



Appendix 7

Disease, Parasite and Pest Management Plan

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1. INTRODUCTION

The Disease, Parasite and Pest Management Plan has been developed to identify and mitigate potential impacts that may arise from disease, parasite or pest related matters on the South Coast Mariculture Commercial Shellfish Aquaculture leases (SCMCAL).

Disease and pest control in aquaculture production requires a holistic approach. Good site management, animal husbandry and rigorous biosecurity measures are central to reducing the risk of disease outbreaks and controlling the spread of infectious diseases and pests.

In accordance with consent condition D5 of the State Significant Infrastructure Approval SS1-5657, the Disease, Parasite and Pest Management Plan details the following:

- The proponent shall prepare a Disease, Parasite and Pest Management Plan in accordance with the Draft EMP to assist in the identification and treatment of potential diseases, parasites and pests. The Plan shall include details on the monitoring of the health of cultured stock and inspection of longline infrastructure to identify any disease or parasite issues that may arise.
- The Proponent shall monitor and record biofouling amount and composition, and details of any biofouling removed from the Leases.
- The Proponent shall only administer chemicals in accordance with APVMA requirements or veterinary prescription.
- The Proponent is to comply with all relevant reporting requirements for any disease events, carry out any government directions for the treatment or destruction of diseased cultured stock, including quarantine of the facility; and not sell, give away or release to waters, cultured stock if it is known or suspected to be infected with a declared disease.

The Disease, Parasite and Pest Management Plan aims to identify and define areas of management and husbandry where agreed protocols and procedures are targeted at “Best Practice” to optimise shellfish health and welfare. The Disease, Parasite and Pest Management Plan will be supported with relevant policies, protocols and safe work method statements to promote a comprehensive approach to all farming operations that have the potential to impact negatively on shellfish health and the biosecurity status of Jervis Bay Marine Park. The Disease, Parasite and Pest

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Management Plan will be continuously reviewed and improvements employed to meet this goal.

The Waste Management Plan also contains details on the management of wastes such as diseased shellfish that may also impact on the management of stock health and surrounding environment.

South Coast Mariculture has developed the Disease, Parasite and Pest Management Plan to ensure a coordinated approach to the health management issues on the SCMCAL.

2. ANIMAL WELFARE

South Coast Mariculture aims to ensure high standards of animal welfare and good health of the cultured stock.

Welfare of stock will be maximised by:

- Rapid diagnosis of disease, parasites and pests
- Humane treatment through careful handling and temperature control (stock will be harvested and sold live so it is paramount to ensure exemplary welfare of livestock from harvest, through processing and distribution).
- Providing the appropriate space and environment for the species.

The attitudes and competence of the South Coast Mariculture staff are a vital factor determining whether high standards of animal welfare can be achieved. This will be achieved by the employment of staff with good working knowledge of the husbandry system being employed on the South Coast Mariculture leases and the stock under their care. It will be the responsibility of management to ensure that there is a welfare ethos among staff.

3. BIOSECURITY

When the EIS was prepared the provisions of the *Fisheries Management Act 1994* provided the legislative framework for biosecurity measures in the marine environment. The *Biosecurity Act 2015* now better manages biosecurity risks that impact on our economy, environment and community. This Act is about managing

diseases and pests that may cause harm to human, animal or plant health or the environment.

Disease can be caused by a range of agents, for example bacteria, viruses and parasites. It is critically important to implement biosecurity measures to prevent the spread of existing disease and pest agents as well as prevent the introduction of new diseases and pests such as those that exist overseas or might reside in local wild stock.

Biosecurity in its broadest definition is the prevention of disease and pest causing organisms entering or leaving any site where they pose a risk to farmed stock, other animals, the environment, humans or the safety and quality of food. Biosecurity in an aquatic environment poses many challenges as often potential pathogens can be carried in wild fish or other hosts or carriers and never be totally eliminated from aquatic systems.

The Disease, Parasite and Pest Management Plan and supporting documents identify potential disease and pest risks and implements effective preventative strategies.

3.1 *Potential Pathways for the Introduction and Spread of Disease and Pests*

Specific pathways by which exotic or new diseases or pests not currently occurring in the New South Wales environment could be introduced or by which existing diseases or pests could be spread between sites include:

- Hatchery or wild produced juveniles including the water and equipment in which they are transported;
- Infected shellfish products including harvest shellfish and shellfish products;
- Contaminated equipment including farm equipment, transport trucks and boats
- Staff, contractors and visitors including vehicles, equipment and protective clothing;
- Wild aquatic organisms (e.g. fish, birds, crustaceans, zooplankton and algae). These species may also be carrying potential pathogens not yet introduced into farmed stock; and

- Other waterway users including contaminated equipment, vehicles and personnel.

