

Bea Gregory-5252

From: RCInbox
Sent: Tuesday, 13 November 2018 2:58 p.m.
To: RCInbox
Subject: An Application has been submitted

New resource consent application received

An application for a new resource consent has been received by Council on 13/11/2018

Applicant(s): Goulding Trustees Limited
Consent(s) applied for: Coastal Permit - Activity

[Download](#) and review the application.

[View the application online.](#)

This e-mail message has been scanned by **SEG Cloud**

MARLBOROUGH DISTRICT COUNCIL
15 SEYMOUR STREET
PO BOX 443, BLENHEIM 7240
NEW ZEALAND

PH: +64 3 520 7400
FAX: +64 3 520 7496
EMAIL: mdc@marlborough.govt.nz
www.marlborough.govt.nz

Application for Resource Consent

Applicant details

Application for Resource Consent

Sections 88 and 145, Resource Management Act 1991

To

Marlborough District Council

Applicant

I,

Goulding Trustees Limited

108 Glen Road
Glenduan
Nelson 7071

1966209

Jim Goulding

108 Glen Road
Glenduan
Nelson 7071

0274 470 077

seafarms@xtra.co.nz

Apply for the following type(s) of resource consent

-

Agent

Aquaculture Direct Limited

PO Box 213
Blenheim 7240

Bruce Cardwell

021 451 284

bruce@aquaculturedirect.co.nz

Project reference

Marine Farm 8207

Property details

Site and location details

The site at which the proposed activity is to occur is as follows:

MARINE FARM SITE 8207 HORSESHOE BAY, PELORUS SOUND, MARLBOROUGH

Legal description

Marine Farm 8207

Is there locale information in regards to the site?

No - there is no locale information in regards to the site

Site description

Description of the site at which the activity is to occur

The site is located at the north-western corner of Horseshoe Bay where it meets Waitata Reach, Pelorus Sound.

“Horseshoe Bay is a west-facing bay on the southeastern shore of Waitata Reach. Horseshoe Bay is roughly 17 km from the Pelorus Harbour limit, and some 40 km by sea from Havelock. The Bay has a coastline length of approximately 4.5 km and is approximately 182 ha in size. The mouth of Horseshoe Bay is approximately 1.6 km wide and 1.7 km long.”
(Davidson Environmental Report 884, attached)

The farm sits alongside other farms on the northern side of Pelorus Sound. The nearest marine farms to 8207 are the adjacent farms to the south 8208, 8209 and 8210.

The adjacent land is zone Rural 1. There are no residences in the direct vicinity of the site. The nearest residence is approximately 965 metres south east of the site.

The site lies within the boundary of Coastal Marine Zone 2 (CMZ2).

Owners and occupiers of the application site

Applicant is the only owner and occupier?

Yes - the applicant is the only owner and occupier

Proposed activity

Description of the activity

The activity to which the application relates (the proposed activity) is as follows:

Goulding Trustees Limited has applied to renew the existing resource consent MPE313 (U9461166) and MPE820 (U990896) for marine farm site 8207 (total 4.83ha) for the purpose of farming Greenshell mussels (*Perna canaliculus*), blue mussels (*Mytilus galloprovincialis*), scallops (*Pecten novaezelandiae*), dredge oysters (*Tiostrea chilensis*), and naturally settled seaweeds (*Macrocystis pyrifera*, *Ecklonia radiata*, *Gracilaria* sp., *Pterocladia lucida*), using conventional long line methods. (Refer attached layout diagrams illustrating the site.)

MPE313 (U9461166) 3ha parent farm was granted in April 1997 and expires 15th March 2020.

MPE820 (U990896) 1.83ha extension was granted in July 2006 and expires 6th February 2021

The Applicant seeks a 20-year term expiring in 2038.

MPE313 and MPE820 are assessed as discretionary activity in the current Marlborough Sounds Resource Management Plan.

The application is for a continuation of the activities currently consented at the site. No changes to the activities are proposed.

The site lies within the boundary of the CMZ2, an area in which marine farming activity is a discretionary activity.

The existing consent has a Ministry of Fisheries exclusion area located along the inshore area of the farm. The revised plan moves seaward and avoids the exclusion area however the farm area (4.83 Ha) remains the same. The number of permitted lines 13 (1,134 metres of backbones) is reduced to 10 lines (1,110 metres of backbones). The inshore exclusion area and a portion of the extension to the west will be surrendered as part of this application. (refer to the attached site Plan)

As this is a 'like for like' Application by an existing permit holder, the Application should be processed under section 165ZH. The Applicant's adherence to the codes of practice mentioned above, and its commitment to environmental programmes and activities, along with its compliance with the conditions of the existing Consent, are conducted in the Applicant's favour in terms of section 165ZJ(1).

The site dimensions are as per the layout plans attached. The application includes 10 long lines, each being approximately 111 metres long.

There are currently 7 lines installed and operating at the site that grow Greenshell mussels.

The farm is located in an area where due to rainfall criteria set by Marlborough Shellfish Quality programme (MSQP) it is the last to close up after high rainfall and first to open after a rainfall event. These farms supply mussels to production facilities to keep processing and maintain staff during weather events.

The site layout is attached to the application.

The Goulding's have been a participant in the aquaculture industry since 1979. The farm has recently been leased to MacLab (NZ) Limited under a long-term agreement to supply the nutraceutical industry. As part of the agreement the Goulding family contract back their vessel services to MacLab and directly employ six persons for their medium size mussel farming operation and have operated from a base in Waitata Bay since the 1980's. One of the applicant's family were one of the first European settlers in Waitata Bay and the outer sounds. Jim Goulding was an Executive Committee member of the Marine Farming Association Incorporated for 20 years and serves as a Director on a number of multi ownership marine farming companies. Jim has also served on other industry boards throughout his time with the industry.

The mussel farm 8207 in Horseshoe Bay is very much part of their family business.

Jim is involved in many industry initiatives including co-funding the 2018 King Shag Banding Study.

The Applicant's farm is managed by Maclab (NZ) Limited who adheres to the 'Greenshell Mussel Industry Environmental Code of Practice' and its successor the Aquaculture New Zealand's A+ Sustainable Management Framework and is an active participant of the Marine Farming Association's Environmental Programme.

This programme covers the activities of marine farmers "on water" activities. This Programme includes being an active participant in beach clean ups and adhering to the following Codes of Practice:

- 'Marine Farming Operating Standards Marlborough Sounds, Tasman and Golden Bays'.
- 'Code of Practice to avoid, remedy or mitigate noise from marine farming activities in the Marlborough Sounds, Golden Bay and Tasman Bay, on other users and residents'.
- 'Reducing Pollution and Emissions from Marine Farming 'On Water' Activities'.
- 'Reducing Waste taken to Landfill from Marine Farming 'On water' Activities'.

Maclab is a Nelson based company that pioneered the nutraceutical industry for green lipped mussels in the 1970's and remains the industry leader. Depending on the seasonality Maclab employees up to 80 employees.

Maclab believes their products are the highest quality in the nutraceutical industry for Green lipped mussels, and they are subject to substantial intellectual property protection and are supported by many years of research and clinical trials. As a result, their products are substantially differentiated to any competition.

Maclab sources their mussels from marine farms they either own or licence (in the Marlborough Sounds, Tasman Bay and Golden Bay) and from supply partners.

Farms they license are primarily from Sea Investments Limited and Shellco Limited (Shellfish Marine Farms) and are critical to the supply of Maclab.

They process mussels into a powder at their plant in Nelson. The unique process methodologies which have been developed and patented by Maclab maximize the bioactive properties that are present in the mussels.

They sell their mussel powder under an exclusive supply arrangement to Pharmalink Extracts, which then extracts oil from this powder at its plant in Appleby, Nelson. The resulting product is then marketed and distributed throughout the world by Pharmalink International under the brands Lyprinol, Antinol and Omega XL as an anti-inflammatory solution for people and animals that suffer from arthritis.

Maclab's products are the most highly processed output from a green shell mussel harvested and their products are believed to be the highest value end use of green-lipped mussels in New Zealand.

Other activities that are part of the proposal to which the application relates

Are there permissions needed which do not relate to the Resource Management Act 1991?

Yes - there are permissions needed which do not relate to the Resource Management Act 1991

Permissions needed which do not relate to the Resource Management Act 1991

Other activities that relate to this application include permissions that do not relate to the Resource Management Act, including; 1. Fish farming licence 2. Aquaculture Decision

Are there permitted activities that are part of this application?

Yes - there are permitted activities that are part of this application

Permitted activities that are part of this application:

The application is for a new consent to replace U9461166 (MPE313) & U990896 (MPE820) in Horseshoe Bay, Pelorus Sound, to seed, cultivate and harvest species Greenshell mussels (*Perna canaliculus*) blue mussels (*Mytilus galloprovincialis*), scallops (*Pecten novaezelandiae*), dredge oysters (*Tiostrea chilensis*), and naturally settled seaweeds (*Macrocystis pyrifera*, *Ecklonia radiata*, *Gracilaria* sp., *Pterocladia lucida*), using conventional long line methods, including occupation of 4.83ha of the coastal marine area. Consent is also sought to allow the existing seabed anchoring devices to remain (and be replaced as required), to harvest marine farming product from the marine farm (including the discharging of coastal seawater and discharge of biodegradable and organic waste matter) and all other activities that are ancillary to the operation on site 8888.

The movement of vessels is a permitted activity: s27 Marine and Coastal Area (Takutai Moana) Act 2011. This right includes anything reasonably incidental to vessel movement (s27(2)).

The proposed activity has been assessed against the relevant provisions of the:

1. New Zealand Coastal Policy Statement 2010;
2. Marlborough Regional Policy Statement;
3. Marlborough Sounds Resource Management Plan; and
4. Proposed Marlborough Environment Plan

at Sections 23 and 24/Appendices A – C of this Assessment of Environmental Effects.

Additional resource consents

Are any additional resource consents needed for the proposal to which this application relates?

No - no additional resource consents are needed for the proposal to which this application relates

Consent summary

I apply for the following resource consents.

Consent information

Marine farm 8207

Consent type

Coastal

Subcategory type

Activity

Description of consent being applied for

Goulding Trustees Limited has applied to renew the existing resource consent MPE313 (U9461166) and MPE820 (U990896) for marine farm site 8207 (total 4.83ha) for the purpose of farming Greenshell mussels (*Perna canaliculus*), blue mussels (*Mytilus galloprovincialis*), scallops (*Pecten novaezelandiae*), dredge oysters (*Tiostrea chilensis*), and naturally settled seaweeds (*Macrocystis pyrifera*, *Ecklonia radiata*, *Gracilaria* sp., *Pterocladia lucida*), using conventional long line methods. (Refer attached layout diagrams illustrating the site.)

MPE313 (U9461166) 3ha parent farm was granted in April 1997 and expires 15th March 2020.

MPE820 (U990896) 1.83ha extension was granted in July 2006 and expires 6th February 2021

The Applicant seeks a 20-year term expiring in 2038.

MPE313 and MPE820 are assessed as discretionary activity in the current Marlborough Sounds Resource Management Plan.

The application is for a continuation of the activities currently consented at the site. No changes to the activities are proposed.

The site lies within the boundary of the CMZ2, an area in which marine farming activity is a discretionary activity.

The existing consent has a Ministry of Fisheries exclusion area located along the inshore area of the farm. The revised plan moves seaward and avoids the exclusion area however the farm area (4.83 Ha) remains the same. The number of permitted lines 13 (1,134 metres of backbones) is reduced to 10 lines (1,110 metres of backbones). The inshore exclusion area and a portion of the extension to the west will be surrendered as part of this application. (refer to the attached site Plan)

As this is a 'like for like' Application by an existing permit holder, the Application should be processed under section 165ZH. The Applicant's adherence to the codes of practice mentioned above, and its commitment to environmental programmes and activities, along with its compliance with the conditions of the existing Consent, are conduct in the Applicant's favour in terms of section 165ZJ(1).

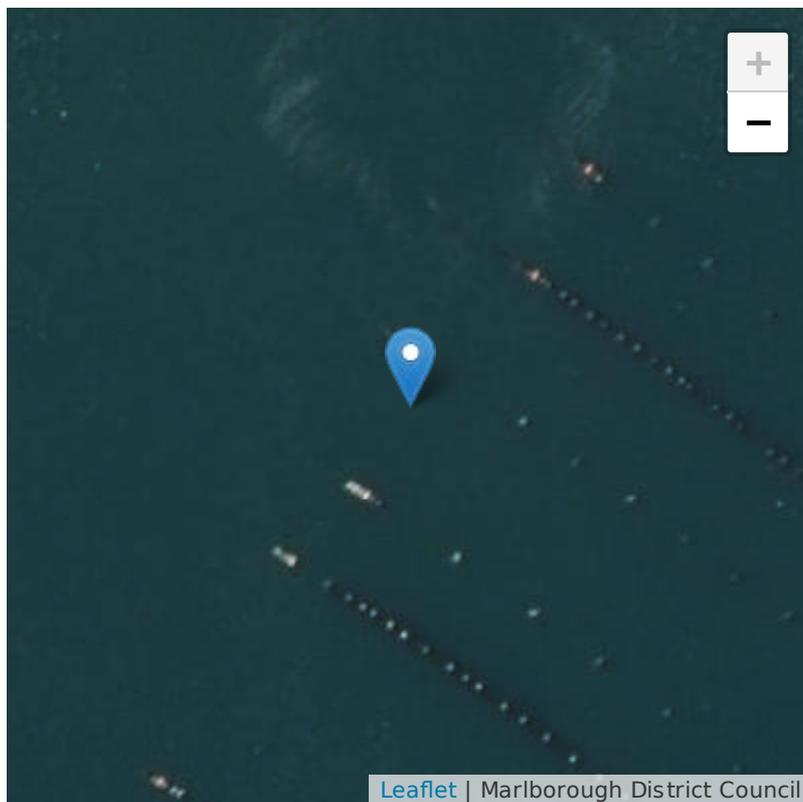
Location of the consent

Easting

1678717.279

Northing

5458378.025



Triggering rules

Rules which trigger the consent

I attach an assessment of the proposed activity against any relevant provisions of a document referred to in section 104(1)(b) of the Resource Management Act 1991, including the information required by clause 2(2) of Schedule 4 of that Act.

