HANANUI AQUACULTURE PROJECT – SUMMARIES OF TECHNICAL ASSESSMENTS

This report has been prepared for the benefit of Ngāi Tahu Seafood Resources Limited. No liability is accepted by this company or any employee or sub-consultant of this company with respect to its use by any other person.

This disclaimer shall apply notwithstanding that the report may be made available to the Ministry for the Environment and the Department of Conservation and other persons for an application for permission or approval or to fulfil a legal requirement.

Rev. no	Date	Description	Prepared by	Checked by	Reviewed by	Approved by
0	12/6/21	Draft	FL			
1	15/6/21	Final	FL	RP	RP	FL

1 TECHNICAL ASSESSMENTS

1.1 Introduction

The Ministry for the Environment has requested further information in relation to an application by Ngāi Tahu Seafood Resources Limited (Ngāi Tahu Seafood) for the Hananui Aquaculture Project to be considered as a 'referred project' under the COVID 19 Recovery (Fast-track Consenting) Act 2020. The majority of the questions have been answered in the letter that accompanies this report, but this report addresses Question 6, which requested that Ngāi Tahu Seafood:

Provide a brief summary of the conclusions of the effects assessments, including proposed mitigation, in each of the following technical reports submitted with the resource consent application to Environment Southland:

a. *Natural Character, Landscape and Visual Amenity Assessment. This summary should address the natural character, visual amenity values, and landscape values for both the coastal terrestrial area and the coastal marine area within the receiving coastal environment.*
b. *Water Column Assessment. This summary should address the volume and effects of anticipated nutrient loading in the water column, the effects of depletion of dissolved oxygen and of submerged artificial lighting.*
c. *Seabed Assessment. This summary should address effects of deposition of organic material.*
d. *Oyster Assessment. This summary should address effects on the Foveaux Strait Oyster beds.*
e. *Marine Mammals Assessment. This summary should address effects of possibly habitat displacement or avoidance and entanglement risks and other impacts.*
f. *Seabird Assessment. This assessment should address positive and negative effects for seabird species.*
g. *Shark Assessment.*
h. *Navigational Risk Assessment.*
i. *Disease Risk Assessment.*
j. *Biosecurity Assessment.*

With respect to parts (i) and (j) of Question 6, this short report also provides a brief summary of the draft biosecurity management plan that has been developed by Ngāi Tahu Seafood in conjunction with leading biosecurity management experts. The disease risk assessment and the biosecurity assessment identify risks from salmon aquaculture in Te Ara a Kiwa/Foveaux Strait, but do not assess probability and consequence, or confirm mitigation measures. Both of those tasks are undertaken in the draft biosecurity management plan.

The sections of this report that follow provide the brief summaries requested by the Ministry for the Environment.

1.2 Natural Character, Landscape and Visual Amenity Assessment

Rough and Milne Landscape Architects, Natural Character, Landscape and Visual Amenity Assessment of Te Ara a Kiwa Aquaculture, Rakiura, 2020.

The Coastal Terrestrial Area (CTA - from mean high water springs to the closest landward ridgeline) in the vicinity of the Project is considered to be an area of Outstanding Natural Character. The location of Project (at approximately 2 – 6km offshore from the CTA) means that the values of the interface area at the shoreline will be unaffected, and there will be no adverse effects on the outstanding natural character of the CTA.

The coastal marine area in the vicinity of the Project is considered to be an area of Moderate High Natural Character. Introduction of structures into this area will reduce the level of naturalness of the sea surface and seabed, but there is already a level of existing modification to the seabed (and the seabed has historically been subject to significant modification), this area of Foveaux Strait has a working character, and the development is reversible. Natural abiotic and biotic processes will continue to occur and the high biotic values on the seabed will be avoided by the proposed layout of the marine farms and the staged development and monitoring of the Project. Overall, the coastal marine area will remain an area of Moderately High Natural Character.

In relation to landscape, the coastal interface out to a distance of 2km from mean high water springs is considered to be an area of Outstanding Natural Landscape. A very minor component of the Project may impinge on this area in the southeastern corner of the proposed site, but the Outstanding Natural Landscape values will remain unaffected. Effects on other natural landscapes (i.e., further offshore than 2km from mean high water springs) are considered to be very low as the seascape will remain the dominant element, the nature and scale of the Project is comparatively small and extends adjacent to only 1.2% of the total Rakiura coastline and effects of the Project are reversible. The type of change likely to result from the development is not uncharacteristic of activities in the area, which include commercial fishing, customary and recreational activities, and it has a functional necessity to be located within the coastal environment.