Once viable disease or pest organisms have entered and established infection at a farm site, it becomes very difficult to prevent spread of that organism within the site and limit the impact of the disease or pest. Therefore, it is critical that all reasonable measures are taken to minimise the risk of introduction of disease or pest organisms to all sites.

In general, the more often a potential pathway occurs, the more likely a disease or pest organism will be introduced. Therefore, the potential risk of a disease or pest organism entering a site and infecting fish or equipment is a function of three factors:

- Are there enough viable disease or pest organisms present to cause infection or establish viable infestations?
- How likely is it that the disease or pest organism will remain viable during the movement? and
- How frequently does the movement occur?

Disease organisms may be carried by wild aquatic organisms (e.g. fish, shellfish and plankton) that either live in or move into and out of sites. Minimising contact between farmed shellfish and other aquatic organisms is more difficult. However, the transfer of disease from wild shellfish is less likely if shellfish are healthy and conditions are optimal (i.e. strong immune system, low stress and no physical damage).

The movement of equipment and vessels between NSW waterways are covered by a range of protocols and aquaculture permit conditions related to biosecurity matters to mitigate translocation of potential diseases or pests. Details of the associated biosecurity protocols can be found on the NSW DPI website at [Aquaculture Permit Protocols \(nsw.gov.au\)](https://www.nsw.gov.au/aquaculture-permit-protocols). NSW DPI has produced Primefact 1290 '*Make clean part of your routine*' as a best practice guide for movements between waterways, it can be found on the NSW DPI website at [Make 'Clean' part of your routine \(nsw.gov.au\)](https://www.nsw.gov.au/make-clean-part-of-your-routine)

The use of vessels and equipment imported (particularly from overseas) into NSW is a potential pathway for the introduction of exotic pests or disease agents. NSW DPI prohibits the importation of used aquaculture infrastructure from overseas to mitigate this risk. Infrastructure and vessels being translocated from interstate must undergo a

risk assessment and if required undertake treatments to mitigate the translocation of potential diseases or pests risks.

3.2 Contingency Planning and Emergency Response

Under the *Biosecurity Act 2015* a person has a general biosecurity duty of care which is an obligation on people to be aware of their surroundings and take action to prevent the introduction and spread of pests and diseases. It is also an aquaculture permit condition that the aquaculture permit holder must notify an Authorised Officer (Fisheries Officer, Biosecurity Officer) as soon as practical, and no later than 24-hours, from the observation or discovery of any suspected listed disease of aquatic animals or marine vegetation, unexplained or unusual significant fish or marine vegetation mortality event in the area, within which the permit holder is authorised to undertake aquaculture. The failure to report such an event may be a breach of the General Biosecurity Duty found in Section 38 of the *Biosecurity Act 2015*

In the event that a serious new disease or pest emerges either at the SCMCAL or at another aquaculture site, it is essential to have an agreed “Contingency Plan” in place that clearly outlines what processes and procedures will be undertaken to manage such an event. South Coast Mariculture has developed the Disease, Parasite and Pest Management Plan to ensure this occurs when and if a health issue arises.

A disease emergency exists when a population of aquatic animals is recognised as having undergone a severe mortality event and/or significantly decreased productivity and the responsible authority within New South Wales (Chief Veterinary Officer) believes that the cause may be an infectious organism. The Chief Veterinary Officer (CVO) may also consider latent events, such as the presence or identification of an infectious organism (particularly certain exotic organisms), without signs of disease, as an emergency.

The identification of any potential pest incursion must under the *Biosecurity Act 2015*, General Biosecurity Duty be reported. Any suspected pest incursion will be reported as soon as possible to the NSW DPI biosecurity hotline 1800675888..

There are three broad options in the event that a serious disease or pest emerges:

- Eradication – the scale of eradication may vary but in worst case scenario may be across a whole lease or even area;
- Containment, Control and Zoning – these measures aim to confine a new or exotic disease or pest to a defined geographic area and affected populations (e.g. by quarantine); and
- Control and Mitigation – these measures aim to manage the frequency and severity of disease episodes or pest establishment in infected environments and keeping them within acceptable levels.

Events will be assessed on a case by case basis. However, it is essential that decisions and actions are implemented quickly to achieve the best outcome.

3.3 Notifiable Diseases

The *Fisheries Management Act 1994* and the Biosecurity Act 2015 legislation supports the management of aquatic biosecurity and protection for Australia’s aquatic resources from aquatic pests and diseases. South Coast Mariculture is required under this legislation and its aquaculture permit conditions to report any case or suspicion of a notifiable animal disease or pest. These notifiable diseases and pests are all serious and therefore require:

- Any suspect case of a new disease or pest to be reported immediately to the NSW DPI biosecurity hotline 1800 675 888; and
- Any disease that is causing deaths or production losses and which is not readily diagnosed is deemed to be an unknown disease. Any unknown disease must also be reported immediately and the suspect animals isolated pending further investigation of the signs.