The assessment under this section must include an assessment of the activity against

- (a) Rules in a document; and
- (b) Any relevant requirements, conditions, or permission in any rules in a document; and
- (c) Any other relevant requirements in a document (for example, in a national environmental standard or other regulations))

Triggering rules assessment

The application is for a new consent to replace U9461166 (MPE313) & U990896 (MPE820) in Horseshoe Bay, Pelorus Sound, to seed, cultivate and harvest species Greenshell mussels (*Perna canaliculus*) blue mussels (*Mytilus galloprovincialis*), scallops (*Pecten novaezelandiae*), dredge oysters (*Tiostrea chilensis*), and naturally settled seaweeds (*Macrocystis pyrifera*, *Ecklonia radiata*, *Gracilaria* sp., *Pterocladia lucida*), using conventional long line methods, including occupation of 4.83ha of the coastal marine area. Consent is also sought to allow the existing seabed anchoring devices to remain (and be replaced as required), to harvest marine farming product from the marine farm (including the discharging of coastal seawater and discharge of biodegradable and organic waste matter) and all other activities that are ancillary to the operation on site 8888.

The movement of vessels is a permitted activity: s27 Marine and Coastal Area (Takutai Moana) Act 2011. This right includes anything reasonably incidental to vessel movement (s27(2)).

The proposed activity has been assessed against the relevant provisions of the:

1. New Zealand Coastal Policy Statement 2010;
2. Marlborough Regional Policy Statement;
3. Marlborough Sounds Resource Management Plan; and
4. Proposed Marlborough Environment Plan

at Sections 23 and 24/Appendices A – C of this Assessment of Environmental Effects.

Other activities that relate to this application include permissions that do not relate to the Resource Management Act, including;

1. Fish farming licence
2. Aquaculture Decision

Assessment of Effects on the Environment (AEE)

Clause 6 - Information required in assessment of environmental effects

6.1 An assessment of the activity's effect on the environment must include the following information:

6.1(a) if it is likely that the activity will result in any significant adverse effect on the environment, a description of any possible alternative locations or methods for undertaking the activity

Refer to attached Assessment of Environmental Effects

6.1(b) an assessment of the actual and potential effect on the environment of the activity

The actual and potential effects of the proposed activity on the environment are detailed in the attached Assessment of Environmental Effects”

6.1(c) if the activity includes the use of hazardous installations, an assessment of any risks to the environment that are likely to arise from such use

Provision not relevant

6.1(d)(i) if the activity includes the discharge of any contaminant, a description of the nature of the discharge and the sensitivity of the receiving environment to adverse effects

As part of this Application, the Applicant seeks to continue harvesting mussel crops. The right to navigate to and from the farm, and to anchor, moor and load crop is preserved by section 27 of the Marine and Coastal Area (Takutai Moana) Act 2011. However, consent is required for the amount of organic waste matter which is discharged during the harvesting process and for the take and use of coastal water. No significant historical adverse effects have been recorded or are anticipated and any visual evidence of harvesting quickly dissipates in the coastal environment.

Vessels will be required to service the farm on an irregular basis (refer 8.5).

6.1(d)(ii) if the activity includes the discharge of any contaminant, a description of any possible alternative methods of discharge, including discharge into any other receiving environment

See assessment in question 6.1 (d) (i)

6.1(e) a description of the mitigation measures (including safeguards and contingency plans where relevant) to be undertaken to help prevent or reduce the actual or potential effect.

The Applicant's farm is managed by Maclab (NZ) Limited who adheres to the 'Greenshell Mussel Industry Environmental Code of Practice' and its successor the Aquaculture New Zealand's A+ Sustainable Management Framework and is an active participant of the Marine Farming Association's Environmental Programme.

This programme covers the activities of marine farmers "on water" activities. This Programme includes being an active participant in beach clean ups and adhering to the following Codes of Practice:

- 'Marine Farming Operating Standards Marlborough Sounds, Tasman and Golden Bays'.
- 'Code of Practice to avoid, remedy or mitigate noise from marine farming activities in the Marlborough Sounds, Golden Bay and Tasman Bay, on other users and residents'.
- 'Reducing Pollution and Emissions from Marine Farming 'On Water' Activities'.
- 'Reducing Waste taken to Landfill from Marine Farming 'On water' Activities'.

6.1(f) identification of the persons affected by the activity,

An e-mail has been sent to all Iwi listed below identifying the site prior to the application being submitted. An initial meeting has taken place with Ngati Kuia and Ngati Koata.

Ngati Koata Trust PO Box 1659, Nelson 7040
Te Runanga a Rangitane o Wairau PO Box 883, Blenheim 7240
Te Runanga O Ngati Kuia PO Box 1046, Blenheim 7240
Ngāti Apa ki te Rā Tō PO Box 708, Blenheim 7240
Te Atiawa Manawhenua Ki Te Tau Ihu Trust PO Box 340, Picton 7250
Ngati Toarangatira Manawhenua Ki Te Tau Ihu Trust PO Box 5061, Blenheim 7240
Ngati Rarua Trust PO Box 1026, Blenheim 7240

A statement from Ngai Kuia has been included in sections 12 and 23.1 of the attached AEE.

6.1(f cont.) any consultation undertaken,

See assessment in question 6.1 (f)

6.1(f cont.) and any response to the views of any person consulted

See assessment in question 6.1 (f)

6.1(f cont.) and any iwi consultation undertaken

See assessment in question 6.1 (f)

6.1(g) if the scale and significance of the activity's effects are such that monitoring is required, a description of how and by whom the effects will be monitored if the activity is approved.

The consent is located <50 m distance from low water (i.e. inshore eastern consent boundary is currently 44 m from low tide). If the consent was relocated 50 m distance from low water, more of the inshore rocky substratum would be located inshore of the consent. Further, the exclusion area provides an additional buffer ensuring shell debris is not deposited onto the inshore rocky shore slope habitats. Based on the present consent boundary and the exclusion area, no additional modifications are suggested. An offshore shift of the farm to achieve a 50 m separation between low tide and the consent would act to increase the separation between the farmed consent area and inshore hard shore habitats. No change to the consented number of backbones is suggested.

Based on the substratum located under the farmed area of the consent and the present impact levels of the existing activity, no monitoring is suggested." No change to the consented number of backbones is suggested. (Davidson Environmental Report 884, attached)

The report also indicates that the impact of the current activities is in line with expectations of the environmental impacts of mussel farming. In addition, the current study supports the Ministry of Fisheries assessment which was used to assess the sustainability of the farm and its impact on fishing and fishery resources.

6.1(h) if the activity will, or is likely to, have adverse effects that are more than minor on the exercise of a protected customary right, a description of possible alternative locations or methods for the exercise of the activity (unless written approval for the activity is given by the protected customary rights group).

The applicant recognises that Ngāti Apa ki te Rā Tō, Ngāti Kuia, Rangitāne o Wairau, Ngāti Kōata, Ngāti Rārua, Ngāti Tama ki Te Tau Ihu, Te Ātiawa o Te Waka-a-Māui and Ngāti Toa Rangatira have statutory acknowledgments in the area of the application site. Those acknowledgments have been considered during the preparation of this application, as outlined above.

The iwi management plans of Ngāti Kōata and Te Ātiawa o Te Waka-a-Māui have been reviewed.

There are also no established areas of protected customary rights or customary marine title within the meaning of the Marine and Coastal Area (Takutai Moana) Act 2011.

The applicant recognises that Ngāti Kuia have a special, long, intergenerational association to Te Taulhu o te waka a Maui/Top of the South Island and consider the Te Hoiere/Pelorus to be at the centre of their spheres of occupation and influence, spanning 1,000 years.

Over many centuries Ngāti Kuia and their descendants have built paa, kainga, purakau, mapped mahinga kai and built spiritual connections where their people lived and been laid to rest.

"Te Hoiere awa/moana is Taonga tuku iho ki Tangata Whenua/Ngāti Kuia therefore this requires the Crown and its agencies to give recognition to and make provision for the exercise of Kaitiakitanga by whanau, hapu and iwi who are operating within the Maori Customary and commercial Deeds of Settlement."

The Applicant will discuss the proposal further with relevant iwi representatives.

Clause 7 - Matters that must be addressed by assessment of environmental effects

7.1 An assessment of the activity's effects on the environment must address the following matters:

7.1(a) any effect on those in the neighbourhood and, where relevant, the wider community, including any social, economic, or cultural effects

8.1 The Shoreline

The distance from the shoreline according to the original Cadastral mapping is inside the 50-metre line however the proposed application is outside this area.

8.2 Headlands

There is a headland near the proposed site but the new layout will be approximately 316 metres from the headland

8.3 Navigational Routes (Formal/Informal)

The shoreline in which the farm sits is not on a normal navigation route, however, vessels that wish to navigate within the area can proceed through the farm and either inside or outside of the site. The new layout protrudes approximately 50 metres further out than the existing consent for vessels moving into Horseshoe Bay from the north. However, the farm is pulled back from the point by 130 metres which allow more room for vessels to manoeuvre. The bulk of vessels movements in and around this bay are from the mussel industry.

The farm does not impede vessel movements along the coastline or access to the adjacent land.

8.4 Anchorages or Mooring Areas (Formal/Informal)

There are no registered moorings in close vicinity to the site. The nearest moorings are approximately 1km to the south of the farm, moorings 1897 and 1898.

The site does not impede access to this mooring.

8.5 Indirect Effects-Servicing vessels at site

The Applicant estimates farming and harvesting vessels will visit the site on an average of 40-45 days a year, for periods of 0.5 to 8 hrs to undertake farm maintenance, seeding and harvesting.

The total number of hours spent on these activities is estimated to be 120-130 hrs annually.

8.6 Water Ski Lanes

There are no formal water ski lanes in the vicinity.

8.7 Sub-Marine Cables

There are no sub-marine cables in the immediate vicinity of the farm.

The visual impact of the marine farm will not change.

Access to the coast for recreationalists is maintained.

7.1(b) any physical effect on the locality, including any landscape and visual effects

9.1 Land Zoned for Residential Use or Proximity to Residences

The land adjacent to the site is zone Rural 1.

There are no residences directly adjacent to the site. The nearest residence is approximately 965 metres south east of the site.

9.2 Scenic Value

The area has not been identified within the current Marlborough Sounds Resource Management Plan as being an area of outstanding natural landscape value.

The area has not been described as an area of outstanding nature landscapes and features in the proposed Plan.

The area has been described as having high natural character in the proposed Plan, these assessments were made with the farms already in place and operational. There was no direction given in the plan that the marine farms should be removed for the area to be assessed as having high natural character.

The preservation of the natural character of the coastal environment and protection from inappropriate subdivision, use and development is another matter of national importance under s 6(a) of the Act. In addition, NZCPS policy 13(1)(a) requires adverse effects from activities on areas of the coastal environment with outstanding natural character to be avoided. Further, significant adverse effects must be avoided, and other adverse effects avoided, remedied or mitigated in the remainder of the coastal environment, in line with policy 13(1)(b).

Areas of natural character are not mapped in the MSRMP, although the overall natural character of the Marlborough Sounds and the natural character of identified marine and land areas are outlined in Appendix 2. The MEP contains Coastal Natural Character overlay maps, showing areas of outstanding, very high and high natural character. These overlay maps are the subject of a large number of submissions.

The application site is within an area of very high natural character as mapped in the MEP.

As with landscape, in determining whether a marine farm is appropriate in this location, we must consider whether it interferes with the natural character values that require protection.

The application site sits within in Appendix 2 of the MEP. The values contributing to high, very high and outstanding coastal natural character are also outlined in Appendix 2.

The marine farm will not interfere with the biophysical values of the adjoining land. In terms of the biophysical values in the Coastal Marine Area, we know that benthic effects from shell drop are localised to beneath and in close proximity to the droppers. The community shift that occurs as a result is not typically regarded as adverse in a scientific sense.

Neither will the marine farm interfere with the perceptual values of natural character. Marine farming can be seen as 'cultured nature': it is a sustainable form of food production, mussels are naturally occurring in the water column, and the effects of marine farming are reversible (consistent with intergenerational sustainable management).

On this basis, adverse effects from the activity on identified areas of outstanding natural character are avoided, consistent with NZCPS policy 13(1)(a); and significant adverse effects on natural character in all other areas of the coastal environment are avoided, consistent with NZCPS policy 13(1)(b).

Visual Amenity

Section 7(c) of the Act requires decision makers to have particular regard to the maintenance and enhancement of amenity values. The entirety of the Marlborough Sounds Coastal Landscape, is mapped as a High Amenity Landscape in the MEP. The values of this amenity landscape are outlined in Appendix 1. An individual marine farm at this location will not have an impact on a high amenity landscape of the scale mapped in the MEP.

The area behind the farm is regenerating bush

The effect of the marine farm on the adjacent area will not have an effect on the flora and fauna of this area.