Although visible to varying degrees from land and sea depending on viewing distance, overall there will be very low effects on visual amenity within both the CTA and the coastal marine area. The distance of the proposed marine farms from shore will result in very low effects on visual amenity from seaward-looking viewpoints (see visual render examples attached to FTCA application). From sea, although the proposed development will be visible, with effects on visual amenity ranging between moderate- low and none (depending on viewer distance and the type of activity the viewer is

engaged in), the overall effect will be low, particularly for viewers who are users of the coastal marine area and therefore have a low sensitivity to the type of activity proposed. Visibility and visual effects from elevated/aerial views from aircraft will be very low, given the distance above the proposed development and the likely level of interest of the view in one small part of the overall view.

1.3 Water Column Assessment

Campos C, Smeaton M, Bennett H, Mackenzie L, Scheel M, Vennell R, Newcombe E and Knight B, Assessment of water column effects associated with farming salmon offshore of northern Stewart Island/Rakiura. Cawthron Report No. 3326. 2020

Marine farming in general

In general terms, the farming of fin fish inevitably results in the release of a variety of dissolved and organically bound nutrients into the water column, with effects depending on the sensitivity of the receiving environment and how effects are able to be managed. Nutrients can stimulate the production of additional marine macroalgae (e.g., seaweeds) and microalgae (phytoplankton) when nutrients are otherwise limiting. The typical limiting nutrient in coastal marine environments is nitrogen, and water column modelling for the Project has therefore concentrated on changes in total nitrogen as a result of discharges of feed and excretion from salmon. In addition to stimulating the growth of macro- and microalgae, nutrient changes can potentially change the species composition of phytoplankton communities and may increase the potential for harmful algal species to occur. The farming of fin fish can also result in effects on dissolved oxygen levels in the adjacent marine environment, as the respiration of fish reduces dissolved oxygen concentrations in the water and increases carbon dioxide. Underwater lighting can also have effects in the water column, including attracting phototactic organisms, influencing the vertical migration and benthic settlement of phytoplankton and zooplankton species and causing aggregation and visibility of prey species and therefore enhanced predation.

Hananui Project water column assessment

For the Hananui Project two levels of feed discharge have been modelled, ~9,000 tonnes per annum, and ~50,000 tonnes per annum, to give bounds within which effects from the Project would be expected to occur. For the lowest feed discharge modelled:

- Modelled concentration changes of total nitrogen indicated a mean increase of about 25% in total nitrogen concentration close (within less than a kilometre) to the net pens;
- The total estimated area that might be affected by the discharge was about 10,000 ha (noting that the proposed site itself is 2,500 hectares in size), with mean changes of up to 15% of total nitrogen from background concentrations in this area.

For the maximum feed discharge modelled:

- Modelled concentration changes of total nitrogen indicated a mean increase of up to 57% above background levels close to the net pens;
- Over the wider total estimated area affected by the discharge, mean changes of up to 30 - 57% of total nitrogen from background concentrations may occur;
- A wider area than this in Foveaux Strait may also be slightly affected, with a mean increase in total nitrogen concentrations of up to 12%.

While the modelling provides indications of increases in nitrogen concentrations in the water column, the results outlined above are simply that, changes in nitrogen concentration. In order to understand the potential effects of those changes in nitrogen concentrations it is necessary to consider possible consequential changes in the trophic status and ecology of the water column in the area.

Existing data for Te Ara a Kiwa/Foveaux Strait shows a wide range of natural total nitrogen concentrations (from 90 to 383 mg/m^3) and according to Cawthron the environment would be classified as oligotrophic to low mesotrophic. In this type of environment Cawthron advises that total nitrogen changes would need to be large and sustained (occurring over a year or more) to have a notable effect on the trophic status and ecology of the area. The modelled concentration changes at the lowest feed level modelled are not anticipated to be large enough or sustained enough to cause concerns with the trophic status of the area. While larger increases are predicted at the largest feed discharge modelled, they are will be intermittent and are not anticipated to be sustained enough to cause concerns with the trophic status of the area.