The list of notifiable diseases and pests are regularly reviewed and updated and can be found on the [NSW DPI aquatic biosecurity website](#). The website also provides details on reporting a potential notifiable disease or pest along with sampling and submission of samples for diagnosis.

3.4 AQUAVETPLAN

AQUAVETPLAN is the Australian Aquatic Veterinary Emergency Plan. It is a series of manuals that outline Australia’s approach to national disease preparedness and propose the technical response and control strategies to be activated in a national SCM EMP - Appendix 7 Disease, Parasite and Pest Management Plan

aquatic animal disease emergency. The manuals also provide guidance based on sound analysis, linking policy, strategies, implementation, coordination and emergency management plans.

The benefit of these plans lies in the fact that they are prepared during 'peace time' so that the information is readily available in the event of an actual emergency.

AQUAVETPLAN manuals are developed by Australian aquatic animal health experts with extensive stakeholder consultation. Each manual undergoes a formal endorsement process through government and private sector committees.

AQUAVETPLAN manuals are working documents that are updated as required and take into account research, experience and field trials, and cover emerging disease threats.

The full list of AQUAVETPLAN manuals includes:

- Enterprise Manual – includes sections on:
 - Semi-open Systems;
- Operational Procedures Manuals
 - Disposal;
 - Destruction; and
 - Decontamination.
- Disease Strategies
- Management Manual
 - Control Centres Management (In event of emergency response required)

In the event of a significant disease outbreak, South Coast Mariculture has staff trained in emergency response to be used in the event of an exotic or emergency disease incursion utilising the AQUAVETPLAN for such events.

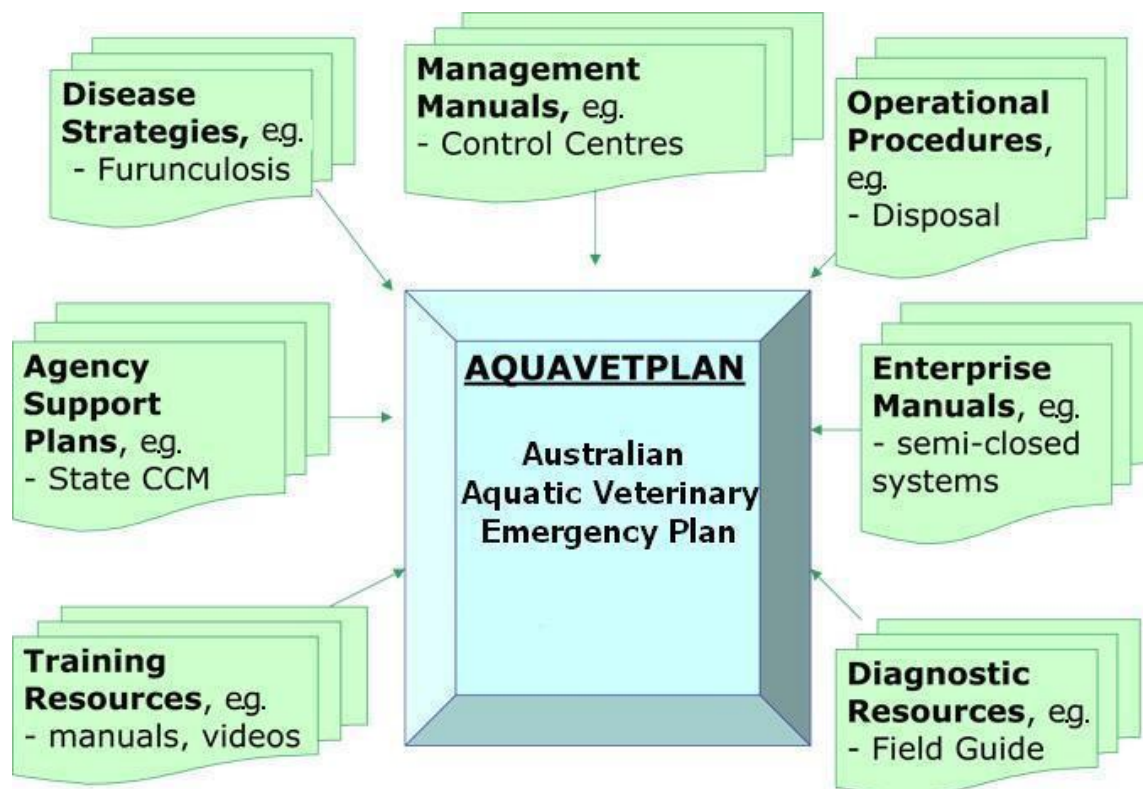


Figure 1: Summary of the components of the AQUAVETPLAN (Source: Department of Agriculture and Water Resources, 2016)

4. HATCHERY

The hatchery component of this plan considers the health management requirements for broodstock and juveniles.

