initially, this non-compliance is against NSW DPI and SCM as the current proponent is responsible for corrective action closeout.	Prepare and submit a report to the Secretary demonstrating that they have actively attempted to work with local businesses, community groups, local aboriginal communities, or other local bodies to incorporate regional tourism and local employment and/or training opportunities into the Project.	Final Report to be submitted upon completion in FY24-25.

11.7 Non-Compliance

During the fiscal year 2023-2024, SCM did not receive any non-compliance issues from external auditing bodies or regulating authorities. Non-compliance is defined as a failure to meet a specified legal, specified, or policy requirement. In the event of any detected non-compliance, SCM adheres to defined corrective actions, which are measures implemented to eliminate the root cause of the non-compliance and mitigate any associated environmental impacts.

12. Community Consultation and Engagement

12.1 Community Consultation

The South Coast Mariculture (SCM) aquaculture project has garnered strong support from the local Jervis Bay community. Throughout this reporting period, SCM's management team and onsite staff have actively

engaged with various community stakeholders to ensure transparency and foster positive relationships. Key community groups involved include:

- Jervis Bay Marine Rescue
- Shoalhaven City Council
- Australian Maritime Museum
- Jerrinja Aboriginal Land Council
- Jervis Bay Recreational Fishing
- Jervis Bay Recreational Diving
- University of Wollongong
- University of Technology Sydney
- University of Newcastle
- Kiama Lions Club

Additionally, SCM's management team has maintained ongoing communication with several state and federal government departments and bodies, reinforcing collaborative efforts and regulatory compliance:

- NSW Department of Primary Industries
- NSW Roads and Maritime Services
- NSW Food Authority
- NSW Port Authority
- Marine Parks Authority
- Royal Australian Navy

SCM's commitment to community engagement, environmental stewardship, and responsible aquaculture practices, ensures its alignment with local and national regulatory frameworks while fostering beneficial relationships with stakeholders.

12.2 Engagement with Community

Community engagement has been facilitated on many occasions as during the reporting period the South Coast Mariculture team has had regular interactions with local members of the community at the Wollamia and Huskisson wharf where people often enquire about the SCM marine aquaculture leases and the mussels. Local Community and interested parties were welcomed onboard to witness SCM farming and processing operations (Figure:10). SCM gained the opportunity to be a sleeve sponsor for the under 16 Eden Tigers Rugby team and a local team of Vincentia Van Gones Rugby as well.

SCM attended the local gatherings to share environmental and processing controls in place as part of the NSW Shellfish Program and Food Safety.

A strong community-focused culture has been fostered within the SCM team so that all community interactions are handled with transparency, positivity and patience feedback is noted and complaints are recorded and addressed.

Figure 10: SCM crew engaging with the local community and local groups (Source: SCM, 2024).

South Coast Mariculture has worked with local schools to support student work experience and educate locals about mussel aquaculture and the marine environment (Figure:11). Local students have gained deckhand and Coxswain experience during the school holidays with the SCM Operations crew. Shoalhaven High School was onboard on 01.09.2023 for an excursion.

Figure 11: Local school students gaining deckhand experience and school excursions about sustainable mussel farming practices (Source: SCM, 2024).

The SCM team has organised one beach clean-ups at Callala Beach and Frank Lewis Bay off the Wollamia wharf (Figure: 12) to address the concern of rising marine plastic pollution after a severe weather event. SCM also collaborated with Ocean Watch Australia to run a – Tide to Tip beach cleanup event on 08.03.2024. These events have been a great opportunity to interact with tourists and residents who shared a positive outlook on the mussel aquaculture leases. The team earned laurels for its positive impact on the environment with its continual environmentally focused efforts. Also, it was noted that with each cleanup session, the amount of waste decreased (Table: 6) and the type of waste varied showing an interesting pattern. Further cleanup sessions will focus on this as well.

Table 6: Volume of rubbish collected during Beach Cleanup events conducted by South Coast Mariculture at Jervis Bay (Source: SCM 2024).