7.1(c) any effect on ecosystems, including effects on plants or animals and any physical disturbances of habitats in the vicinity

The actual and potential effects of the proposed activity on the environment are detailed in the attached Assessment of Environmental Effects

7.1(d) any effect on natural and physical resources having aesthetic, recreational, scientific, historical, spiritual, or cultural value, or other special value, for present or future generations

The actual and potential effects of the proposed activity on the environment are detailed in the attached Assessment of Environmental Effects

7.1(e) any discharge of contaminants into the environment, including any unreasonable emission of noise, and options for the treatment and disposal of contaminants

As part of this Application, the Applicant seeks to continue harvesting mussel crops. The right to navigate to and from the farm, and to anchor, moor and load crop is preserved by section 27 of the Marine and Coastal Area (Takutai Moana) Act 2011. However, consent is required for the amount of organic waste matter which is discharged during the harvesting process and for the take and use of coastal water. No significant historical adverse effects have been recorded or are anticipated and any visual evidence of harvesting quickly dissipates in the coastal environment.

Vessels will be required to service the farm on an irregular basis (refer 8.5).

The Applicant's farm is managed by Maclab (NZ) Limited who adheres to the 'Greenshell Mussel Industry Environmental Code of Practice' and its successor the Aquaculture New Zealand's A+ Sustainable Management Framework and is an active participant of the Marine Farming Association's Environmental Programme.

This programme covers the activities of marine farmers "on water" activities. This Programme includes being an active participant in beach clean ups and adhering to the following Codes of Practice:

- 'Marine Farming Operating Standards Marlborough Sounds, Tasman and Golden Bays'.

- 'Code of Practice to avoid, remedy or mitigate noise from marine farming activities in the Marlborough Sounds, Golden Bay and Tasman Bay, on other users and residents'.
- 'Reducing Pollution and Emissions from Marine Farming 'On Water' Activities'.
- 'Reducing Waste taken to Landfill from Marine Farming 'On water' Activities'.

7.1(f) any risk to the neighbourhood, the wider community, or the environment through natural hazards or hazardous installations

8.1 The Shoreline

The distance from the shoreline according to the original Cadastral mapping is inside the 50-metre line however the proposed application is outside this area.

8.2 Headlands

There is a headland near the proposed site but the new layout will be approximately 316 metres from the headland

8.3 Navigational Routes (Formal/Informal)

The shoreline in which the farm sits is not on a normal navigation route, however, vessels that wish to navigate within the area can proceed through the farm and either inside or outside of the site. The new layout protrudes approximately 50 metres further out than the existing consent for vessels moving into Horseshoe Bay from the north. However, the farm is pulled back from the point by 130 metres which allow more room for vessels to manoeuvre. The bulk of vessels movements in and around this bay are from the mussel industry.

The farm does not impede vessel movements along the coastline or access to the adjacent land.

8.4 Anchorages or Mooring Areas (Formal/Informal)

There are no registered moorings in close vicinity to the site. The nearest moorings are approximately 1km to the south of the farm, moorings 1897 and 1898.

The site does not impede access to this mooring.

Applicant's proposed conditions for this activity

Goulding Trustees Limited has applied to renew the existing resource consent MPE313 (U9461166) and MPE820 (U990896) for marine farm site 8207 (total 4.83ha) for the purpose of farming Greenshell mussels (*Perna canaliculus*), blue mussels (*Mytilus galloprovincialis*), scallops (*Pecten novaezelandiae*), dredge oysters (*Tiostrea chilensis*), and naturally settled seaweeds (*Macrocystis pyrifera*, *Ecklonia radiata*, *Gracilaria* sp., *Pterocladia lucida*), using conventional long line methods. (Refer attached layout diagrams illustrating the site.)

Part 2 RMA

Matters of national importance (Section 6 Resource Management Act 1991)

1. Assess your application against the following matters of national importance:

6.1 (a) the preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development:

Section 6(a) is given effect through Policy 13 of the New Zealand Coastal Policy Statement and is considered further below.

6.1 (b) the protection of outstanding natural features and landscapes from inappropriate subdivision, use, and development:

The area has not been identified within the current Marlborough Sounds Resource Management Plan as being an area of outstanding natural landscape value. The area has not been described as an area of outstanding nature landscapes and features in the proposed Plan. The area has been described as having high natural character in the proposed Plan. The effects of the Application on the landscape will be the same as the present Consent and any effects will not impact on the values which contribute to the landscape.

6.1 (c) the protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna:

The adjacent vegetation next to the farm is regenerating bush.

6.1 (d) the maintenance and enhancement of public access to and along the coastal marine area, lakes, and rivers:

Public access is maintained with good separation from the coast and main navigational routes.

6.1 (e) the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga:

The Applicant will continue to discuss this through consultation with Iwi.

6.1 (f) the protection of historic heritage from inappropriate subdivision, use, and development:

The applicant is unaware of any historical sites on land nearby and will continue to discuss this through consultation with Iwi

6.1 (g) the protection of protected customary rights.

The applicant recognises that Ngāti Apa ki te Rā Tō, Ngāti Kuia, Rangitāne o Wairau, Ngāti Kōata, Ngāti Rārua, Ngāti Tama ki Te Tau Ihu, Te Ātiawa o Te Waka-a-Māui and Ngāti Toa Rangatira have statutory acknowledgments in the area of the application site. Those acknowledgments have been considered during the preparation of this application, as outlined above.

The Iwi management plans of Ngāti Kōata and Te Ātiawa o Te Waka-a-Māui have been reviewed.

There are also no established areas of protected customary rights or customary marine title within the meaning of the Marine and Coastal Area (Takutai Moana) Act 2011.

The applicant recognises that Ngāti Kuia have a special, long, intergenerational association to Te Taulhu o te waka a Maui/Top of the South Island and consider the Te Hoiere/Pelorus to be at the centre of their spheres of occupation and influence, spanning 1,000 years.

Over many centuries Ngāti Kuia and their descendants have built paa, kainga, purakau, mapped mahinga kai and built spiritual connections where their people lived and been laid to rest.

"Te Hoiere awa/moana is Taonga tuku iho ki Tangata Whenua/Ngāti Kuia therefore this requires the Crown and its agencies to give recognition to and make provision for the exercise of Kaitiakitanga by whanau, hapu and Iwi who are operating within the Maori Customary and commercial Deeds of Settlement."

The Applicant will discuss the proposal further with relevant Iwi representatives.

6.1 (h) the management of significant risks from natural hazards.

The industry has developed a tsunami management plan

Other matters (Section 7 Resource Management Act 1991)

1. Assess your application against the following matters:

7.1 (a) kaitiakitanga:

This matter has been considered earlier in the original proposal. This application is not anticipated to have any additional effects over and above what already exists

7.1 (aa) the ethic of stewardship:

The Applicant's farm is managed by Maclab (NZ) Limited who adheres to the 'Greenshell Mussel Industry Environmental Code of Practice' and its successor the Aquaculture New Zealand's A+ Sustainable Management Framework and is an active participant of the Marine Farming Association's Environmental Programme.

This programme covers the activities of marine farmers "on water" activities. This Programme includes being an active participant in beach clean ups and adhering to the following Codes of Practice:

- 'Marine Farming Operating Standards Marlborough Sounds, Tasman and Golden Bays'.
- 'Code of Practice to avoid, remedy or mitigate noise from marine farming activities in the Marlborough Sounds, Golden Bay and Tasman Bay, on other users and residents'.
- 'Reducing Pollution and Emissions from Marine Farming 'On Water' Activities'.
- 'Reducing Waste taken to Landfill from Marine Farming 'On water' Activities'.

7.1 (b) the efficient use and development of natural and physical resources:

This matter has been considered earlier in the original proposal. This application is not anticipated to have any additional effects over and above what already exists.

7.1 (ba) the efficiency of the end use of energy:

Provision not relevant

7.1 (c) the maintenance and enhancement of amenity values:

This matter has been considered earlier in the original proposal. This application is not anticipated to have any additional effects over and above what already exists

7.1 (d) intrinsic values of ecosystems:

This matter has been considered earlier in the original proposal. This application is not anticipated to have any additional effects over and above what already exists

7.1 (f) maintenance and enhancement of the quality of the environment:

This matter has been considered earlier in the original proposal. This application is not anticipated to have any additional effects over and above what already exists

7.1 (g) any finite characteristics of natural and physical resources:

This matter has been considered earlier in the original proposal. This application is not anticipated to have any additional effects over and above what already exists

7.1 (h) the protection of the habitat of trout and salmon:

Provision not relevant

7.1 (i) the effects of climate change:

The effects of climate change on mussel farms is unknown, however, mussels can withstand a large change in temperatures and growing environment. They are currently grown through out New Zealand from Southland to Coromandel.

7.1 (j) the benefits to be derived from the use and development of renewable energy

Provision not relevant

Treaty of Waitangi (Section 8 Resource Management Act 1991)

Assess your application against the principles of the Treaty of Waitangi (Te Tiriti o Waitangi)

The applicant recognises that Ngāti Apa ki te Rā Tō, Ngāti Kuia, Rangitāne o Wairau, Ngāti Kōata, Ngāti Rārua, Ngāti Tama ki Te Tau Ihu, Te Ātiawa o Te Waka-a-Māui and Ngati Toa Rangatira have statutory acknowledgments in the area of the application site. Those acknowledgements have been considered during the preparation of this application, as outlined above.

The iwi management plans of Ngāti Kōata and Te Ātiawa o Te Waka-a-Māui have been reviewed.

There are also no established areas of protected customary rights or customary marine title within the meaning of the Marine and Coastal Area (Takutai Moana) Act 2011.

The applicant recognises that Ngāti Kuia have a special, long, intergenerational association to Te Taulhu o te waka a Maui/Top of the South Island and consider the Te Hoiere/Pelorus to be at the centre of their spheres of occupation and influence, spanning 1,000 years.

Over many centuries Ngāti Kuia and their descendants have built paa, kainga, purakau, mapped mahinga kai and built spiritual connections where their people lived and been laid to rest.

"Te Hoiere awa/moana is Taonga tuku iho ki Tangata Whenua/Ngāti Kuia therefore this requires the Crown and its agencies to give recognition to and make provision for the exercise of Kaitiakitanga by whanau, hapu and Iwi who are operating within the Maori Customary and commercial Deeds of Settlement."

The Applicant will discuss the proposal further with relevant Iwi representatives.

Statutory instruments

I attach an assessment of the proposed activity against any relevant provisions of a document referred to in section 104(1) (b) of the Resource Management Act 1991, including the information required by clause 2(2) of Schedule 4 of that Act.

The assessment under this section must include an assessment of the activity against –

- (a) Any relevant objectives, or policies in a document; and
- (b) Any relevant requirements, conditions, or permission in any rules in a document; and
- (c) Any other relevant requirements in a document (for example, in a national environmental standard or other regulations)

Statutes that are relevant to your proposed activity

Assessment under the Resource Management Act 1991

Refer to attached Assessment of Environmental Effects and appendices.

Assessment under the New Zealand Coastal Policy Statement

Refer to attached Assessment of Environmental Effects and appendices.

Assessment under the Marlborough Regional Policy Statement

Refer to attached Assessment of Environmental Effects and appendices.

Assessment under the Marlborough Sounds Resource Management Plan

Refer to attached Assessment of Environmental Effects and appendices.

Assessment under the Proposed Marlborough Environment Plan

Refer to attached Assessment of Environmental Effects and appendices.

Additional information

Applications affected by Section 124 or 165ZH(1)(c) of the Resource Management Act 1991

Does this application relate to an existing consent held by the applicant which is due to expire, and the applicant is to continue the activity?

Yes - this application relates to the following existing consent

Consent number

MPE313 (U9461166) and MPE820 (U990896)

The value of investment of the existing consent holder is

As part of this Application to renew site 8207, the Applicant is seeking to re-consent the site for a period of 20 years. As a result, this is an Application to which section 165ZH(1)(c) applies and the Council must, when considering the application, have regard to the value of the investment of the existing consent holder under section 104(2A). The original existing site has been held by the applicant since 1997. From that time the applicant has expended significantly on the establishment and maintenance of the farm. The farm produces approximately 150 tonnes per annum (\$1200/ Green Weight Tonne (GWT)) and after processing the final ½ shell product would be sold on the export market at approximately \$400,000. Approximately 95% of mussel products are exported. All lines are restocked after harvest to achieve 150 GWT/per annum harvests. The mussels are processed in Nelson where they provide a critical part of the production to maintain processing to the factory which employs up to 80 FTE.

Section 85 of the Marine and Coastal Area (Takutai Moana) Act 2011

Is the proposed activity to occur in an area within the scope of a planning document prepared by a customary marine title group under section 85 of the Marine and Coastal Area (Takutai Moana) Act 2011?

No - the proposed activity does not occur in such an area

Additional information required for subdivision consent

Does your application include one or more consents for subdivision?

No

Additional information required for application for reclamation

Does your application include one or more consents for reclamation?

No

Plans and technical reports

Report type	Report title	Author	External reference	Keywords	Document
Site Plan	-	-	-	-	8207 Locality Map.pdf (2 MB)
Site Plan	-	-	-	-	8207 Renewal Layout Plan Final.pdf (537 kB)
Site Plan	-	-	-	-	8207 Renewal Site Plan.pdf (769 kB)
Benthic report	-	-	-	-	8207 Horseshoe Bay (Goulding) final.pdf (3 MB)
Miscellaneous	-	-	-	-	8207 AEE Renewal Oct 2018.pdf (674 kB)

Affected person approvals

Have you obtained affected person(s) approvals?

No - I have not obtained affected person(s) approvals

Iwi

Have you obtained approvals from iwi?

No - I have not obtained approvals from iwi

Public notification (Section 95A(2)(b)) of the Resource Management Act 1991

Is public notification of the application requested by the applicant?

No - public notification of application is not requested

Lodgement fee

Please see [Marlborough District Council's fees page](#) for more information.

Payment ID Code

000ZDW

Do you require a GST receipt for a bank payment?

Yes - I do require a GST receipt for a bank payment

If further charges are incurred, please invoice

Applicant

Fee comments

-

Declaration

I confirm that the information provided in this application and the attachments are accurate.