Cawthron has also reviewed the potential for development or exacerbation of harmful algal blooms as a result of the Project and concluded that the risk of harmful algal blooms developed at the site is low, due to the naturally dynamic conditions and well-mixed water column, and with a phytoplankton community dominated by diatoms suggesting that phyto-flagellate blooms, which are associated with the most concerning toxins, are unlikely to originate from the site. The potential for transient blooms originating elsewhere in the region and interacting with the proposed site is also considered to be low. A review of international literature on the effects of finfish on harmful algal blooms however has found no evidence of a direct causal relationship between salmon farm operations in high flow environments and the formation of harmful algal blooms. While it seems unlikely that the effects of harmful phytoplankton species would manifest in the area of strong currents around the farm, there are some sheltered areas nearby that could provide the types of stable conditions that allow phyto-flagellate blooms to develop. Cawthron has therefore recommended monitoring of these regions.

The effects of large numbers of salmon on dissolved oxygen concentrations are expected to be small and localised. Largest effects (up to a 30% decrease in dissolved oxygen levels near the pens) were modelled as occurring at the highest feed discharge modelled but were of short duration (in the order of minutes to up to 1 hour, generally at slack tide).

The most likely effect of underwater lighting would be the attraction of baitfish during night hours. Visibility of these fish will increase in areas affected by lights, with a consequential increase in the likelihood of predation by adult farmed salmon inside the nets, and other predatory fish and marine mammals adjacent to the pends. Cawthron notes that effects will be small and highly localised due to the light being confined to within the nets, and the salmon being fed as part of the operation. Any effects on the attraction of zooplankton, which might result in small, periodic increases in abundances within illuminated nets would be temporary and limited to periods of low currents. At all other times the speed of the currents in the area will move any zooplankton out of the area affected by lighting relatively quickly.

Mitigation of effects on the water column is proposed by:

- Careful management of feed discharges so that fish are fed to satiation, but excess feed is not discharged;
- The conservative nature of the modelling undertaken, which is anticipated to be reporting greater effects than will occur once the Project is underway;
- The staging and monitoring of the development, with a first stage at a feed discharge that is already occurring elsewhere in New Zealand (Tory Channel in Marlborough, an existing high flow environment), and has been subject to monitoring for a number of years that has shown no significant effects on the water column;
- Implementation of effects thresholds to manage effects at all stages of production;
- Specific monitoring of sheltered embayments to assess the magnitude of phytoplankton variation (and allow an assessment of the risk of harmful algal blooms developing)
- The proposed location of the Project in a dynamic environment with relatively very high current speeds, which means that maximum effects are only predicted to occur for short periods of time during periods of lower flow, such as slack tide

1.4 Seabed Assessment

Bennett H, Smeaton M, McGrath E, Newcombe E, Assessment of seabed effects associated with farming salmon offshore of northern Stewart Island/Rakiura, Cawthron Report No. 3315A, 2020.

Marine farming in general

The deposition of uneaten feed and faeces from fish farming will result in seabed enrichment within a primary depositional footprint under and in the vicinity of the proposed marine farms. In addition, in offshore locations, the dispersion of waste products from farming fish is significantly greater due to strong oceanic currents, winds, and large, long-period waves.

Hananui Project seabed assessment

The high current, dynamic nature and non-cohesive coarse sediments of the Te Ara a Kiwa/Foveaux Strait environment as measured at the proposed site will also cause resuspension of seabed sediments and material deposited on them from the proposed marine farms over a wider footprint of seabed, although at lower enrichment levels than in traditional salmon farming locations in New Zealand. Internationally aquaculture is moving away from sheltered embayments to more exposed/offshore locations where seabed effects have been shown to be less intense and severe than in more sheltered locations. This reduction in effects with more offshore locations has been predicted by modelling for the Project.

Two types of models have been used to simulate deposition processes to infer potential seabed effects – a standard depositional model and a resuspension model), but it is important to interpret the results of both models together, rather than considering them separately. The standard depositional model for the Project at full production suggests that very high enrichment of the seabed (but not to levels that exceed acceptable levels for salmon farming elsewhere in New Zealand) may occur over approximately 5 hectares of seabed (directly underneath the pens in sand dominated habitat), or approximately 0.2% of the proposed site. Areas affected will be smaller at the initial stages of the Project. High levels of enrichment can cause large reductions in community diversity, and extreme abundances of opportunistic taxa, typical for salmon farming in New Zealand within set environmental thresholds.