Date of Clean-up	Destination	Volume of rubbish collected
08.07.2022	Callala Beach and Frank Lewis Way	~15 kg
24.02.2023	Callala Beach and Frank Lewis Way	~12 kg
08.03.2024	Callala Beach and Frank Lewis Way	~10-12kg

Figure 12: Beach Cleanups conducted by South Coast Mariculture. (Source: SCM, 2024)

The Jervis Bay mussel story has been published extensively in the media with segments on ABC's Landline, on local television and radio and on the BBC Reel – giving great exposure to the project, to Jervis Bay and the greater Jervis Bay region.

Throughout the reporting period, numerous government officials, non-government organizations, and stakeholders were regularly escorted to the South Coast Mariculture leases (Figure 10). These visits were aimed at providing firsthand insights into SCM's operations and fostering understanding among key stakeholders about the aquaculture activities conducted in Jervis Bay.

Additionally, SCM has ensured that its website (www.southcoastmariculture.com.au) remains up to date. This commitment includes making environmental management plans, reporting documents, and statutory approval documents publicly accessible, as stipulated by Condition E13 of SCM's operational requirements.

13. Feedback and Complaints

In compliance with condition E5 of the State Significant Infrastructure Approval SS1-5657, the Community Stakeholder Communication Plan for the SCM marine aquaculture leases details the following:

- Identification of relevant community and other stakeholders;
- Details of procedures and mechanisms used to inform the community (including local aboriginal

communities) and stakeholders of the developments progress and other issues;

- Processes to receive and manage feedback and complaints; and
- Phone, email and mail contact details for the development including a 24-hour contact number.

Local Councils have been informed of the procedures so that on receipt of any complaints they can redirect issues to the appropriate regulatory departments.

South Coast Mariculture's Feedback and Complaints Handling Protocols include:

- A contact number and a site contact person who manages complaints;
- A feedback and complaints register;
- Proposed mitigation measures and follow-up with the complainant;
- Contingency measures when repeated complaints are received including provisions for additional monitoring and amelioration measures;
- Compliance performance agreements with residents; and
- Reporting procedures to relevant government agencies or Council.

Feedback and complaints about the SCM marine aquaculture leases, land-based sites or company operations is registered via the following options:

- Mail: PO Box 6115, Griffith, ACT 2603
- Email: info@southcoastmariculture.com.au

13.1 Feedback and Complaints Register

A feedback and complaints register has been maintained by South Coast Mariculture and is regularly reviewed to determine the most appropriate response. The register lists information such as the following for feedback and complaints:

- Date;
- Person/s receiving the complaint;
- Name, address and contact phone number of the person(s) making the complaint;
- Specific details of the nature of the feedback or complaint; and
- Action undertaken in response to the feedback or complaint.

A record will also be made about whether the complaint originated from normal operational procedures,

an ‘incident’ or an occasional procedure.

If from occasional procedures, discussions should be held with complainants regarding whether it was the timing or nature of the impact and how the impacts can be better managed. In many cases, an agreement can be reached between parties regarding procedures, timetables, duration and intensity.

If it resulted from normal operation procedures, these procedures should be reviewed in discussion with the relevant approval authorities. A summary of the feedback and complaints register will be included in the Annual Report that will be submitted to the Director-General. Feedback and complaints received during the past year will be compared to those received in previous years.

13.2 Complaints and Feedback Received During Reporting Period

One community complaint has been received during the 2023 - 2024 reporting period (Table:7). Detailed action report is listed on the SCM Complaints register on the website.

Table 7: Complaints & Feedback Register of South Coast Mariculture (Source: SCM 2024).

Date	Name	Contact details	Nature of feedback/complaint	Action taken
02.07.2023	Member of public	Retained by SCM	“Good morning. The residents of Coulon street are being woken at 6.30am. Over the last couple of months The boat is STARTing at 6.30am. Now including the weekend and Sundays. It is impossible to sleep once the boat starts. Please can we atleast have the opportunity to have a sleep in on a Sunday. . Thankyou”	*Initial response shared by Hika Rountree on 04/07/2023* “Good Morning - Thank you for reaching out to let us know that our vessel is disrupting your Sunday mornings. Unfortunately we have had to work 4 Sunday mornings over the last 3 months. We need to work around the weather seeding our baby mussels and if we get a rough day during the week and the weekends present a good weather day we need to take advantage of the good weather opportunity. We received feedback from some Coulon St residents when we first started working out of Woolamai about our starting time of 0530-0600. We took their feedback seriously and reorganised our working hours to 0630 start times weekdays. We will now take on board your feedback and reorganise any future weekend work to start at 0700 and no earlier. I'd also like to point out that there is vehicle and vessel noise starting at the Woollamia boat ramp from as early as 0430 on weekdays & weekends from other commercial operators and recreational users whenever the weather and fishing is good.