Yes

Authorised by (your full name)

Bruce Raymond Cardwell

Authorising person is:

Person authorised to sign on behalf of the applicant

Note to applicant

You must include all information required by this form. The information must be specified in sufficient detail to satisfy the purpose for which it is required.

You may apply for 2 or more resource consents that are needed for the same activity on the same form. If you lodge the application with the Environment Protection Agency, you must also lodge a notice in form 16A at the same time.

You must pay the charge payable to the consent authority for a resource consent application under the Resource Management Act 1991 (if any)

If your application is to the Environment Protection Agency, you may be required to pay actual and reasonable costs incurred in dealing with this matter (see section 149ZD of the Resource Management Act 1991).

Privacy information

The information you have provided on this form is required so that your application can be processed and so that statistics can be collected by Council. The information will be stored on a public register and held by Council. Details may be made available to the public about consents that have been applied for and issued by Council. If you would like access to or made corrections to your details, please contact Council.

**ASSESSMENT OF ENVIRONMENTAL EFFECTS
FOR A COASTAL PERMIT
OCCUPANCY AND DISTURBANCE OF THE SEABED**

**APPLICATION BY GOULDING TRUSTEES LIMITED
TO RENEW EXISTING CONSENT FOR MARINE FARM SITE 8207
HORSESHOE BAY, PELORUS SOUND, MARLBOROUGH**

1.0 INTRODUCTION – OVERVIEW OF APPLICATION

Goulding Trustees Limited has applied to renew the existing resource consent MPE313 (U9461166) and MPE820 (U990896) for marine farm site 8207 (total 4.83ha) for the purpose of farming Greenshell mussels (*Perna canaliculus*), blue mussels (*Mytilus galloprovincialis*), scallops (*Pecten novaezelandiae*), dredge oysters (*Tiostrea chilensis*), and naturally settled seaweeds (*Macrocystis pyrifera*, *Ecklonia radiata*, *Gracilaria* sp., *Pterocladia lucida*), using conventional long line methods. (Refer attached layout diagrams illustrating the site.)

MPE313 (U9461166) 3ha parent farm was granted in April 1997 and expires 15th March 2020.

MPE820 (U990896) 1.83ha extension was granted in July 2006 and expires 6th February 2021

The Applicant seeks a 20-year term expiring in 2038.

MPE313 and MPE820 are assessed as discretionary activity in the current Marlborough Sounds Resource Management Plan.

The application is for a continuation of the activities currently consented at the site. No changes to the activities are proposed.

The site lies within the boundary of the CMZ2, an area in which marine farming activity is a discretionary activity.

The existing consent has a Ministry of Fisheries exclusion area located along the inshore area of the farm. The revised plan moves seaward and avoids the exclusion area however the farm area (4.83 Ha) remains the same. The number of permitted lines 13 (1,134 metres of backbones) is reduced to 10 lines (1,110 metres of backbones). The inshore exclusion area and a portion of the extension to the west will be surrendered as part of this application. (refer to the attached site Plan)

As this is a 'like for like' Application by an existing permit holder, the Application should be processed under section 165ZH. The Applicant's adherence to the codes of practice mentioned above, and its commitment to environmental programmes and activities, along with its compliance with the conditions of the existing Consent, are conduct in the Applicant's favour in terms of section 165ZJ(1).

The site dimensions are as per the layout plans attached. The application includes 10 long lines, each being approximately 111 metres long.

There are currently 7 lines installed and operating at the site that grow Greenshell mussels.

The farm is located in an area where due to rainfall criteria set by Marlborough Shellfish Quality programme (MSQP) it is the last to close up after high rainfall and first to open after a rainfall event. These farms supply mussels to production facilities to keep processing and maintain staff during weather events.

The site layout is attached to the application.

The Goulding's have been a participant in the aquaculture industry since 1979. The farm has recently been leased to Maclab (NZ) Limited under a long-term agreement to supply the nutraceutical industry. As part of the agreement the Goulding family contract back their vessel services to Maclab and directly employ six persons for their medium size mussel farming operation and have operated from a base in Waitata Bay since the 1980's. One of the applicant's family were one of the first European settlers in Waitata Bay and the outer sounds. Jim Goulding was an Executive Committee member of the Marine Farming Association Incorporated for 20 years and serves as a Director on a number of multi ownership marine farming companies. Jim has also served on other industry boards throughout his time with the industry.

The mussel farm 8207 in Horseshoe Bay is very much part of their family business.

Jim is involved in many industry initiatives including co-funding the 2018 King Shag Banding Study.

The Applicant's farm is managed by Maclab (NZ) Limited who adheres to the 'Greenshell Mussel Industry Environmental Code of Practice' and its successor the Aquaculture New Zealand's A+ Sustainable Management Framework and is an active participant of the Marine Farming Association's Environmental Programme.

This programme covers the activities of marine farmers "on water" activities. This Programme includes being an active participant in beach clean ups and adhering to the following Codes of Practice:

- 'Marine Farming Operating Standards Marlborough Sounds, Tasman and Golden Bays'.
- 'Code of Practice to avoid, remedy or mitigate noise from marine farming activities in the Marlborough Sounds, Golden Bay and Tasman Bay, on other users and residents'.

- ‘Reducing Pollution and Emissions from Marine Farming ‘On Water’ Activities’.
- ‘Reducing Waste taken to Landfill from Marine Farming ‘On water’ Activities’.

MacLab is a Nelson based company that pioneered the nutraceutical industry for green lipped mussels in the 1970’s and remains the industry leader. Depending on the seasonality Maclab employees up to 80 employees.

Maclab believes their products are the highest quality in the nutraceutical industry for Green lipped mussels, and they are subject to substantial intellectual property protection and are supported by many years of research and clinical trials. As a result, their products are substantially differentiated to any competition.

MacLab sources their mussels from marine farms they either own or licence (in the Marlborough Sounds, Tasman Bay and Golden Bay) and from supply partners.

Farms they license are primarily from Sea Investments Limited and Shellco Limited (Shellfish Marine Farms) and are critical to the supply of Maclab.

They process mussels into a powder at their plant in Nelson. The unique process methodologies which have been developed and patented by MacLab maximize the bioactive properties that are present in the mussels.

They sell their mussel powder under an exclusive supply arrangement to Pharmalink Extracts, which then extracts oil from this powder at its plant in Appleby, Nelson. The resulting product is then marketed and distributed throughout the world by Pharmalink International under the brands Lyprinol, Antinol and Omega XL as an anti-inflammatory solution for people and animals that suffer from arthritis.

MacLab’s products are the most highly processed output from a green shell mussel harvested and their products are believed to be the highest value end use of green-lipped mussels in New Zealand.

2.0 INTRODUCTION – THE APPLICATION

2.1 Size: The site is 4.53ha.

2.2 Structures: The site dimensions will be: inshore boundary 269.83 metres long, outer boundary 269.83 metres, western boundary 179 metres long and eastern boundary 179 metres long (refer attached site plan).

There will be a total of 10 longlines (refer attached layout diagram).

2.3 Species: It is proposed to farm and harvest Greenshell mussels (*Perna canaliculus*) blue mussels (*Mytilus galloprovincialis*), scallops (*Pecten novaezelandiae*), dredge oysters (*Tiostrea chilensis*), and naturally settled seaweeds (*Macrocystis pyrifera*, *Ecklonia radiata*, *Gracilaria* sp., *Pterocladia lucida*), using conventional long line methods.

The application is for a continuation of the activities currently consented at the site. No changes to the activities are proposed.

3.0 PERMITTED ACTIVITIES

The application is for a new consent to replace U9461166 (MPE313) & U990896 (MPE820) in Horseshoe Bay, Pelorus Sound, to seed, cultivate and harvest species Greenshell mussels (*Perna canaliculus*) blue mussels (*Mytilus galloprovincialis*), scallops (*Pecten novaezelandiae*), dredge oysters (*Tiostrea chilensis*), and naturally settled seaweeds (*Macrocystis pyrifera*, *Ecklonia radiata*, *Gracilaria* sp., *Pterocladia lucida*), using conventional long line methods, including occupation of 4.83ha of the coastal marine area. Consent is also sought to allow the existing seabed anchoring devices to remain (and be replaced as required), to harvest marine farming product from the marine farm (including the discharging of coastal seawater and discharge of biodegradable and organic waste matter) and all other activities that are ancillary to the operation on site 8888.

The movement of vessels is a permitted activity: s27 Marine and Coastal Area (Takutai Moana) Act 2011. This right includes anything reasonably incidental to vessel movement (s27(2)).

The proposed activity has been assessed against the relevant provisions of the:

1. New Zealand Coastal Policy Statement 2010;
2. Marlborough Regional Policy Statement;
3. Marlborough Sounds Resource Management Plan; and
4. Proposed Marlborough Environment Plan

at Sections 23 and 24/Appendices A – C of this Assessment of Environmental Effects.

Other activities that relate to this application include permissions that do not relate to the Resource Management Act, including;

1. Fish farming licence
2. Aquaculture Decision

4.0 TERMS OF CONSENT

MPE313 (U9461166) 3ha expires 15th March 2020.

MPE820 (U990896) 1.83ha expires 6th February 2021.

The Applicant seeks a 20-year term expiring in 2038 and to combine the extensions and the original licence into one consent.

5.0 THE SITE - LOCATION

The site is located at the north-western corner of Horseshoe Bay where it meets Waitata Reach, Pelorus Sound.

“Horseshoe Bay is a west-facing bay on the southeastern shore of Waitata Reach. Horseshoe Bay is roughly 17 km from the Pelorus Harbour limit, and some 40 km by sea from Havelock. The Bay has a coastline length of approximately 4.5 km and is approximately 182 ha in size. The mouth of Horseshoe Bay is approximately 1.6 km wide and 1.7 km long.” (Davidson Environmental Report 884, attached)

The farm sits alongside other farms on the northern side of Pelorus Sound. The nearest marine farms to 8207 are the adjacent farms to the south 8208, 8209 and 8210.

The adjacent land is zone Rural 1. There are no residences in the direct vicinity of the site. The nearest residence is approximately 965 metres south east of the site.

The site lies within the boundary of Coastal Marine Zone 2 (CMZ2).

6.0 THE SITE - DIMENSIONS

The site dimensions have been described above are as per the layout plans attached. The depth of the water at each of the site corners is 30 metres (NW), 34 metres (NE), 40 metres (SW) and 32metres (SE).

The application includes 10 long lines, each being approximately between 111 metres long.

There are currently 7 lines installed and operating at the site that grow Greenshell mussels.

The site layout is attached to the application.

The warp lengths are between 72-86 metres from each end of the backbone (see line layout diagram for individual longline lengths). The warp ratio is approximately 2:1.

The exclusion zone has been rechecked as part of the benthic report and Davidson suggests in his report the following; (Davidson Environmental Report 884, attached)

“5.4 Boundary adjustments, recommendations and monitoring

The consent is located <50 m distance from low water (i.e. inshore eastern consent boundary is currently 44 m from low tide). The exclusion area provides adequate separation between rocky substratum and the growing structures ensuring inshore rocky habitats remain free from farm impacts. Based on the present consent boundary and the exclusion area, no additional modifications are suggested.

5.5 Relinquishment of the western consent area

The farm owner may apply to relinquish the western end and inshore exclusion area of the consent in favour of a new offshore area to encompass the offshore backbone that is presently located offshore of the existing consent. This offshore area is composed of comparable habitats to the western end of the consent (i.e. deep mud with dead whole natural shell). The only appreciable difference between these two areas is depth and the level of mussel shell present. The western end is deeper and has no mussel shell, while the offshore area is slightly shallower and has some mussel shell debris present close to the offshore line. The inshore exclusion area supports coarser substratum than the offshore area and also supports rocky substratum. The proposed change therefore represents a small biological improvement to the current situation.”

The area has strong tidal flow through a deep trench in the middle of the existing consented area. Moving the proposed consent seaward than into the existing approved extension avoid the strong tidal flow and deep trench located in this consented extension.

7.0 THE PRESENT ENVIRONMENT

7.1 The Marine Environment

In June 2018 Mr RJ Davidson, of Davidson Environmental Ltd, undertook a biological study of the ecology of the marine area of site 8207 (Report 884, attached).

The Report indicates that the impact of the existing activity is similar to other mussel farming activities in Marlborough. In particular, the report states the following;

“5.1 Benthic habitats and substratum

Substratum and habitat distribution relative to the re-consent area was based on drop camera stations and sonar imaging of the benthos.

Most of the consent area was located over deep silt and clay substratum with a variable component of natural shell. In contrast, inshore edges of the consent were characterised by silt, fine sand and natural shell (often as shell hash = areas of dense shell material) on a steeply sloping shore. Previous studies have observed occasional cobbles from this inshore area of the consent and this has been designated as a structure exclusion zone (Davidson 1996; Davidson and Brown 1999).

During the present study, sonar detected a small area with rock outcrops within the exclusion zone (Figure 5). This feature has not been previously found. These hard substrata were located within the inshore part of the exclusion area (up to approximately 10 m distance from the

consent boundary). Line 1 of the farm was recorded within the exclusion zone due to line bowing, but it was well offshore of the rock (Figure 5). Based on these considerations there is no need to enlarge or reduce the exclusion zone, nor is it necessary to relocate line 1 as the exclusion zone incorporate sufficient buffering area to ensure the bowing line does not reach the rocky substrata.

The area occupied by production lines was characterised by deep silt and clay with a component of natural shell.

Mud and mud and shell are the most common subtidal habitats in the sheltered Marlborough Sounds (McKnight and Grange, 1991) and has been traditionally targeted for marine farming activities as it is considered suitable for consideration for marine farming activities in the Marlborough Sounds.