However, due to the non-cohesive nature of the coarse sediments and significant resuspension likely at the proposed site, the accumulation of organic material within the sediments under and near the pens is expected to be significantly less than that predicted using the standard depositional model. Deposition will occur over a wider area due to resuspension but at much lower enrichment levels than is typical at sheltered inshore sites.

Some specific areas where accumulation of material may occur have been identified in this wider area, predicted for areas dominated by sand and shell debris and not in areas where more ecologically significant habitat occurs. Even in these accumulation areas, where up to 35 g solids/m^2 could accumulate, this could equate to a layer up to 0.035mm thick over the seabed (or if the waste was concentrated on only 10% of the area of the seabed the estimated layer would be 0.35mm thick). In other areas of the resuspension footprint deposition and accumulation of material is expected to

occur at only low levels (< 5 g solids/m^2) that may not be easily discernible and significant ecological effects would not be expected to manifest.

Potential effects on the seabed have been partially avoided and mitigated in the project design by proposing farm sites over soft-sediment habitats and away from areas with significant ecological values. In addition, the adoption of a staged approach with monitoring to track the response of the seabed to lower initial levels of deposition will further reduce and mitigate potential effects on the seabed and ensure that effects remain within an acceptable level of change on the seabed. Finally, Ngāi Tahu Seafood proposes to implement single-year class farming, and a fallow period for each proposed farm after harvest. This results in shorter periods of time when the seabed is subject to maximum feed discharges (in the order of a couple of months) and long periods during which recovery of the seabed to previous conditions can occur.

1.5 Oyster Assessment

Michael, K, Hananui Aquaculture Project: the potential effects of salmon aquaculture on wild oysters (Ostrea chilensis) in Foveaux Strait, 2020.

The Project is located within the Foveaux Strait oyster stock (OYU 5) boundary under New Zealand's Quota Management System. The Foveaux Strait oyster fishery has been operational for over 150 years, and is and has been primarily fished using dredging techniques. Oyster density within the proposed site is sparse however, with patchy distribution confined to the areas around the more ecologically significant habitat (where farms are not proposed).

Oyster abundance in Foveaux Strait is primarily driven by oyster recruitment and mortality from *Bonamia exitiosa*. The Project will not affect oyster recruitment, and thus introduction of disease poses the greatest threat to the Foveaux Strait oyster fishery. Biosecurity is therefore a priority. Vessel traffic associated with the Project poses a significant risk of spreading pathogens, but with appropriate vessel management and biosecurity strategies, this risk can be mitigated to a level below that posed by vessels unrelated to the Project that are already using Foveaux Strait. Shellfish (including oyster) and invertebrate biofouling on farm structures could provide a high density of potential hosts for oyster pathogens. The risk of introducing pathogens to the wild oyster population can be substantially reduced by ensuring that farm infrastructure is regularly maintained and kept substantially free of biofouling (including oysters) and Ngāi Tahu Seafood has developed a draft Biosecurity Management Plan that provides strategies that can substantially minimise biofouling, which it has committed to implementing to minimise risks to wild oysters from the Project.

1.6 Marine Mammal Assessment

Clement D, Ngāi Tahu Seafood Resources: Offshore Farm assessment of environmental effects – marine mammals. Cawthron Report No. 3298, 2019.

The greater Southland and Foveaux Strait region, in association with Stewart Island waters, is considered an important area for a large number of New Zealand's cetacean and pinniped species. The species most likely to be affected by the Project are New Zealand fur seals, New Zealand sea lions, bottlenose dolphins, southern right whales, humpback whales and orca. While the proposed site represents a fraction of the habitats available to support marine mammal species utilising the wider coastal region, it also potentially constitutes important winter mating habitat for southern right whales, and forms part of humpback whales' northern migration corridor. Rakiura/Stewart Island waters support a sub-population of nationally endangered bottlenose dolphins and a new breeding colony of nationally vulnerable New Zealand sea lions at Port Pegasus.

The main effects of the Project are possible habitat displacement or avoidance and entanglement risk. Other effects considered include noise, artificial submerged lighting and trophic flow-on effects. The overall likelihood of adverse effects is considered to be low, as while the farm structures would be permanent, marine mammals would only have short periods of time in which possible interactions might occur (in the order of hours to days).