				Please feel free to contact us in future if you feel we haven't addressed your concerns adequately or if any further concerns arise. The team here at Jervis Bay Mussels are part of the community and we take pride in what we do and the beautiful seafood we produce. Regards Hika" *Followed by the Complainants response on 15/07/2023* "Good afternoon Hika Thank you for addressing our concerns and consideration of our weekends. Both -- &-- were at that meeting along with some other residents and I believe that--, my partner, spoke with you too. I would like to let you know that we have been living here for 10 years and have never been disrupted by other crafts, recreational or commercial from the boat ramp. This may bne due to the size of your engines, thrusts and closeness of the mooring to the homes. However, I would like to mention that the noise and vibration to our home has decreased a bit since the boat was moved to the mooring on the other side of the creek. We do appreciate that you have been respectable, approachable and considerate. Thank you, it is nice to deal with good people and thank you for your understanding, Hika. Lastly, -- and I enjoy your seafood regularly and support your business."

Detailed action is listed on the SCM Feedback and Complaints Register on our website.

14. References

- Commonwealth of Australia (2009) National Biofouling Management Guidelines for Commercial Fishing Vessels. Commonwealth of Australia.

- Joyce, A., Rubio-Zuazo, A.M. and Winberg, P.C. (2010) Environmental and Socioeconomic Considerations for Aquaculture in Jervis Bay, NSW. Fisheries Research and Development Corporation, Canberra.

- McAlpine, K. (2023). Biofouling Patterns on Blue Mussels in a Temperate Aquaculture Setting (Jervis Bay). Thesis submitted to the Discipline of Environmental Science and Management, University of Newcastle., pp. 1-86.

- McKindsey, C.W., Landry, T., O'BEIRN, F.X. and Davies, I.M. (2007). Bivalve aquaculture and exotic species: a review of ecological considerations and management issues. Journal of Shellfish Research, 26, pp. 281-294.

- Platell, M., Gaston, T. and Raoult, V. (2020). BASELINE: Characterisation of the water and seabed environment of the proposed mussel farm in Jervis Bay. Report to South Coast Mariculture., pp.1-56.

- Platell, M., Gaston, T., & Raoult, V. (2021). Update 1: Characterisation of the water and seabed environment of the recently developed mussel farm in Jervis Bay. Report to South Coast Mariculture., pp. 1-48.

- Platell, M., Gaston, T., & Raoult, V. (2023). Update 2: Characterisation of the water and seabed environment of the recently developed mussel farm in Jervis Bay. Report to South Coast Mariculture., pp. 1-28.