If a disease problem occurs the cause must be identified as soon as possible. Once the cause of the disease is known, specific treatments can be used to reduce further losses and the impact of the disease. Constant routine measurement of water quality variables is essential as is vigilance in continually maintaining variables within tolerable limits.

The maintenance and frequent reference to water quality records will help managers identify underlying factors that predispose shellfish to disease and to take early action that may prevent recurrence or at least reduce the severity of the disease.

The initial step in preventing the occurrence of diseases and parasites in aquaculture stocks starts with the production of quality disease and parasite free hatchery spat.

Mussel spat cultured on the proposed leases will come from either natural spatfall from southern NSW stocks (Twofold Bay) or from approved hatchery facilities using local (Batemans Shelf bioregion) broodstock. The use of oyster spat will be in accordance with existing translocation policies which can be found on NSW DPI website at [Aquaculture Permit Protocols \(nsw.gov.au\)](https://www.nsw.gov.au/aquaculture/permits).

Spat of any other species to be cultured on the proposed leases will be either caught naturally within the local area (Batemans Shelf bioregion) or be derived from hatcheries using local broodstock.

Translocation

Any hatchery produced juveniles will be subject to stringent hatchery practices and surveillance regimes, as well as possibly ozone treatment to mitigate any risk of introducing disease or parasites to the South Coast Mariculture leases.

Hatchery produced juveniles will be sampled and thoroughly examined before they are translocated to the leases. Visual inspections for any signs of disease or parasites, histopathological examinations and the polymerase chain reaction (PCR) investigations may be used to test for pathogens. If any known or suspected case of disease or parasites is detected, the infected stock will be quarantined and treated or if unable to be treated they will be destroyed and appropriately disposed of.

Natural mussel juveniles sourced from Twofold Bay for translocation to Jervis Bay will be subject to the NSW Blue Mussel spat translocation protocol (Twofold Bay to Jervis Bay), (*Ref: NSW DPI May 2020*) to mitigate the potential to introduce diseases or pests.

Movements of shellfish between waters or a hatchery to an estuary will also have to be recorded (e.g. stock movement log) in order to track shellfish shipments to support biosecurity controls.

Throughout any hatchery phase of juvenile production (e.g. oysters), stock will be inspected daily for potential signs of disease, parasites or pests. In the event of an identified known disease or pest approved treatments in accordance with any provisions of the Australian Pesticides and Veterinary Medicines Authority (APVMA) will be undertaken. If an unexplained significant mortality event occurs then

investigations will be undertaken, and samples forwarded to an approved vet lab for diagnosis.

5. LONGLINES

Spat Transfer

The transfer of juveniles to the longlines poses a significant biosecurity risk if unhealthy shellfish are moved from a hatchery to the leases. Therefore, it is critical that:

- Only healthy populations are transferred to leases;
- shellfish are transferred at the optimal time;
- The stress of transfer is minimised; and
- Post-transfer husbandry is optimal.

It is critical that only healthy populations of shellfish are transferred to leases for several reasons, including:

- The stress of transfer is likely to escalate any existing health issues;
- Shellfish suffering health issues are more likely to succumb to other existing or emerging pathogens post-transfer; and
- shellfish suffering health issues are less likely to perform well post-transfer.

If required by NSW DPI, a health check will be undertaken by a veterinarian or his delegate prior to the scheduled date of transfer.

Following every health check, a Veterinary Health Certificate will be issued to the relevant Hatchery Manager. The Hatchery Manager will be responsible for notifying the veterinarian if there is any change in health status between the time of the health check and the transfer.

Transferring shellfish from another water body or hatchery to the lease sites is a critical process potentially having a significant impact on current and future shellfish health and welfare. This process is undertaken in a timely manner to mitigate potential stressors.

To assist in reducing the potential occurrence of a disease event transferred to shellfish the following will be undertaken:

- Disinfection of transport equipment & containers before and after they are used;
- Minimise any shellfish/finfish movements or handling events; and

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- Monitor shellfish health closely such that early mitigation can be implemented if necessary.

Grow-out Management of Stock

The broodstock and hatchery procedures outlined above will mitigate the potential for disease, parasite and pest agents to be translocated to the SCMCAL. However, the longline infrastructure and the stock cultured on the longlines will potentially be exposed to a range of diseases, parasites and pests. The risk from wild populations of organisms in the surrounding environment is identified as the greatest risk to the cultured stock.