Mitigation measures including the recording and reporting of marine mammals in the area of the proposed site, management of the nets to avoid changes during critical migration periods and to ensure that are kept under some degree of tension at all times, removal of salmon mortalities, proper positioning of underwater lighting and minimising potential for loss of rubbish and debris will all ensure the already low effects are reduced further.

1.7 Seabird Assessment

Boffa Miskell Limited, Hananui Aquaculture Project: Seabird Assessment, 2020.

Potential effects of the Project on seabirds have been identified as entanglement, habitat exclusion, changes to food supply, disturbance, marine litter, lighting and provision of roost sites (the last potentially providing a positive effect to some species). Key species encountered in the vicinity of the Project and therefore potentially exposed to one or more of these effects are Yellow-eyed penguin (hoiho), Southern little penguin, Fiordland crested penguin, Sooty shearwater (tītī), Fairy prion, Cook's petrel, Common diving petrel, White-fronted tern, Foveaux shag, Spotted shag, Pied shag, Little shag, Red-billed gull and Variable oystercatcher.

The potential magnitude of effect has been assessed in all instances as either:

- Low – Having a minor effect on the known population
- Negligible – Having a negligible effect on the known population

Where a seabird species has very high ecological values, even a low magnitude of effect could cause a moderate level of effect on the seabird overall. The assessment carried out for the Project however has determined that, with appropriate avoidance and mitigation measures in place, the level of effect on each of the identified key species will be no more than low or very low. Avoidance and mitigation measures proposed include:

- Selection of appropriate net material and colour
- Good management of underwater nets (to keep them taut and well maintained)
- Use of top nets, preventing birds from gaining access to the fish from above
- Enclosing nets underwater with either a second layer of predator nets, or using a single rigid net system, both of which reduce the potential for entanglement
- Using appropriately small mesh sizes to further reduce the potential for seabird entanglement in the nets
- Minimal non-navigational lighting at night, and ensuring non-navigational lighting is angled downwards
- An exclusion zone 200m from the shoreline to minimise any potential for inadvertent disturbance of nesting seabirds
- Monitoring and reporting of interactions of seabirds and the proposed farm

1.8 Shark Assessment

Francis, M, Potential interactions between sharks and a proposed fish farm off northern Stewart Island/Rakiura, 2019.

Lyon, W, Potential interactions between sharks and a proposed fish farm off northern Stewart Island/Rakiura: Response to questions, 2020.

The two shark species most likely to interact with the proposed farms are the white shark (a protected species) and the broadnose sevengill shark. The proposed site overlaps white shark habitat and is only 10km from a major white shark aggregation site at the Titi Islands. Sevengill sharks are abundant around Stewart Island/Rakiura and Foveaux Strait, except in winter when their numbers decline significantly.

It is inevitable that white and sevengill sharks will be attracted to the proposed farm, although evidence from South Australia suggests that white sharks at least will be transient and not become resident near them. Interactions are most likely in the warmer months of the year, although white shark interactions may occur in autumn and early winter. The principal risk to shark species is entanglement within the nets.

Proposed avoidance and mitigation measures include use of a net design that minimises the chances of shark interactions and incursions into the nets, such as a predator exclusion net or a rigid single net system, maintenance of nets and regular inspections for incursions, holes and gaps, animal husbandry practices to minimise fish mortality and prompt removal of dead fish from the net pens (with disposal on land to avoid attracting sharks).

1.9 Navigational Risk Assessment

Navigatus Consulting, Navigational Risk Review: Proposed Stewart Island Fish Farm, 2019.

Navigational risk has been assessed from two perspectives – navigational risk to any vessels due to the presence of the proposed farms at the proposed site, and the threat to any vessels resulting from failure of the moorings of a proposed farm structure. The proposed site is not located on a recognised large vessel navigational route, but it does coincide with the natural navigational route off the coast of Rakiura/Stewart Island and in the area of expected movement of recreational and commercial users. Anchorages for commercial ships waiting for the availability of a berth at South Port, Bluff are also located in the vicinity of the proposed site.

Having assessed the proposal in this context, the location of the Project will have little to no impact on small vessel operations, and provided they remain outside the identified area of the proposed marine farms (identified by buoys), will present no hazard to them. A 200m exclusion zone around each farm is proposed in order to maintain vessel safety. Aids to navigation are proposed to ensure navigational safety around the Project area as a whole, including northern, eastern and southern cardinal marks on the boundaries, and an Isolated Danger Mark on a seabed feature adjacent to the southwestern boundary of the site. Alternative safe anchorages exist in the immediate area, and discussions with South Port have confirmed that they do not hold concerns about the use of those alternative anchorages.