15. Web References

Web Reference 1

Benthic Surveys

https://www.southcoastmariculture.com.au/sustainability/environmental reporting

Web Reference 2

Marine Flex Ltd

https://www.marineflex.com/screw-in-anchor-technology

Web Reference 3

Xylem

https://www.xylem.com/en-au/

Web Reference 4

SeaGen Aquaculture

https://www.seagenaquaculture.com/

Web Reference 5

Jervis Bay Weather Buoy

https://public.eagle.io/public/dash/gnnu7ol42v7pn2x

Web Reference 6

Twofold Bay Weather Buoy

https://public.eagle.io/public/dash/ylrdodlwb2nu15r

Web Reference 7

Marine Farming app

https://beta.musselfarm.co.nz/

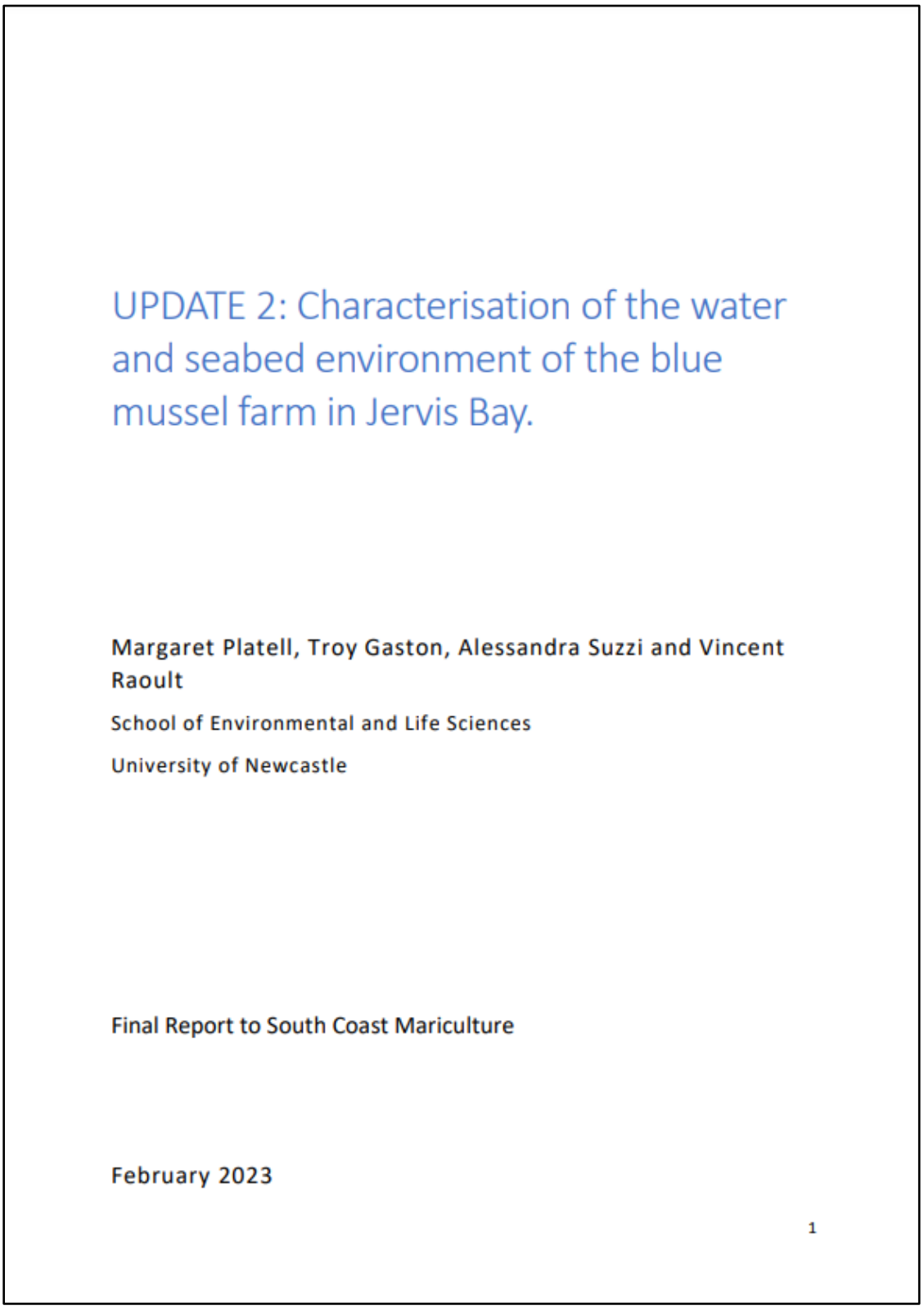
Web Reference 8

Seapa

https://seapa.com.au/

16. Appendices

Appendix: A Update 2: Benthic Survey



UPDATE 2: Characterisation of the water and seabed environment of the blue mussel farm in Jervis Bay.

Margaret Platell, Troy Gaston, Alessandra Suzzi and Vincent Raoult

School of Environmental and Life Sciences

University of Newcastle

Final Report to South Coast Mariculture

February 2023

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For full pdf see: *SCM Environmental Reporting*

Appendix: B Current NSW Spat Translocation Protocol

NSW GOVERNMENT | Department of Primary Industries

Sam Gordon
Director
South Coast Mariculture Pty Ltd
PO Box 6115
Griffith ACT 2603

Our Ref: ACF20/253, RDOC22/60904

Dear Sam

Re: NSW Blue Mussel spat translocation protocol (Twofold Bay to Jervis Bay)

I refer to your email request dated 7 April 2022 requesting modifications to the NSW Blue Mussel spat translocation protocol (Twofold Bay to Jervis Bay) that applies to your Class A aquaculture permit (AP2554).