A number of preventative measures can be employed to mitigate the potential impact of endemic diseases, parasites and pests on cultured stock including the following:

- Maintaining the longline infrastructure;
- Removal of fouling organisms from infrastructure;
- Water quality monitoring;
- Biofouling management;
- Maintaining appropriate stocking densities;
- Inspecting shellfish health;
- Treatment procedures;
- Collecting samples for laboratory examination; and
- Maintenance of personnel and farm equipment hygiene.

Inspections of stock and infrastructure for disease, parasites and pests will provide the South Coast Mariculture with an opportunity to compile a listing of pathogens which are a potential threat to cultured shellfish in NSW waters, as well as contribute to the database on native pathogens of wild shellfish populations.

The following provides an overview of the relevant data recorded relating to disease, parasites and pests as well as stock performance and welfare.

- Daily
 - Health Observations including disease, parasites and pests;
 - Treatments (if applicable);
 - Mortality Numbers and Categories (cultured or wild); and
 - Marine Fauna Interactions.

- Weekly
 - Health observations including disease, parasites and pests;
 - Treatments (if applicable);
 - Mort numbers and categories (cultured or wild);
 - Production (number, average weight, biomass); and
 - Marine fauna Interactions.

The above information and any management actions undertaken to mitigate health issues arising will be included in the South Coast Mariculture Annual Report which will be publicly available on the South Coast Mariculture website www.southcoastmariculture.com.au.

To assist in the rapid response to disease, parasite and/or pest issues, if they arise, staff will be trained or have expertise in the identification of potential disease, parasite and pest agents that may occur in the Jervis Bay region. The NSW DPI Aquatic Biosecurity website <http://www.dpi.nsw.gov.au/content/biosecurity/aquatic> also provides detailed information on reporting and the identification of aquatic pests and diseases, particularly declared pests and diseases.

6. REMOVAL AND HARVEST OF STOCK

Diseased and Dead Stock

Whenever practicable (and subject to weather conditions), longlines will be inspected to check the health of the stock. Dead, seriously injured and/or diseased stock will also be removed wherever practicable. The probable cause of death, sickness or injury, and the associated quantities of shellfish will be recorded.

In accordance with the *Fisheries Management Act 1994*, any person undertaking aquaculture must notify the NSW DPI of the presence or suspicion of any notifiable disease within 24 hours of becoming aware of any disease or condition that the person cannot identify, or within 14 days if the disease is identified but has not been eradicated.

If a significant unexplained mortality or health issue arises then samples of affected shellfish will be sent for diagnosis at an approved veterinary laboratory.

All mortalities and/or diseased shellfish will be disposed of in accordance with the Waste Management Plan. Staff involved in the removal of mortalities, injured and/or

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diseased shellfish will employ hygiene procedures for personnel, their clothes and operational equipment utilised in the removal operations.

Post-harvest quality assessment data collected at wet processing will be recorded into the harvest report which may include any suspected disease, parasite or pest issues with the harvested shellfish. This report will be provided to the SCM Operations Manager to assess if any health management investigations and/or actions need to be undertaken.

7. TRAINING

The ability of South Coast Mariculture staff to recognise pests and abnormal or unusual signs in shellfish is fundamental to early detection of health and pest issues. Staff awareness of biosecurity issues and protocols is critical to avoid infestations and minimise the impact of diseases or pests.

To ensure staff competency, regular on the job monitoring of shellfish health, inspections for pests and implementation of biosecurity measures is essential. This will be supported by ongoing regular training in shellfish health and biosecurity.

Training and awareness will be promoted through in-house and external training, continued reinforcement of the importance of monitoring for pests, shellfish health and biosecurity issues by management and shellfish health staff, as well as ongoing feedback about shellfish health and biosecurity matters as they arise.

Induction Processes

All staff will go through an induction process to ensure awareness of operational requirements and production expectations. These programs include shellfish welfare, shellfish health and biosecurity as a part of the standard operating procedure training.

Staff Qualifications

Employment of staff will apply a high level of emphasis on employing staff with the relevant qualifications from recognised universities and colleges and/or experience with key roles within the aquaculture industry.

External and Internal Training

The training needs of staff will be reviewed regularly and training programs will be provided to ensure industry best practices are being employed.

This objective can be achieved through the following:

- Engaging a registered training organisation to deliver industry-recognised qualifications and a range of industry-based courses;
- Attendance at presentations, seminars, workshops, conferences to stay informed about the latest industry research, practices and technologies relating to shellfish health or aquatic pests; and
- Regular and ongoing on the job training, as well as specific training will be undertaken to promote the objectives and aspirations of the Disease, Parasite and Pest Management Plan, including:
 - shellfish welfare training;
 - Chemical handler training;
 - Training against all standard operating procedures;
 - Disinfection training;
 - Presentations on key shellfish health and welfare topics; and
 - Information sheets on key disease and shellfish health topics.

South Coast Mariculture will promote a culture of information sharing to maximise the level of understanding on key pest, shellfish health and welfare issues across the operations and will encourage and support staff to participate in a broad range of external and internal training opportunities.