Mooring systems have been designed for the pens and feed barges specifically for the Hananui site. Analysis of both the ultimate limit state (ULS) to ensure the moorings can withstand forces from expected long term extreme environmental conditions, and the accident limit state (ALS) to ensure the mooring can remain intact when components are accidentally damaged, show that the mooring design can within the environmental conditions expected at the site.

Presence of farm staff and experienced mariners at the proposed site on a regular basis also offers a safety benefit to local coastal users.

1.10 Disease Risk Assessment (and draft Biosecurity Management Plan)

DigsFish Services, Assessment of Environmental Effects – Disease Risk Assessment Report for Proposed Salmon Farms at Stewart Island, New Zealand

A review of the current disease status of King Salmon in New Zealand identified 25 infectious agents and 12 non-infectious diseases of cultured salmon in New Zealand. One of these, a *Piscirickettsia salmonis*-like bacterial disease agent (NZ-RLO) has emerged in salmon farm sites in the Marlborough Sounds. Four potential infectious agents and non-infectious diseases of Bluff oysters were also identified. Each of these disease risks were identified as requiring additional risk mitigation.

Ngāi Tahu Seafood therefore commissioned the development of a biosecurity management plan for the Project to develop appropriate risk mitigation measures. As part of the development of this plan each of the 5 identified disease agents were subject to a specific risk assessment, considering likely operation of the proposed farms (which the original disease risk assessment had not considered). This process identified that 2 of the 5 disease agents were likely to pose very low to negligible risk, and surveillance monitoring programmes have been recommended as an appropriate response to keep a watch on the risk. Two oyster disease agents and one salmon disease agent pose a low level of risk but require further mitigation measures. As per the recommendations of the draft biosecurity management plan, risks from the two oyster disease agents will be mitigated by management of biofouling on the marine farm structures, and placement of the farm structures over areas of the seabed where current speeds and physical forces acting on the seabed and not conducive to the survival of bivalves. These measures reduce the potential for a host population that could spread disease to the wild oysters developing at the proposed site. Note that the summary of the Oyster Assessment provided in section 1.5 above includes the implementation of these measures.

Mitigation of the risk posed by the salmon infectious disease agent will be achieved through correct and adequate nutrition for the farmed fish, management of stocking density, water quality monitoring and best practice husbandry. Fish stock on the proposed farms will be surveyed at least six monthly for a range of salmon pathogens by culture and molecular techniques in agreement with the designated farm veterinarian.

1.11 Biosecurity Risk Assessment

Morrisey D, Ngāi Tahu Seafood Resources Ltd: Offshore assessment of environmental effects – biosecurity. Cawthron Report No. 3293, 2020.

Farm-related vessel movements are likely to be the most important biosecurity risk associated with the Project. Although individual vessel movements are unlikely to be of higher risk than any other vessel movements in the area, the number of movements in and around the proposed site will increase. Mitigation measures, including standards for management of biofouling, stock-transfer water, and bilge water, will mean that the residual biosecurity risk is expected to be less than minor.

Ngāi Tahu Seafood will comply with vessel biofouling management plans outlined in the draft Biosecurity Management Plan. All cages, ropes, anchors, nets and other gear used on the proposed farms will be new or will be cleaned and disinfected before being brought to the proposed farms. All equipment and materials used on the farm will be new. Nets and cages will be cleaned in situ on a continuous basis to prevent the development of biofouling, reducing the risk that any Non-Indigenous Species that reach the site will establish persistent populations.

While the production of smolt is not part of the Project under the FTCA application, it is worth noting in terms of biosecurity effects that the production of smolt in a purpose-built facility away from other aquaculture facilities, and their transport to the proposed farm site in live tanks or a live-well vessel, will minimise risks of contamination of the stock by pests and pathogens. The proposed methods for harvesting, transport of harvested fish, and management of mortalities under containment, will minimise the biosecurity risk of the pathway from the farm.

The high flow and dispersive nature of the proposed farm site will minimise the accumulation of organic waste on the seabed beneath, and of nutrients in the water column around, the farm. This will minimise any risk of creating conditions favourable to non-indigenous species (including Unwanted Organisms under the Biosecurity Act).