NSW Department of Primary Industries (NSW DPI) has considered your request and has approved the requested modifications. Please find attached a revised version of the NSW Blue Mussel spat translocation protocol (Twofold Bay to Jervis Bay) which now applies to your Class A aquaculture permit (AP2554).

If you require any further information, please do not hesitate to contact me on (02) 4916 3845.

Yours sincerely

Graeme Bowley
Snr Policy Officer, Aquaculture
21/4/2022

NSW Department of Primary Industries - Fisheries
Port Stephens Fisheries Institute
Locked Bag 1, Nelson Bay NSW 2315 Tel: 02 4916 3900
ABN 199 483 254 63 www.dpi.nsw.gov.au/fishing/aquaculture

Appendix: C Translocation of Blue Mussel Spat into NSW waters from Victoria

NSW GOVERNMENT Department of Primary Industries

RDOC23/106605

Shellfish Hatchery and Translocation Protocol

Translocation into Jervis Bay and Twofold Bay of blue mussel (*Mytilus galloprovincialis*) spat produced by SeaGen Aquaculture Pty Ltd, at 10 Beach Crescent Newhaven, Victoria

Purpose

The following biosecurity conditions and requirements have been developed to minimise the risk of the introduction of diseases and pests from Victorian waters into NSW waters via the translocation of blue mussel (*Mytilus galloprovincialis*) spat (juvenile seed stock) produced by SeaGen Aquaculture Pty Ltd at their hatchery at 10 Beach Crescent, Newhaven, Victoria, 3925 to blue mussel grow-out leases at Jervis Bay and/or Twofold Bay, NSW.

Scope

Blue mussel spat produced by SeaGen Aquaculture Pty Ltd at the source hatchery at Newhaven, Victoria will only be permitted to be placed into the waters of Jervis Bay and/or Twofold Bay, NSW where it can be demonstrated that the spat has been produced and translocated in accordance with the following protocol. Blue mussel spat produced under this protocol may only be imported into NSW by persons/entities ('the shipper') authorised to farm blue mussels under Section 144 (Aquaculture Permit) of the NSW *Fisheries Management Act 1994* with a special or specific condition on their NSW Department of Primary Industries (NSW DPI) Aquaculture Permit that for the purposes of section 216 (1) of the *Fisheries Management Act 1994* authorises blue mussel spat produced by SeaGen Aquaculture Pty Ltd at the source hatchery to be placed onto the leases authorised by that permit (see definition for 'shipper' below). Following the initial translocation by the shipper into waters of Jervis Bay or Twofold Bay NSW, the mussels may only be on-sold for further cultivation within NSW, or otherwise translocated for further cultivation within NSW where that sale or other translocation is to a person/entity authorised to farm the blue mussels under Section 144 of the *Fisheries Management Act 1994* at that additional location, and is subject to the record keeping and reporting requirements in this protocol as well as to all conditions in any protocols for that further translocation, conditions under the relevant Aquaculture permits and any other restrictions under the *Fisheries Management Act 1994*, the Fisheries Management (Aquaculture) Regulation 2017, the NSW *Biosecurity Act 2015* and the Biosecurity Regulation 2017.

A NSW Department of Primary Industries (NSW DPI) Fisheries Officer under the *Fisheries Management Act 1994*, or Authorised Officer under the NSW *Biosecurity Act 2015* may examine batches or any part of a batch of blue mussel spat shipped from the source hatchery for SeaGen Aquaculture Pty Ltd at any time once a shipment enters NSW to ensure that the shipment complies with this protocol, the provisions of the NSW *Biosecurity Act 2015*, the Biosecurity Regulation 2017, the *Fisheries Management Act 1994* and the Fisheries Management (Aquaculture) Regulation 2017.

Note: At any time a formal legal instrument can take effect that may override either parts of, or the entire, protocol.