8. REPORTING

All health issues recorded during the year will be reported in the South Coast Mariculture Annual Environmental Report which will be made available on the South Coast Mariculture website – www.southcoastmariculture.com.au

9. SSI-5657 CONSENT CONDITIONS TABLE OF REFERENCE

The table below lists the SSI – 5657 Jervis Bay Shellfish Aquaculture Lease consent conditions and references the location in the EMP and Appended Sub Plans that the condition has been addressed.

Table 1: SSI – 5657 SCMCAL Consent Conditions and Reference Location in EMP and Appended Sub Plans

Condition	Location of Reference
<p>Condition E1 – Environmental Management Plan</p> <p>Prior to the commencement of operation, the Proponent shall revise and update the draft Environmental Management Plan (EMP), included with the RTS for the development to the satisfaction of the Secretary. The revised EMP is to include:</p> <ul style="list-style-type: none"> (a) the strategic framework for environmental management of the development; (b) the statutory requirements that apply to the development; (c) the role, responsibility, authority, and accountability of all the key personnel involved in environmental management of the development; (d) the management measures that would be implemented to address environmental issues; (e) how the environmental performance of the development would be monitored and managed; (f) the procedures that would be implemented to respond to any non-compliances and emergencies including a contact number to report emergency events; and (g) include copies of the various strategies and plans that are required under the development. 	<p>The South Coast Mariculture Environmental Management Plan (EMP) plus Sub Plans – Appendices 1 to 7.</p> <ul style="list-style-type: none"> a) Strategic framework is set out in Section 2.1. b) Statutory framework is set out in Section 2.2 c) Roles and responsibility of key personnel are set out in Section 2.1. d) Management measures are set out in the individual management plans provided as appendices to the EMP, and briefly outlined in the EMP e) Environmental performance of the development would be managed through annual reporting and independent environmental audits, as set out in Section 2.3, monitoring of water quality & the benthic environment is outlined in section 4.1.3, 4.3 f) Procedures for non-compliances / incidences are set out in Section 2.3 and 2.6 and in the Emergency Protocol in Appendix 4. An emergency contact list is provided at Attachment 7. It is noted that the Planning Secretary must be notified of all incidents/emergencies in accordance with condition E8 and E9 of the approval. g) Copies of all plans have been provided as appendices to the EMP.

Condition	Location of Reference
<p>Condition E2 – Management Plan Requirements</p> <p>The Proponent shall ensure that the Management Plans required under this approval are prepared in accordance with any relevant guidelines, and include:</p> <ul style="list-style-type: none"> (a) detailed baseline data; (b) a description of: <ul style="list-style-type: none"> • the relevant statutory requirements (including any relevant approval, licence or lease conditions); • any relevant limits or performance measures/criteria; and • the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures; (c) a description of the measures that will be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria; (d) a program to monitor and report on the: <ul style="list-style-type: none"> • impacts and environmental performance of the development; and • effectiveness of any management measures (see € above); (e) a program to investigate and implement ways to improve the 	<p>The South Coast Mariculture EMP and attachments covers this requirement.</p>

<p>environmental performance of the development over time;</p> <p>(f) a protocol for managing and reporting any:</p> <ul style="list-style-type: none"> • incidents; • complaints; • non-compliances with statutory requirements; and • exceedances of the impact assessment criteria and/or performance criteria; and <p>(g) a protocol for periodic review of the plan.</p>	
Condition	Location of Reference
<p>Condition C1 – Deployment of Lease Infrastructure</p> <p>The Proponent shall prepare and implement a Construction and Deployment Environmental Management Plan, to the satisfaction of the Secretary. The plan must be prepared in consultation with Council and any other relevant stakeholders, and:</p> <ul style="list-style-type: none"> (a) be approved by the Secretary at least one month prior to deployment; (b) include details of the species to be farmed; (c) include detailed plans of infrastructure to be used at each of the proposed Leases, including the final lease layout and mooring plans, and include maximum number, type and colour of buoys to be used at each Lease site; (d) detail all reasonable and feasible design measures used to minimise the potential visual impact of the development from Callala Beach and Vincentia (including orientation); (e) detail the location of the land-based site(s) (if any) for the construction or storage of Lease Infrastructure and indicative timeframe for all deployment activities; 	<p>Appendix 1 - Construction Deployment and Traffic Management Plan.</p> <ul style="list-style-type: none"> a) The plan has been submitted to the Secretary for approval. b) Species to be farmed are outlined in Section 2. These align with the approved list of species in the approval. c) Detailed plans of infrastructure to be used are provided in Section 6. d) A qualitative commentary around measures to be implemented to minimise visual impacts is provided in Section 8. e) Details of land-based sites are provided at Section 3. Timetable for deployment is provided at Section 4. f) Details on traffic, noise and waste management are provided at Section 5. g) A Community Stakeholder Communication Management Plan (Appendix 2) has been prepared to provide the mechanisms for disseminating information during operation. An outline of communication tools is