Unlike mud and mud and shell, bedrock, boulder and cobble substratum are not considered suitable for marine farming activities. Hard substratum can be smothered by shell debris would likely no longer functions as a hard substratum habitat.

5.2 Species and communities

Photos collected from areas offshore of the shore slope and within the consent supported species typical of silt substratum (e.g. cushion seastars, sea cucumbers, occasional horse mussel). Davidson (1996) and Davidson and Brown (1999) observed opalfish from these deep areas and an occasional scallop. Opalfish are widespread from inner, central and outer Sounds deep mud substratum. One scallop was observed from drop camera images (photo 18) in the present study suggesting they are uncommon. No fish species were observed from drop camera images in the present study.

Photographs from nearshore sloping shore showed a greater diversity and abundance of species. Blue cod were also observed from the shore slope. No biogenic communities were observed from the two inshore photographs collected. It is probable that these communities exist closer to Te Kaiangapi Point where tidal flows are higher.

5.3 Mussel farming impacts

5.3.1 Benthic impacts

Mussel debris was not recorded from rocky substrata or habitats located inshore of the consent. When present mussel shell debris was recorded at high levels. Shell was most often recorded under and close to droppers. The exception was photo 18 located (18 m offshore of the outside production line). It is probable that the strong currents bow the outside line leading to a wide range of shell spread. Shell spread is also increased due to the depths at this site. No mussel shell debris was recorded inshore of the consent area or from photos collected within the exclusion area.

It is probable that the impact of continued shellfish farming at this site will result in the deposition of more shell and fine sediment under and near droppers. Based on the literature and assuming the present level of farming activity remains consistent, it is very unlikely that the surface sediments would become anoxic (Hartstein and Rowden, 2004; Keeley et al., 2009;

Davidson and Richards, 2014). Anoxic conditions are particularly unlikely at this site due to the moderate to strong tidal currents that regularly sweep the site.

5.4 Boundary adjustments, recommendations and monitoring

The consent is located <50 m distance from low water (i.e. inshore eastern consent boundary is currently 44 m from low tide). If the consent was relocated 50 m distance from low water, more of the inshore rocky substratum would be located inshore of the consent. Further, the exclusion area provides an additional buffer ensuring shell debris is not deposited onto the inshore rocky shore slope habitats. Based on the present consent boundary and the exclusion area, no additional modifications are suggested. An offshore shift of the farm to achieve a 50 m separation between low tide and the consent would act to increase the separation between the farmed consent area and inshore hard shore habitats. No change to the consented number of backbones is suggested.

Based on the substratum located under the farmed area of the consent and the present impact levels of the existing activity, no monitoring is suggested." No change to the consented number of backbones is suggested. (Davidson Environmental Report 884, attached)

The report also indicates that the impact of the current activities is in line with expectations of the environmental impacts of mussel farming. In addition, the current study supports the Ministry of Fisheries assessment which was used to assess the sustainability of the farm and its impact on fishing and fishery resources.

7.2 The Land Environment

The site is located at the north-western corner of Horseshoe Bay where it meets Waitata Reach, Pelorus Sound.

The adjacent land is zoned Rural 1.

The coastline adjacent consists of steep hill slopes with short to moderately high coastal cliffs. The area is regenerating scrub.

The beach is dominated by hard rock and boulders, although small beaches have formed along the coastline in this area.

8.0 NAVIGATION MATTERS

8.1 The Shoreline

The distance from the shoreline according to the original Cadastral mapping is inside the 50-metre line however the proposed application is outside this area.

8.2 Headlands

There is a headland near the proposed site but the new layout will be approximately 316 metres from the headland

8.3 Navigational Routes (Formal/Informal)

The shoreline in which the farm sits is not on a normal navigation route, however, vessels that wish to navigate within the area can proceed through the farm and either inside or outside of the site. The new layout protrudes approximately 50 metres further out than the existing consent for vessels moving into Horseshoe Bay from the north. However, the farm is pulled back from the point by 130 metres which allow more room for vessels to manoeuvre. The bulk of vessels movements in and around this bay are from the mussel industry.

The farm does not impede vessel movements along the coastline or access to the adjacent land.

8.4 Anchorages or Mooring Areas (Formal/Informal)

There are no registered moorings in close vicinity to the site. The nearest moorings are approximately 1km to the south of the farm, moorings 1897 and 1898.

The site does not impede access to this mooring.

8.5 Indirect Effects-Servicing vessels at site

The Applicant estimates farming and harvesting vessels will visit the site on an average of 40-45 days a year, for periods of 0.5 to 8 hrs to undertake farm maintenance, seeding and harvesting.

The total number of hours spent on these activities is estimated to be 120-130 hrs annually.

8.6 Water Ski Lanes

There are no formal water ski lanes in the vicinity.

8.7 Sub-Marine Cables

There are no sub-marine cables in the immediate vicinity of the farm.

9.0 AESTHETIC

9.1 Land Zoned for Residential Use or Proximity to Residences

The land adjacent to the site is zone Rural 1.

There are no residences directly adjacent to the site. The nearest residence is approximately 965 metres south east of the site.

9.2 Scenic Value

The area has not been identified within the current Marlborough Sounds Resource Management Plan as being an area of outstanding natural landscape value.

The area has not been described as an area of outstanding nature landscapes and features in the proposed Plan.

The area has been described as having high natural character in the proposed Plan, these assessments were made with the farms already in place and operational. There was no direction given in the plan that the marine farms should be removed for the area to be assessed as having high natural character.

The preservation of the natural character of the coastal environment and protection from inappropriate subdivision, use and development is another matter of national importance under s 6(a) of the Act. In addition, NZCPS policy 13(1)(a) requires adverse effects from activities on areas of the coastal environment with outstanding natural character to be avoided. Further, significant adverse effects must be avoided, and other adverse effects avoided, remedied or mitigated in the remainder of the coastal environment, in line with policy 13(1)(b).

Areas of natural character are not mapped in the MSRMP, although the overall natural character of the Marlborough Sounds and the natural character of identified marine and land areas are outlined in Appendix 2. The MEP contains Coastal Natural Character overlay maps, showing areas of outstanding, very high and high natural character. These overlay maps are the subject of a large number of submissions.

The application site is within an area of very high natural character as mapped in the MEP.

As with landscape, in determining whether a marine farm is appropriate in this location, we must consider whether it interferes with the natural character values that require protection.

The application site sits within in Appendix 2 of the MEP. The values contributing to high, very high and outstanding coastal natural character are also outlined in Appendix 2.

The marine farm will not interfere with the biophysical values of the adjoining land. In terms of the biophysical values in the Coastal Marine Area, we know that benthic effects from shell drop are localised to beneath and in close proximity to the droppers. The community shift that occurs as a result is not typically regarded as adverse in a scientific sense. Neither will the marine farm interfere with the perceptual values of natural character. Marine farming can be seen as 'cultured nature': it is a sustainable form of food production, mussels are naturally occurring in the water column, and the effects of marine farming are reversible (consistent with intergenerational sustainable management).

On this basis, adverse effects from the activity on identified areas of outstanding natural character are avoided, consistent with NZCPS policy 13(1)(a); and significant adverse effects on natural character in all other areas of the coastal environment are avoided, consistent with NZCPS policy 13(1)(b).

Visual Amenity

Section 7(c) of the Act requires decision makers to have particular regard to the maintenance and enhancement of amenity values. The entirety of the Marlborough Sounds Coastal Landscape, is mapped as a High Amenity Landscape in the MEP. The values of this amenity landscape are outlined in Appendix 1.¹ An individual marine farm at this location will not have an impact on a high amenity landscape of the scale mapped in the MEP.

The area behind the farm is regenerating bush

The effect of the marine farm on the adjacent area will not have an effect on the flora and fauna of this area.

10.0 ECOLOGICAL VALUE

There is ecological value identified 215 metres away from the consent in the Marlborough Sounds Resource Management Plan for Site 8207(1/15) "Buffer zone for king shag breeding and roosting" Te Kaiangapipi Point. The point was used as a resting point but it has been un used for the last 10-15 years and is regenerating.

The redesign of the farm will remove the existing extension to further away from Te Kaiangapipi Point.

The King shag (*Leucocarbo carunculatus*) is a rare seabird, which is endemic to the Marlborough Sounds, and listed as Threatened by the International Union for Conservation of Nature (IUCN). Adverse effects on this species and its habitat are to be avoided in accordance with NZCPS Policy 11(a).

King shags face a number of potential threats in the Marlborough Sounds, including climate change, storm events which can damage roosts and nests, human disturbance, predators, siltation, commercial dredging and trawling, recreational fishing and aquaculture.

A holistic approach is needed to gain a better understanding of this species, and to strategically manage threats. In the past experts have noted that this cannot be done effectively via an individual marine farm consent:²

There are few useful consent conditions specific to king shag that would be relevant to the operation of a single mussel farm. The only practical suggestion is to minimise the loss of debris, such as dropline ties, entering the water; however, this is already part of the industry's environmental code of practice. Any survey or monitoring of king shag use of mussel farms for the purposes of addressing specific research questions needs to be very well planned and implemented at a much wider scale.

The industry, via the Marine Farming Association (MFA), is actively involved in a Working Group with the Department of Conservation and key stakeholders which is undertaking research into king shag population and breeding dynamics. The applicant is supportive of this initiative.

The application site is near to an area identified in the Marlborough Sounds Resource Management Plan as a king shag feeding habitat. The Council’s 2011 Significant Marine Sites Report identifies significant marine sites in Marlborough, including sites of significance to seabirds.³ The four main king shag breeding colonies and a number of satellite colonies are included in this report.

No seabird feeding areas in the coastal marine area are mapped in the MEP. The distribution of king shags foraging within the Sounds has been recorded by Mr Rob Schuckard over many years. The most recent data from 2017, depicted in Figure 1 below, shows that the birds have a foraging range of approximately 25km. The majority of the Marlborough Sounds is within the foraging range of the species, excluding inner Queen Charlotte Sound, most of Kenepuru Sound⁴ and Port Underwood. No foraging data exists within Tory Channel. The king shag’s physiology means that it is better adapted to diving than flying. They tend not to fly over land, which may account for lack of sightings in Tory Channel.

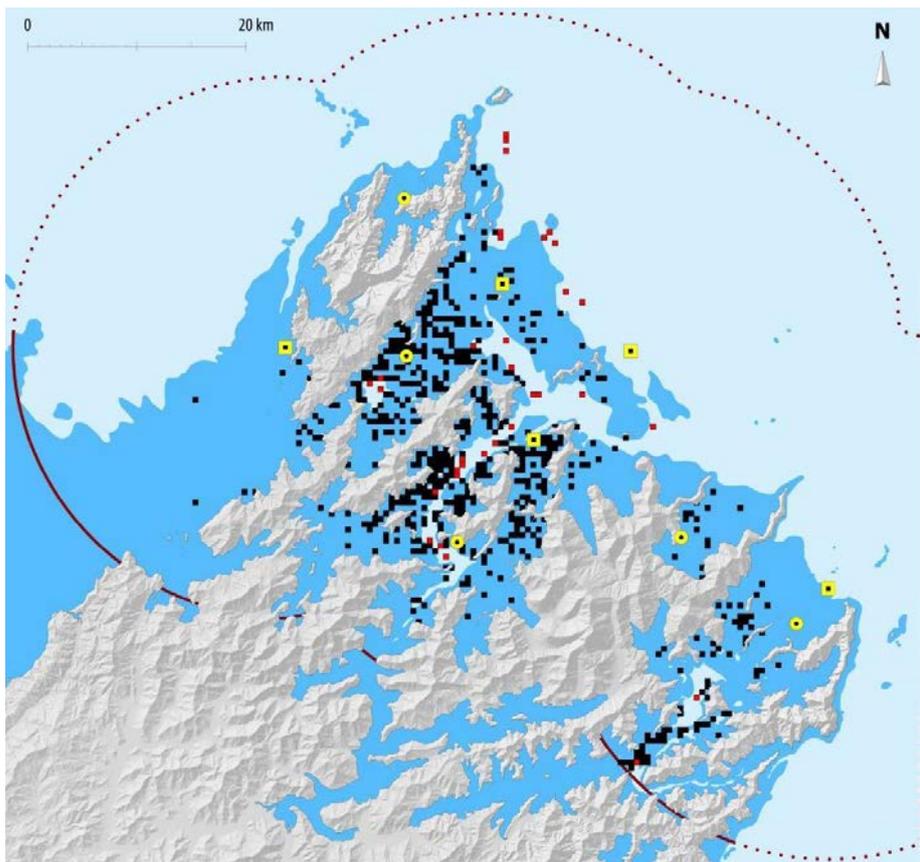


Figure 1. Distribution of foraging NZ king shags in the Marlborough Sounds

(Source: Schuckard 2017, unpublished)⁵

607 grid squares (500m) where foraging NZ king shags have been observed: ■ <50m
 ■ >50m (5% of all grids). Red circle: 25km radius from the main colonies (>50 birds). Dark blue
 ≤50m: 130.000ha.

Some biologists are of the view that mussel farms exclude king shag and/or their prey, but experts are divided on this issue, and the data is not conclusive.⁶ Rob Davidson and Dr Rachel McClellan note that the low percentage of king shags sighted feeding within mussel farms is consistent with the low percentage of the Sounds covered by marine farming structures.⁷ It is unclear whether marine farms have an adverse, positive⁸ or neutral effect for King shag foraging, or on King shag prey.⁹ Observations suggest that the mere physical presence of marine farm structures does not preclude foraging.¹⁰

A marine farm has been operating at the application site for many years. The application area comprises a very small proportion of the available foraging habitat within the bay and the Sounds generally. In this context, this marine farm is unlikely to have an adverse effect on king shag.