Documentation requirements relating to translocation of blue mussel spat under this protocol must be provided to NSW Department of Primary Industries via email to both oyster.import@dpi.nsw.gov.au and aquaculture.administration@dpi.nsw.gov.au

General Biosecurity Duty

Appendix: D Translocation of Sydney Rock Oyster Spat into NSW waters from Victoria

NSW GOVERNMENT Department of Primary Industries

RDOC23/106609

Shellfish Hatchery and Translocation Protocol
Production and Translocation into NSW Waters of Sydney Rock Oyster *(Saccostrea glomerata)* spat produced by SeaGen Aquaculture Pty Ltd, at 10 Beach Crescent, Newhaven, Victoria, 3925

Purpose

The following biosecurity conditions and requirements have been developed to minimise the risk of the introduction of diseases and pests from Victorian waters into NSW waters via the translocation of Sydney Rock Oyster *(Saccostrea glomerata)* spat (juvenile seed stock) produced by SeaGen Aquaculture Pty Ltd at their hatchery at 10 Beach Crescent, Newhaven, Victoria, 3925 to Sydney Rock Oyster grow-out leases in NSW.

Scope

Sydney Rock Oyster spat produced by SeaGen Aquaculture Pty Ltd at the source hatchery at Newhaven, Victoria, will only be permitted to be placed into NSW waters where it can be demonstrated that the spat have been produced and translocated in accordance with the following protocol.

Sydney Rock Oyster spat produced under this protocol may only be imported into NSW by persons or entities ('the shipper') authorised to farm Sydney Rock Oysters under Section 144 (Aquaculture Permit) of the *Fisheries Management Act 1994* with a special or specific permit condition on their NSW Department of Primary Industries (NSW DPI) Aquaculture Permit, that for the purpose of section 216 (1) of the *Fisheries Management Act 1994* authorises Sydney Rock Oyster spat produced by SeaGen Aquaculture Pty Ltd in their hatchery at Newhaven Victoria to be placed onto the leases authorised by that permit (see definition for 'shipper' below).

Following the initial translocation by the shipper into waters of NSW, the Sydney Rock Oysters may only be on-sold for further cultivation within NSW, or otherwise translocated for further cultivation within NSW where that sale or other translocation is to a person/entity authorised to farm the Sydney Rock Oysters under Section 144 of the *Fisheries Management Act 1994* at that additional location, and is subject to the record keeping and reporting requirements in this protocol as well as to all conditions under the relevant Aquaculture permits and any other restrictions under the *Fisheries Management Act 1994*, the Fisheries Management (Aquaculture) Regulation 2017, the NSW *Biosecurity Act 2015* and the Biosecurity Regulation 2017.

A NSW Department of Primary Industries (NSW DPI) Fisheries Officer under the *Fisheries Management Act 1994* or Authorised Officer under the NSW *Biosecurity Act 2015* may examine batches of Sydney Rock Oyster spat shipped from the source hatchery for SeaGen Aquaculture Pty Ltd at any time once a shipment enters NSW to ensure that the shipment complies with this protocol, the provisions of the NSW *Biosecurity Act 2015*, the Biosecurity Regulation 2017, the *Fisheries Management Act 1994* and the Fisheries Management (Aquaculture) Regulation 2017.

Note: At any time a formal legal instrument can take effect that may override either parts of, or the entire, protocol.

Documentation requirements relating to translocation of Sydney Rock Oyster spat under this protocol must be provided to NSW Department of Primary Industries via email to both oyster.import@dpi.nsw.gov.au and aquaculture.administration@dpi.nsw.gov.au

Appendix: E University of Newcastle Honours Thesis- Biofouling Patterns on Blue Mussels in a Temperate Aquaculture Setting (Jervis Bay)

Biofouling Patterns on Blue Mussels in a Temperate Aquaculture Setting (Jervis Bay)

Kirralee McAlpine

B. Env. Sc & Mgt. (Mari Sci)

(Hons.)

2023

University of Newcastle

A thesis submitted to the Discipline of Environmental Science and Management, University of Newcastle, in partial fulfilment of the requirements of the Honours Degree of the Bachelor of Science and Management in Marine Science.

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Appendix: F Submissions Report- Modify the approval for the Commercial Shellfish Aquaculture Leases in Jervis Bay NSW Project (SSI-5675) (APPENDIX:F RDOC24/49207 NSW DPI, 2024).

Submissions Report- Modify the approval for the Commercial Shellfish Aquaculture Leases in Jervis Bay NSW Project (SSI-5657)

21 May 2024

RDOC24/49207 1