<p>(f) include if necessary, details on traffic, noise and waste management;</p> <p>(g) describe the procedures that would be implemented to keep the local community and relevant agencies informed about construction/deployment activities; and procedures to receive and handle complaints; and describe the procedures to decommission any construction site including removal of all construction facilities and restoration of the site to its original state.</p>	<p>provided in Section 10. Details of complaints management is at Section 12.</p> <p>h) Decommissioning is outlined in Section 13.</p>
Condition	Location of Reference
<p>Condition C11 – Structural Integrity and Stability Monitoring Program</p> <p>The Proponent shall prepare and implement a Structural Integrity and Stability Monitoring Program, prior to deployment and to the satisfaction of the Secretary. The Program shall include but not be limited to:</p> <p>a) weekly monitoring including an inspection checklist to investigate the effectiveness of the infrastructure design, including how often repairs are made and whether line tautness is being maintained; and</p> <p>b) details of servicing requirements of anchors, ropes, chains and connectors. Servicing must be undertaken at least annually;</p> <p>c) details of actions that would be undertaken to rectify any structural integrity issues, particularly in the event that infrastructure breaks away from the Leases after storm events.</p>	<p>A Structural Integrity and Stability Monitoring Program is provided in Attachment 8 of the South Coast Mariculture EMP</p> <p>a) A monitoring schedule is provided at Table A of Attachment 8.</p> <p>b) Details of servicing requirements are provided in Table A.</p> <p>c) Actions to rectify structural integrity issues are outlined in Table B.</p>
Condition	Location of Reference

<p>Condition D5 – Disease, Parasite and Pest Management Plan</p> <p>a) The Proponent shall prepare a Disease, Parasite and Pest Management Plan in accordance with the Draft EMP, to assist in the identification and treatment of potential diseases, parasites and pests.</p> <p>b) The Plan shall include details on the monitoring of the health of cultured stock and inspection of longline infrastructure to identify any disease or parasite issues that may arise.</p>	<p>Appendix 7 – Disease, Parasite and Pest Management Plan</p> <p>a) Details on the monitoring of the health of cultured stock are provided at Section 4 Hatchery.</p> <p>b) Details on the inspection of longline infrastructure to identify any disease or parasite issues are provided at Section 5 including details of the removal and harvest of diseased and dead stock is provided at Section 6.</p>
Condition	Location of Reference
<p>Condition D9 – Marine Fauna Interaction Management Plan</p> <p>The Proponent shall finalise and implement the Marine Fauna Interaction Management Plan detailed in the Draft EMP prior to the commencement of operation, to the satisfaction of the Secretary. The Plan shall detail measures to remedy, alleviate and reduce the incidence of marine fauna entanglements. The Marine Fauna Interaction Management Plan shall include:</p> <p>a) procedures for the recording of all observations of marine fauna interactions with the lease areas including longlines and vessels, as outlined in the EIS and the RTS;</p> <p>b) contact details of an Entanglement Committee, which would monitor the implementation and effectiveness of the Marine Fauna Interaction Management Plan, and provide advice to the Proponent in the unlikely event of marine fauna entanglement with the Lease infrastructure; and</p> <p>c) response procedures, drills and training that would be carried out to ensure appropriate responses to deal with entanglement incidences.</p>	<p>Appendix 6 - Marine Fauna Interaction Management Plan</p> <p>a) Procedures for the recording of all observations of marine fauna interactions are outlined in the Observer Protocol in Section 3.</p> <p>b) Contact details for the Entanglement Committee are provided at Table 1 in Section 4.</p> <p>c) Training and response are outlined in Section 4.2.</p>