King shag colonies are at risk of disturbance from commercial, recreational and tourism vessels. At present no exclusion zone has been imposed around colonies. Historically, conservative recommendations for excluding vessels around the species' breeding colonies and roosting sites were 1,000 metres and 300 metres respectively. In 2015 Forest and Bird recommended a code of practice be adopted to apply a buffer of 100m around colonies during the March to August breeding period. The farm serving vessels do not operate within less than 1,000 metres from any colonies.

In addition, a number of standard consent conditions might be imposed, including:

- A requirement to ensure that structures are restrained, secure, and in good working order.¹¹
- A requirement that reasonably necessary steps are taken to retrieve non-biodegradable debris.
- A requirement to incorporate Best Management Practice Guidelines to address the cumulative effects of marine farming.

The applicant also adheres to a number of codes of practice:

- The MFA Standard Operating Procedures¹² includes provisions to maintain farms in good condition and to minimise debris. This reduces entanglement risk.
- The MFA Noise Code of Practice¹³ seeks to avoid, remedy or mitigate noise from marine farming activities. Minimising noise is best management practice to reduce the exclusion or attraction of wildlife.
- The MFA Code of Practice to Reduce Pollution and Emissions from Marine Farming 'On Water' Activities¹⁴ deals with storage of chemicals and fuels, use of biodegradable products, and the requirement to be familiar with Regional Oil Spill contingency plans.
- Aquaculture New Zealand's A+ Sustainable Management Framework: New Zealand greenshell mussels¹⁵ (A+) is designed to promote the sustainable management of aquaculture in New Zealand by providing guidance for best environmental and social practice for the industry. One of the aims of A+ is to facilitate best environmental practice through research, risk management, ongoing monitoring and reporting, and promotion of continuous improvement.

There are no ecologically significant marine sites identified in the proposed Plan in the vicinity of the site.

The effect of the marine farm on the adjacent area will not have an effect on the flora and fauna of this area.

11.0 RECREATIONAL VALUE

The visual impact of the marine farm will not change.

Access to the coast for recreationalists is maintained.

12.0 HISTORICAL, TRADITIONAL AND CULTURAL VALUES

In preparing this Application, the Applicant has had regard to the Te Tau Ihu Statutory Acknowledgments and has reviewed the Statements of Association for each iwi. The Applicant understands that this Application will be notified to Iwi with statutory acknowledgements in the area and will discuss the Application further with Iwi representatives.

The applicant recognises that Ngati Kuia have a special, long, intergenerational association to Te Taulhu o te waka a Maui/Top of the South Island and consider the Te Hoiere/Pelorus to be at the centre of their spheres of occupation and influence, spanning 1,000 years.

Over many centuries Ngati Kuia and their descendants have built paa, kainga, purakau, mapped mahinga kai and built spiritual connections where their people lived and been laid to rest.

"Te Hoiere awa/moana is Taonga tuku iho ki Tangata Whenua/Ngati Kuia therefore this requires the Crown and its agencies to give recognition to and make provision for the exercise of Kaitiakitanga by whanau, hapu and Iwi who are operating within the Maori Customary and commercial Deeds of Settlement."¹⁶

13.0 COMMERCIAL AND RECREATIONAL FISHING

Matters impacting on commercial and recreational fishing are controlled by the Ministry of Primary Industry's (MPI) Undue Adverse Effects test (UAE).

13.1 Commercial Fishing

Commercial fishing is not known to occur in Horseshoe Bay but may occur offshore. The farm will not interfere with commercial fishing operations. No artificial feed or attractants are added.

13.2 Recreational Fishing

Marine farms enhances opportunities for recreational fishing, as marine farms generally tend to create an ecosystem which is conducive to the presence of reef fish and other fish species.

14.0 VISUAL EFFECTS OF THE FARM

Visual effects will remain the same as they exist at the present. The proposed farm is for 10 long lines at 110 metres. The existing consent is for 13 long lines each being approximately between 80 -110 metres in length containing black mussel buoys ranging between approximately 4 and 50 per line.

At the end of each longline an orange buoy will be displayed and an orange buoy will be displayed in the middle of each of the seaward most and landward most longlines.

A yellow light, radar reflector and a band of reflective tape will be displayed on the seaward corners and radar reflectors and a band of reflective tape will be displayed on the landward corners or as requested on the lighting plan provided by the Harbour Master.

15.0 EFFECTS ON WATER QUALITY AND ECOLOGY

Water quality of the area is suitable for mussel farming. The site relies on water quality to enable the process of mussel farming to flourish. The site 8207 has a good capacity for mixing of water with regular tidal currents, wind and wave action.

The effect on the ecology of the site from the existing activity is attached in the Davidson Environmental Limited Report 884.

No specific sites of marine ecological significance have been identified in Horseshoe Bay in the 'Ecological Significant Marine Sites in Marlborough New Zealand' published by Rob Davidson and others in 2011.

16.0 EFFECTS ON PRODUCTIVITY

Water quality is unlikely to be a problem for mussel farming in Horseshoe Bay. The continuing activity itself is unlikely to create any significant detrimental effects on water quality.

Exert from Davidson Report (Benthic Report 884, refer attached).

5.3.2 Productivity

Mussel farms can influence adjacent farms by slowing water flow to farms located in downstream positions. This is particularly pronounced in quiescent areas of the Sounds. However, published work by Zeldis et al. (2008, 2013) suggests that the major factors influencing productivity in the Marlborough Sounds relate to cyclical weather patterns in the summer (El

Nino and La Nina) and river-derived nutrient inputs in winter. Slow crop cycles in some years are therefore a reflection of a weather cycle and much less about the number of farms.

There has been no data presented to show the ecological carrying capacity of the Sounds has been reached, however, this subject has not been well researched. There is considerable evidence showing the major drivers of the Pelorus system, for example, naturally leads to large within and between year variability. Relative to this, the impact of mussel farms appears to be material but relatively small compared to major environmental drivers (Broekhuizen et al., 2015).

Tidal flows in the north-western corner of Horseshoe Bay are moderate to high (Davidson 1996). Winds may also be a significant driver of water movement in this area, especially during the predominant north-westerly winds. The farm is located immediately adjacent to the main reach and is close to the entrance to Cook Strait. This means water turnover times are likely to be relatively short compared to bays well distant to main reaches or the Cook Strait.

Based on these considerations and the literature, it is probable the site is unlikely to cause significant phytoplankton depletion outside the boundaries of the consent.”

17.0 THE BENTHIC ENVIRONMENT

In terms of the benthic environment, the ecology of this area has been documented in Davidson Environmental Ltd Report 884 (refer to 7.1 above).

There are minor changes to the site boundaries and layout to mitigate any adverse impacts on the seabed. Davidson’s report states that *“the inshore exclusion area supports coarser substratum than the offshore area and also supports rocky substratum. The proposed change therefore represents a small biological improvement to the current situation.”*

The applicant is mindful of the need to consider the cumulative effects of this farm over time and in combination with other effects, as required by s 3(d) of the Act. The effects of a farm at this specific location are assessed elsewhere in this assessment of environmental effects.

The aquaculture industry has contributed and is contributing to a better understanding of cumulative effects on a number of fronts, including:

- (a) The Marine Farming Association co-funded the 2017 NIWA history of seabed change in Pelorus Sound project;¹⁷
- (b) A king shag working group has been formed to draft and implement an *Action Plan and Research Strategy for the NZ King Shag*, which involves several stakeholders, including government departments and industry;
- (c) King shag population counts are undertaken by aerial survey as part of New Zealand King Salmon’s consent conditions;

- (d) Many benthic surveys have been conducted throughout the Sounds as part of marine farm consent applications. This has contributed to our overall understanding of Marlborough’s marine environment;
 - (e) Water quality monitoring is undertaken as part of the Marlborough Shellfish Quality Programme; and
 - (f) Fisheries Resource Impact Assessments (FRIA) were collective industry-led bay by bay assessments on the impacts of aquaculture on fisheries resources.
2. The applicant continues to support the industry’s collective response to these issues by providing financial and practical assistance with research.

Aquaculture is part of the Marlborough Sounds environment. We cannot look at this application in isolation from its wider environment. We know that the marine environment in the Sounds has been modified by human activities, including physical disturbance from historical dredging and trawling, as well as from catchment effects such as historic land clearance.¹⁸ In a relative sense, we know that aquaculture is having less of an impact on the marine environment than many anthropogenic stressors, including climate change, ocean acidification, sedimentation from land-based activities, dredging and trawling, and coastal engineering.¹⁹

We also know that mussel farms provide benefits or “ecosystem services.” Farmed mussels have replaced the natural mussel beds that were present throughout the Pelorus Sound in the 1960s prior to extensive commercial dredging.²⁰ Mussels remove nutrients derived from land-use practices.

The applicant agrees with other stakeholders who are calling for a strategic assessment of cumulative effects.²¹ That exercise is required by policy 7(2) of the New Zealand Coastal Policy Statement 2010. It is more than can be expected of one applicant. It is best undertaken via the proposed Marlborough Environment Plan process, or in partnership with local and central government.

18.0 ALIENATION OF PUBLIC SPACE

The general area of this part of Pelorus Sound, has been utilised by marine farmers in excess of 38 years. Recreation and commercial boat owners are aware of marine farms in this area and all vessels have the opportunity to use the site and transit through it. The spacing between the long lines provides opportunity for access by vessels wanting to transit the site.

19.0 HARVESTING

As part of this Application, the Applicant seeks to continue harvesting mussel crops. The right to navigate to and from the farm, and to anchor, moor and load crop is preserved by section 27 of

the Marine and Coastal Area (Takutai Moana) Act 2011. However, consent is required for the amount of organic waste matter which is discharged during the harvesting process and for the take and use of coastal water. No significant historical adverse effects have been recorded or are anticipated and any visual evidence of harvesting quickly dissipates in the coastal environment.

Vessels will be required to service the farm on an irregular basis (refer 8.5).

20.0 ON SHORE FACILITIES

The applicant's farm work and harvesting are completed by Maclab (NZ) Limited who already has onshore marine farm facilities based in Nelson.

21.0 VALUE OF INVESTMENT

As part of this Application to renew site 8207, the Applicant is seeking to re-consent the site for a period of 20 years. As a result, this is an Application to which section 165ZH(1)(c) applies and the Council must, when considering the application, have regard to the value of the investment of the existing consent holder under section 104(2A).

The original existing site has been held by the applicant since 1997. From that time the applicant has expended significantly on the establishment and maintenance of the farm.

The farm produces approximately 150 tonnes per annum (\$1200/ Green Weight Tonne (GWT)) and after processing the final ½ shell product would be sold on the export market at approximately \$400,000. Approximately 95% of mussel products are exported. All lines are restocked after harvest to achieve 150 GWT/per annum harvests.

The mussels are processed in Nelson where they provide a critical part of the production to maintain processing to the factory which employees up to 80 FTE.

22.0 PART II RESOURCE MANAGEMENT ACT ISSUES

22.1 Section 5

Section 5 of the Resource Management Act 1991 is given effect through the New Zealand Coastal Policy Statement, Marlborough Regional Policy Statement and Marlborough Sounds Resource Management Plan.

In terms of the enabling provisions in Section 5 of the Resource Management Act, the marine farm industry has been, and will continue to be, a source of substantial revenue generation and job creation in the Marlborough Sounds and, in the Nelson/Marlborough region.

The majority of mussels produced from the site will be exported, thereby generating foreign exchange earnings for the country. Applications such as this enable the sustainable use of the marine environment.

22.2 Section 6

Matters of national importance have been assessed under the requirements of the Marlborough Sounds Resource Management Plan.

The Proposal recognises:

- a. *The preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision use, and development:*

Section 6(a) is given effect through Policy 13 of the New Zealand Coastal Policy Statement and is considered further below.

- b. *The protection of outstanding natural features and landscapes from inappropriate Subdivision, use, and development:*

The area has not been identified within the current Marlborough Sounds Resource Management Plan as being an area of outstanding natural landscape value. The area has not been described as an area of outstanding nature landscapes and features in the proposed Plan. The area has been described as having high natural character in the proposed Plan. The effects of the Application on the landscape will be the same as the present Consent and any effects will not impact on the values which contribute to the landscape.

- c. *The protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna:*

The adjacent vegetation next to the farm is regenerating scrub.

- d. *The maintenance and enhancement of public access to and along the coastal marine area, lakes, and rivers:*

Public access is maintained with good separation from the coast and main navigational routes.

- e. *The relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga.*

The Applicant will continue to discuss this through consultation with Iwi.

22.3 Section 7

In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall have particular regard to:

- (a) *Kaitiakitanga:*
- (b) *The efficient use and development of natural and physical resources:*
- (c) *The maintenance and enhancement of amenity values:*
- (d) *Intrinsic values of ecosystems:*
- (e) *Recognition and protection of the heritage values of the sites, buildings, place, or areas:*
- (f) *Maintenance and enhancement of quality of the environment:*
- (g) *Any finite characteristics of natural and physical resources:*
- (h) *The protection of the habitat of trout and salmon.*

Matters under Section 7 (a - g) have been considered earlier in the original proposal. This Application is not anticipated to have any additional effects over and above what already exists. Section (h) is not relevant to this Application.

23.0 NEW ZEALAND COASTAL POLICY STATEMENT 2010 (NZCPS)

The New Zealand Coastal Policy Statement 2010 is of general relevance to this Application and all policies have been considered in the development of the proposal.

Policies of specific relevance are considered below.

23.1 Policy 2

Policy 2 sets out a number of matters which are relevant to the taking into account of the principles of the Treaty of Waitangi and kaitiakitanga, in relation to the coastal environment.