Condition	Location of Reference
<p>Condition D12 – Benthic Monitoring Program</p> <p>The Proponent shall prepare and submit a Benthic Monitoring Program, to the satisfaction of the Secretary within 6 months of the date of this approval. The Program shall include but not necessarily be limited to:</p> <ul style="list-style-type: none"> a) representative background monitoring to establish baseline conditions for the Leases, including benthic fauna and TOC parameters, for a suitable time period; b) the use of multiple control sites and identification of the frequency of sampling to ensure the monitoring program is spatially and statistically meaningful; c) collecting data at least annually after the Leases are approved, irrespective of whether the Leases are stocked with shellfish; d) a minimum monitoring period of at least three years from the commencement of operation; e) identification of trigger(s) and ameliorative measures (including video surveys) in the event that adverse impacts to benthic fauna relevant to the development are identified; f) identify triggers that would decrease monitoring efforts; and g) reporting of the monitoring results to the Secretary and EES annually within the Annual Report, including commentary on any effects of the Leases compared to relevant guidelines, pre-lease sampling or control sites. 	<p>Appendix 3 - Water Quality and Benthic Environment Monitoring Program</p> <ul style="list-style-type: none"> a) Representative background monitoring for benthic fauna and TOC conditions is described in Section 3. Baseline sampling will be carried out before stocking and then annually for a minimum of 3 years. b) South Coast Mariculture uses a BACI (Before After Control Impact) approach to monitoring. Six control sites have been identified. A sampling design is outlined in Table 1. c) Section 3.1.4 confirms the sampling will occur prior to installation of the leases and at least annually after the lease is granted, irrespective of whether the lease is stocked with shellfish. d) Baseline sampling will be carried out before stocking and then sampling will be carried out annually for a minimum of 3 years e) Section 3.1.6 and Section 3.2.6 note that if any 'significant changes' to the marine benthic environment are identified, then appropriate management regimes will be employed to ameliorate these impacts (e.g. destocking or fallowing). ROV survey and footage is proposed to be used. f) Section 3.2.6 states that monitoring efforts would be decreased if no significant long-term impacts have been identified. g) Commitment to report monitoring results in the Annual Report is detailed in Section 2.5

Condition	Location of Reference
<p>Condition D14 – Waste Management Plan</p> <p>The Proponent shall develop a Waste Management Plan prior to the commencement of operation, to the satisfaction of the Secretary. The plan is to include measures to ensure that:</p> <ul style="list-style-type: none"> (a) all waste including biofouling is appropriately stored, handled and disposed of in a timely manner; (b) waste generated by the project is minimised; (c) details of where all waste would be stored; and (d) all waste generated by the Project is classified in accordance with the EPA's Waste Classification Guidelines and disposed of to a facility that may lawfully accept the waste. 	<p>Appendix 5 - Waste Management Plan</p> <ul style="list-style-type: none"> a) Measures to ensure waste is appropriately stored, handled and disposed of are detailed in Section 3. b) Minimisation of waste generated is outlined in Section 4. c) Section 3 outlines how waste will be collected and disposed. d) Wastes have been classified and disposal destinations identified for each waste type in Table 1 in Section 2.
Condition	Location of Reference
<p>Condition E5 – Community Stakeholder Plan</p> <p>The Proponent shall prepare and implement a Community Stakeholder Plan for the development to the satisfaction of the Secretary. This plan must be approved by the Secretary prior to commencement of deployment, and include:</p> <ul style="list-style-type: none"> (a) identification of all relevant community and other stakeholders; (b) details of procedures and mechanisms used to inform the community (including local aboriginal communities) and stakeholders of the development's progress and potential employment opportunities; (c) processes to receive and manage feedback and complaints; and 	<p>Appendix 2 - Community and Stakeholder Communications Management Plan</p> <ul style="list-style-type: none"> a) A list of community and other stakeholders is provided at Section 2. b) Details of procedures to inform the community are outlined in Section 3. c) Feedback and complaints processes are outlined in Section 4. d) Contact details are provided in Section 5 and Section 6, including a 24-hour contact number.

(d) phone, email and mail contact details for the development, including a 24-hour contact number.

10. DOCUMENT CONTROL REGISTER

Appendix 7 – Disease, Parasite and Pest Management Plan						
Version Number	Date Issued	Date Submitted to Department	Date Reviewed by Department	Revisions Requested by Department or other stakeholders	Comments	Version Approved by Department
1	October 2020	22 June 2021	June / July 2021	Yes	Assessed by NSW EES and NSW Fisheries	Revisions required
2	July 2021	29 July 2021	August 2021	Yes	Assessed by NSW EES, NSW Fisheries and NSW Marine Parks	Revisions required
3	August 2021	03 September 2021	September 2021			

11. CONSULTATION

In the preparation of the Disease, Parasite and Pest Management Plan the following personnel were consulted:

- Hika Rountree, South Coast Mariculture Operations Manager
- Wayne O'Connor, NSW Department of Primary Industries
- Graeme Bowley, NSW Department of Primary Industries

12. REFERENCES

Reference 1 NSW Blue Mussel spat translocation protocol (Twofold Bay to Jervis Bay), Mussel Spat Protocol vs 2, NSW DPI, May 2020

Web References

Web Reference 1

http://www.dpi.nsw.gov.au/_data/assets/pdf_file/0004/638680/ACEC-Guide-2015-FINAL-WITH-AQUI_S-2.pdf)

Web reference 2

<http://www.dpi.nsw.gov.au/fishing/aquaculture/publications/general/animal-care-and-ethics>

Web reference 3

<http://science.rspca.org.uk/sciencegroup/farmanimals/standards/salmon>