The applicant recognises that Ngāti Apa ki te Rā Tō, Ngāti Kuia, Rangitāne o Wairau, Ngāti Kōata, Ngāti Rārua, Ngāti Tama ki Te Tau Ihu, Te Ātiawa o Te Waka-a-Māui and Ngati Toa Rangatira have statutory acknowledgments in the area of the application site. Those acknowledgments have been considered during the preparation of this application, as outlined above.

The iwi management plans of Ngāti Kōata and Te Ātiawa o Te Waka-a-Māui have been reviewed.

There are also no established areas of protected customary rights or customary marine title within the meaning of the Marine and Coastal Area (Takutai Moana) Act 2011.

The applicant recognises that Ngati Kuia have a special, long, intergenerational association to Te Taulhu o te waka a Maui/Top of the South Island and consider the Te Hoiere/Pelorus to be at the centre of their spheres of occupation and influence, spanning 1,000 years.

Over many centuries Ngati Kuia and their descendants have built paa, kainga, purakau, mapped mahinga kai and built spiritual connections where their people lived and been laid to rest.

"Te Hoiere awa/moana is Taonga tuku iho ki Tangata Whenua/Ngati Kuia therefore this requires the Crown and its agencies to give recognition to and make provision for the exercise of Kaitiakitanga by whanau, hapu and Iwi who are operating within the Maori Customary and commercial Deeds of Settlement."²²

The Applicant will discuss the proposal further with relevant Iwi representatives.

23.2 Policy 6

Policy 6 of the NZCPS is in two parts; the first dealing with activities in the coastal environment more broadly, and the second with those in the coastal marine area more specifically.

The farm is part of the existing built environment, so is in accordance with subpart 1(f), as continuation of the farm would not result in a change in the present character of Horseshoe Bay.

No areas of indigenous biodiversity or historic heritage value have been identified in relation to the site, so the farm complies with subpart 1(j).

Subpart 2 of Policy 6 is particularly relevant. Mussel farming clearly has a functional need to be located in the coastal marine area. The farm directly contributes to the social and economic wellbeing of people and communities, in accordance with subpart 2(a). This is discussed in relation to Policy 8 below.

23.3 Policy 8

Policy 8 of the NZCPS provides for the recognition of the significant existing and potential contribution of aquaculture to the social, economic and cultural wellbeing of people and communities by:

(a) including in regional policy statements and regional coastal plans provision for aquaculture activities in appropriate places in the coastal environment, recognising that relevant considerations may include:

- i. The need for high quality water for aquaculture activities; and*
- ii. The need for land-based facilities associated with marine farming.*

(b) Taking account of the social and economic benefits of aquaculture, including any available assessments of national and regional economic benefits; and

(c) Ensuring that development in the coastal environment does not make water quality unfit for aquaculture activities in areas approved for that purpose.

The Application will enable the continuation of production from the site, contributing to the social and economic benefits of aquaculture to the community. No changes to the impact on water quality are anticipated. This Application satisfies the requirement of Policy 8.

23.4 Policy 11

Policy 11 relates to protecting the indigenous biological diversity of the coastal environment.

The longlines are located over mud habitat and avoids any reef areas or any other areas of significant biodiversity. There will be no adverse modified effects on indigenous biodiversity. The new layout will avoid any of these areas.

23.5 Policy 13

Policy 13 provides for the avoidance of significant adverse effects on areas of the coastal environment with outstanding natural character and the avoidance, remediation and mitigation of other adverse effects on natural character.

The area has not been identified within the current Marlborough Sounds Resource Management Plan as being an area of outstanding natural landscape value. The area has not been described as an area of outstanding nature landscapes and features in the proposed Plan. The area has been described as having high natural character in the proposed Plan. These assessments were made with the farms already in place and operational. There was no direction given in the plan that the marine farms should be removed for the area to be assessed as having high natural character.

The effects of the Application on the landscape will be the same as the present Consent and any effects will not impact on the values which contribute to the landscape.

23.6 Policy 15

Policy 15(a) provides for the avoidance of adverse effects of activities on outstanding natural features and outstanding natural landscapes in the coastal environment.

Policy 15(b) provides for the avoidance of significant adverse effects and the avoidance, remediation, and mitigation of other adverse effects of activities on other natural features and natural landscapes in the coastal environment.

There will be no further impact on the landscape than those already occurring under the current consent. The effects of the Application on the landscape will be minor and the effects are not likely to impact on the values which contribute to the landscape.

23.7 Policy 18

Policy 18 recognises the need for public open space within and adjacent to the coastal marine area, for public use and appreciation including active and passive recreation.

The visual impact of the marine farm will not change. Access to the coast for recreationalists is maintained.

There are no registered moorings in the direct vicinity of the site.

There are no formal water ski lanes.

Opportunities for recreational fishing may be enhanced by the presence of marine farms.

23.8 Policy 22

Policy 22 requires an assessment of sedimentation levels, and that use will not result in a significant increase in those levels. Davidson's biological report, discussed above, stated that while shell and fine sediment would be deposited under and in proximity to droppers, the farm structures are located over habitat considered suitable for this type of activity. No monitoring appeared to be necessary.

23.9 Policy 23

Subpart 1 of Policy 23, which relates to managing discharges to water in the coastal environment, is relevant to this Application. Silts and organic matter released at harvest are readily assimilated into the water column and seabed. The effects of harvesting mussels are only transitory, and quickly become indistinguishable from background sedimentation.

Conclusion

The effects of the Application on the landscape will be no more than minor and will result in no change to the existing status. The effects are not likely to impact on the values which contribute to the landscape.

24.0 REGIONAL POLICY STATEMENT/MARLBOROUGH SOUNDS RESOURCE MANAGEMENT PLAN

Certain provisions of the Marlborough Regional Policy Statement have relevance to this application and are considered in Appendix A.

The Marlborough Sounds Resource Management Plan contains a number of provisions that are relevant this application. An assessment of the application against the requirements of the plan is contained in Appendix B.

Conclusion

Taken overall, the application is consistent with the relevant objectives and policies of the Regional Policy Statement and Marlborough Sounds Resource Management Plan.

25.0 CONSULTATION

An e-mail has been sent to all Iwi listed below identifying the site prior to the application being submitted.

An initial meeting has taken place with Ngati Kuia and Ngati Koata.

Name	Address	Phone
Ngati Koata Trust	PO Box 1659, Nelson 7040	(03) 548 1639
Te Runanga a Rangitane o Wairau	PO Box 883, Blenheim 7240	(03) 578 6180
Te Runanga O Ngati Kuia	PO Box 1046, Blenheim 7240	(03) 579 4328
Ngāti Apa ki te Rā Tō	PO Box 708, Blenheim 7240	(03) 578 9695
Te Atiawa Manawhenua Ki Te Tau Ihu Trust	PO Box 340, Picton 7250	(03) 573 5170
Ngati Toarangatira Manawhenua Ki Te Tau Ihu Trust	PO Box 5061, Blenheim 7240	(03) 577 8801
Ngati Rarua Trust	PO Box 1026, Blenheim 7240	(03) 577 8468

A statement from Ngai Kuia has been included in sections 12 and 23.1 of this report.

26.0 CONCLUSION

The Applicant considers that the renewal of site 8207 is appropriate, thereby allowing the continued farming of Greenshell mussels at the site.

The site is in that part of the Pelorus Sound, where aquaculture has long been present and has no more than a minor impact on other values in the area.

Appendix A: Marlborough Regional Policy Statement – Policy Analysis

Objective	Policy	Assessment
<p>5.3.2: That water quality in the coastal marine area be maintained at a level which provides for the sustainable management of the marine ecosystem</p>	<p>5.3.5: Avoid, remedy or mitigate the reduction of coastal water quality by contaminants arising from activities occurring within the coastal marine area.</p>	<p>No artificial feed or attractants are added. No Chemicals, antibiotics or other therapeutants added Any discharges of organic matter associated with harvesting will be transitory.</p>
<p>5.3.10: The natural species diversity and integrity of marine habitats be maintained or enhanced</p>	<p>5.3.11: Avoid, remedy or mitigate habitat disruption arising from activities occurring within the coastal marine area.</p>	<p>Any disruption associated with the existing mooring of the farm is minor in scale and transitory. The seabed is already in a modified state due to terrestrial run off.</p>
<p>7.1.9: To enable present and future generations to provide for their wellbeing by allowing use, development and protection of resources provided any adverse effects of activities are avoided, remedied or mitigated.</p>	<p>7.1.10: To enable appropriate type, scale and location of activities by:</p> <ul style="list-style-type: none"> • clustering activities with similar effects; • ensuring activities reflect the character and facilities available in the communities in which they are located; • promoting the creation and maintenance of buffer zones (such as stream banks or 'greenbelts'); • locating activities with noxious elements in areas where adverse environmental effects can be avoided, remedied or mitigated. 	<p>The marine farm is consistent with the current Policy and the designated consented area is within a bay with other marine farms.</p>
	<p>7.1.12: To ensure that no undue barriers are placed on the establishment of new activities (including new primary production species) provided the life supporting capacity of air, water, soil and ecosystems is safeguarded and any adverse environmental effects are avoided, remedied or mitigated.</p>	<p>The marine farm is located within the consented area which marine farming is a permitted activity. There will be no change in permitted activity and a reduction in permitted structures when the consent is renewed.</p>

7.2.7 The subdivision use and development, of the coastal environment, in a sustainable way.	7.2.8: Ensure the appropriate subdivision, use and development of the coastal environment.	The marine farm is within a bay with other marine farms. The marine farm's activity is biologically sustainable.
	7.2.10(a) - (d)	The marine farm is located within the consented area which is permitted for marine farming.
7.3.2: Buildings, sites, trees and locations identified as having significant cultural or heritage value are retained for the continued benefit of the community.	7.3.3: Protect identified significant cultural and heritage features	No sites of cultural or heritage significance have been identified on the area of the application site
8.1.2: The maintenance and enhancement of the visual character of indigenous, working and built landscapes.	8.1.3: Avoid, remedy or mitigate the damage of identified outstanding landscape features arising from the effects of excavation, disturbance of vegetation, or erection of structures.	There will be no further impact on the landscape than those already permitted under the current consent. The effects of the application on the landscape will be minor and the effects are not likely to impact on the values which contribute to the landscape. The farm is well managed and complies with the Greenshell Mussel Environmental Code of Practice.
	8.1.5: Promote enhancement of the nature and character of indigenous, working, and built landscapes by all activities which use land and water.	The marine farm will have no additional impact on landscape values.
	8.1.6: Preserve the natural character of the coastal environment.	The site will have no additional impact on the natural character of the coastal environment.

Appendix B: Marlborough Sounds Resource Management Plan – Policy Analysis

Objective	Policy	Assessment
<p>Ch 2, 2.2, Obj 1: The preservation of the natural character of the coastal environment, wetlands, lakes, and rivers and their margins and the protection of them from inappropriate subdivision, use and development.</p>	<p>Policy 1.1: Avoid the adverse effects of subdivision, use or development within those areas of the coastal environment and freshwater bodies which are predominantly in their natural state and have natural character which has not been compromised.</p>	<p>This application is set in an area which is regenerating bush. The marine farm is within a bay with other marine farms.</p>
	<p>Policy 1.2: Appropriate use and development will be encouraged in areas where the natural character of the coastal environment has already been compromised, and where the adverse effects of such activities can be avoided, remedied or mitigated.</p>	<p>Refer above.</p>
	<p>Policy 1.3: To consider the effects on those qualities, elements and features which contribute to natural character, including:</p> <ul style="list-style-type: none"> a) Coastal and freshwater landforms; b) Indigenous flora and fauna, and their habitats; c) Water and water quality; d) Scenic or landscape values; e) Cultural heritage values, including historic places, sites of early settlement and sites of significance to iwi; and f) Habitat of trout. 	<p>These matters have been considered in the assessment of environmental effects.</p>
	<p>Policy 1.4: In assessing the actual or potential effects of subdivision, use or development on natural character of the coastal and freshwater environments, particular regard shall be had to the policies in Chapters, 3, 4, 5, 6, 12, 13 and Sections 9.2.1, 9.3.2 and 9.4.1 in recognition of the components of natural character.</p>	<p>The application will not have any additional impact on the components of these policies which impact natural character values.</p>

	Policy 1.6: In assessing the appropriateness of subdivision, use or development in coastal and freshwater environments regard shall be had to the ability to restore or rehabilitate natural character in the area subject to the proposal.	Any residual impact on natural character will naturally rehabilitate on removal of the farm.
	Policy 1.7: To adopt a precautionary approach in making decisions where the effects on the natural character of the coastal environment, wetlands, lakes and rivers (and their margins) are unknown.	The effects of this application are not unknown and are discussed elsewhere in the assessment of environmental effects. A precautionary approach is not justified.
Ch 4, 4.3, Obj 1: The protection of significant indigenous flora and fauna (including trout and salmon) and their habitats from the adverse effects of use and development	Policy 1.2: Avoid, remedy or mitigate the adverse effects of land and water use on areas of significant ecological value.	The effect of the marine farm on the adjacent area will not have any effect on the flora and fauna of this area. King Shags are addressed in section 10.0 of this AEE.
Ch 5, 5.3, Obj 1: Management of the visual quality of the Sounds and protection of outstanding natural features and landscapes from inappropriate subdivision, use and development	Policy 1.1: Avoid, remedy and mitigate adverse effects of subdivision, use and development, including activities and structures, on the visual quality of outstanding natural features and landscapes, identified according to criteria in Appendix One.	The effects of the application on the landscape will be the same as the current permitted activity and the effects are not likely to impact on the values which contribute to the landscape.
Ch 6, 6.1.2, Obj 1: Recognition and provision for the relationship of Marlborough's Maori to their culture and traditions with their ancestral lands, waters, sites, waahi tapu and other taonga.	Policies 1.1-1.5	In preparing this application, the applicant has had regard to the Statutory Acknowledgments and has reviewed the statements of association for each iwi. An initial letter/e-mail has been sent to all iwi identifying the site prior to the application being submitted and a meeting planned with relevant iwi.
Ch 8, 8.3, Obj 1: That public access to and along the coastal marine area, lakes and rivers be	Policy 1.2: Adverse effects on public access caused by the erection of structures, marine farms, works or activities in or along the coastal marine area should	There are no additional adverse effects on public access caused by the marine farm.

maintained and enhanced.	as far as practicable be avoided. Where complete avoidance is not practicable, the adverse effects should be mitigated and provision made for remedying those effects, to the extent practicable.	
	Policy 1.3: To prevent the erection of structures and marine farms that restrict public access in the coastal marine area where it is subjected to high public usage.	There are no additional adverse effects on public access caused by the marine farm.
	Policy 1.8: Public access to and along the coastal marine area should be maintained and enhanced except where it is necessary to [circumstances do not apply].	There are no additional adverse effects on public access caused by the marine farm.
Ch 9, 9.2.1, Obj 1: The accommodation of appropriate activities in the coastal marine area whilst avoiding, remedying or mitigating the adverse effects of those activities.	<p>Policy 1.1: Avoid, remedy and mitigate the adverse effects of use and development of resources in the coastal marine area on any of the following:</p> <ul style="list-style-type: none"> a) Conservation and ecological values; b) Cultural and iwi values; c) Heritage and amenity values; d) Landscape, seascape and aesthetic values; e) Marine habitats and sustainability; f) Natural character of the coastal environment; g) Navigational safety; h) Other activities, including those on land; i) Public access to and along the coast; j) Public health and safety; k) Recreation values; and l) Water quality. 	The way in which adverse effects on the stated values will be avoided, remedied and mitigated is addressed elsewhere in the assessment of environmental effects. Overall, the proposal is consistent with this policy.
	Policy 1.2: Adverse effects of subdivision, use or development in the coastal environment should as far as practicable be avoided. Where complete	The marine farm is within a bay with other marine farms. There are no additional adverse effects on the coastal environment from this farm. The navigational lighting

	avoidance is not practicable, the adverse effects should be mitigated and provision made for remedying those effects to the extent practicable.	requirements will not change from the existing consent.
	Policy 1.3: Exclusive occupation of the coastal marine area or occupation which effectively excludes the public will only be allowed to the extent reasonably necessary to carry out the activity.	Consistent with other marine farms in the Marlborough Sounds, exclusive occupation of the consent area is not sought, other than for the area physically occupied by the lines and anchoring devices.
	Policy 1.6: Ensure recreational interests retain a dominant status over commercial activities that require occupation of coastal space and which preclude recreational use in Queen Charlotte Sound, including Tory Channel, but excluding Port and Marina Zones.	Not applicable
	Policy 1.7: Avoid adverse effects from the occupation of coastal space in or around recognised casual mooring areas.	Exclusive occupation of the consent area is not sought. There are no moorings in the direct vicinity of the site.
	Policy 1.12: To enable a range of activities in appropriate places in the waters of the Sounds including marine farming, tourism and recreation.	Policy 1.12 enables marine farming in appropriate places. Site 8207 is consented for marine farming, there are other marine farms consented in the adjacent bay.
	Policy 1.13: Enable the renewal as controlled activities of marine farms authorised by applications made prior to 1 August 1996 as controlled activities, apart from exceptions in Appendix D2 in the Plan.	NA
Ch 9, 9.3.2, Obj 1: Management of the effects of activities so that water quality in the coastal marine area is at a level which enables the gathering or cultivating of shellfish for human consumption (Class SG).	Policies 1.1 to 1.11	This application is not anticipated to have any impact on shellfish quality.

Ch 9, 9.4.1, Obj 1:	Policy 1.1: Avoid, remedy or mitigate the adverse effects of activities that disturb or alter the foreshore and/or seabed on any of the following: [criteria specified in Plan].	There will be no additional disturbances of the seabed.
Ch 9, 9.4A.1, Obj 1:	n/a	These policies are no longer relevant due to abolition of AMAs through legislation.
Ch 19, 19.3, Obj 1: Safe, efficient and sustainably managed water transport systems in a manner that avoids, remedies and mitigates adverse effects.	Policy 1.1: Avoid, remedy or mitigate the adverse effects of activities and structures on navigation and safety, within the coastal marine area.	There have been no reported navigational incidences in the bay. There will be no changes to the existing consent conditions regarding the navigational aids placed on the farm.
Ch 22, 22.3, Obj 1: To avoid, remedy and mitigate the adverse effects of unreasonable noise, while allowing for reasonable noise associated with port activities.	Policy 1.1: Avoid, remedy and mitigate community disturbance, disruption or interference by noise within coastal, rural, and urban areas.	There are no residents in the direct vicinity of the site. A servicing vessel is estimated to spend approximately 120-130 hours per annum maintaining and harvesting the lines per year. The applicant complies with the 'Code of Practice to avoid, remedy or mitigate noise from marine farming activities in the Marlborough Sounds, Golden Bay and Tasman Bay on other users and residents'

Appendix C: Analysis of Consistency with the Proposed Marlborough Environment Plan (Volume 1)

MEP Provision	Evaluation
<p>Objective 3.2 – Natural and physical resources are managed in a manner that takes into account the spiritual and cultural values of Marlborough’s tangata whenua iwi and respects and accommodates tikanga Māori. [RPS]</p>	<p>The applicant has prepared the application in a manner that takes into account the spiritual and cultural values of Marlborough’s tangata whenua iwi. Recognition is given to Māori culture and traditions and confirmation from Iwi is sought to ensure the proposal does not affect these values.</p>
<p>Objective 3.3 – The cultural and traditional relationship of Marlborough’s tangata whenua iwi with their ancestral lands, water, air, coastal environment, waahi tapu and other sites and taonga are recognised and provided for. [RPS]</p>	<p>See sections 12 and 22 AEE.</p>
<p>Objective 3.5 – Resource management decision making processes that give particular consideration to the cultural and spiritual values of Marlborough’s tangata whenua iwi. [RPS]</p>	<p>The applicant has given particular consideration to the matters in objective 3.5, as discussed, the AEE at sections 12 and 22, in order to assist decision makers.</p>
<p>Policy 3.1.1 – Management of natural and physical resources in Marlborough will be carried out in a manner that: (a) takes into account the principles of the Treaty of Waitangi/Te Tiriti o Waitangi, including kāwanatanga, rangatiratanga, partnership, active protection of natural resources and spiritual recognition. (b) recognises that the way in which the principles of the Treaty of Waitangi/Te Tiriti o Waitangi will be applied will continue to evolve; (c) promotes awareness and understanding of the Marlborough District Council’s obligations under the Resource Management Act 1991 regarding the principles of the Treaty of Waitangi/Te Tiriti o Waitangi among Council decision makers, staff and the community; (d) recognises that tangata whenua have rights protected by the Treaty of Waitangi/Te Tiriti o Waitangi and that consequently the Resource Management Act 1991 accords iwi a status distinct from that of interest groups and members of the public; and (e) recognises the right of each iwi to define their own preferences for the sustainable management of natural and physical resources, where this is not inconsistent with the Resource Management Act 1991.</p>	<p>See above.</p>

MEP Provision	Evaluation
[RPS]	
<p>Policy 3.1.2 – An applicant will be expected to consult early in the development of a proposal (for resource consent or plan change) so that cultural values of Marlborough’s tangata whenua iwi can be taken into account.</p> <p>[RPS]</p>	See above.
<p>Policy 3.1.3 – Where an application for resource consent or plan change is likely to affect the relationship of Marlborough’s tangata whenua iwi and their culture and traditions, decision makers shall ensure:</p> <ul style="list-style-type: none"> (a) the ability for tangata whenua to exercise kaitiakitanga is maintained; (b) mauri is maintained or improved where degraded, particularly in relation to fresh and coastal waters, land and air; (c) mahinga kai and natural resources used for customary purposes are maintained or enhanced and that these resources are healthy and accessible to tangata whenua; (d) for waterbodies, the elements of physical health to be assessed are: <ul style="list-style-type: none"> i. aesthetic and sensory qualities, e.g. clarity, colour, natural character, smell and sustenance for indigenous flora and fauna; ii. life-supporting capacity, ecosystem robustness and habitat richness; iii. depth and velocity of flow (reflecting the life force of the river through its changing character, flows and fluctuations); iv. continuity of flow from the sources of a river to its mouth at the sea; v. wilderness and natural character; vi. productive capacity; and vii. fitness to support human use, including cultural uses. (e) how traditional Māori uses and practices relating to natural and physical resources such as mahinga maataitai, waahi tapu, papakāinga and taonga raranga are to be recognised and provided for. <p>[RPS]</p>	The applicant has had regard to the matters in Policy 3.1.3, as set out above, and in the AEE. Ecological effects have been assessed by Davidson Environmental in the report annexed to this application.

MEP Provision	Evaluation
<p>Policy 3.1.5 – Ensure iwi management plans are taken into account in resource management decision making processes. [RPS]</p>	<p>The applicant has reviewed the Iwi management plans of Ngāti Kōata and Te Ātiawa o Te Waka-a-Māui.</p>
<p>Objective 4.1 – Marlborough’s primary production sector and tourism sector continue to be successful and thrive whilst ensuring the sustainability of natural resources. [RPS]</p>	<p>The application will support the mussel farming industry in Marlborough and provide an opportunity for that industry to grow. The proposal ensures the sustainability of natural resources, as the adverse effects of mussel farming at the site are likely to be limited, as per the Davidson Environmental report. Within months of removing the farms, any trace of their presence will dissipate. Therefore, the proposal does not restrict the ability of future generations to decide how they wish to use these resources.</p>
<p>Policy 4.1.2 – Enable sustainable use of natural resources in the Marlborough environment. [RPS]</p>	<p>As above at Objective 4.1.</p>
<p>Policy 4.1.3 – Maintain and enhance the quality of natural resources. [RPS]</p>	<p>The proposal will have no more than minor effects on the quality of the natural resources at the site, and those effects are reversible upon removal of the farms.</p>
<p>Objective 4.3 – The maintenance and enhancement of the visual, ecological and physical qualities that contribute to the character of the Marlborough Sounds. [RPS]</p>	<p>The ecological character of the site will be maintained (see Davidson Environmental report). The application site is located over a habitat of sandy mud, typical of similar areas in the Sounds. The effects of low intensity farming are not likely to be significant. The relatively strong currents at the site are sufficient to prevent the accumulation of organic deposition.</p> <p>The existing character of the area is a working landscape. It is well-suited to the proposed activity due to the existing level of modification from farming and aquaculture. The proposed renewal is unlikely to adversely affect the existing values of the area.</p>

MEP Provision	Evaluation
<p>Policy 4.3.2 – Identify the qualities and values that contribute to the unique and iconic character of the Marlborough Sounds and protect these from inappropriate subdivision, use and development. [RPS]</p>	<p>The applicant has had regard to the qualities and values identified by the Council in the MEP, as indicated elsewhere in this policy assessment and in the application. Overall, the proposal is appropriate.</p>
<p>Policy 4.3.3 – Provide direction on the appropriateness of resource use activities in the Marlborough Sounds environment. [RPS]</p>	<p>The aquaculture provisions of the MEP have yet to be notified. The proposed site is zoned CMZ2 under the operative MSRMP, which suggests that aquaculture is appropriate in the area.</p>
<p>Policy 4.3.4 – Enhance the qualities and values that contribute to the unique and iconic character of the Marlborough Sounds. [RPS]</p>	<p>The proposal will not have significant effects on the qualities and values of the Sounds, and any effects are reversible upon removal of the farms.</p>
<p>Policy 4.3.5 – Recognise that the Marlborough Sounds is a dynamic environment [RPS]</p>	<p>The applicant recognises that the Sounds is a dynamic environment. The appropriateness of the farm can be re-assessed by future generations in the context of the future environment of the area through the resource consenting process.</p>
<p>Objective 5.10 – Equitable and sustainable allocation of public space within Marlborough’s coastal marine area. [RPS, C]</p>	<p>The applicant acknowledges that it is a privilege to occupy public space in the coastal marine area. The public will still have access around and through the site, and the proposal will not affect the ability of future generations to enjoy that public space.</p>
<p>Policy 5.10.1 – Recognition that there are no inherent rights to be able to use, develop or occupy the coastal marine area. [RPS, C]</p>	<p>The applicant recognises that it has no inherent right to occupy and use the coastal marine area and requires resource consent for the proposed activity.</p>
<p>Policy 5.10.2 – The ‘first in, first served’ method is the default mechanism to be used in the allocation of resources in the coastal marine area. Where competing demand for coastal space becomes apparent, the Marlborough District Council may consider the option of introducing an alternative regime. [RPS, C]</p>	<p>The applicant considers that the first in first served method of allocation is appropriate for applications that meet the statutory requirements.</p>

MEP Provision	Evaluation
<p>Policy 5.10.3 – Where a right to occupy the coastal marine area is sought, the area of exclusive occupation should be minimised to that necessary and reasonable to undertake the activity, having regard to the public interest. [RPS, C]</p>	<p>The design of the site layout ensures the public will have access inshore of and through the farm.</p>
<p>Policy 5.10.4 – Coastal occupancy charges will be imposed on coastal permits where there is greater private than public benefit arising from occupation of the coastal marine area. [C]</p>	<p>The applicant has insufficient information on coastal occupancy charges to understand the implications.</p>
<p>Policy 5.10.5 – The Marlborough District Council will waive the need for coastal occupancy charges for the following: ... (b) monitoring equipment; [C]</p>	<p>Davidson Environmental has not indicated that ongoing monitoring is necessary at this site.</p>
<p>Policy 5.10.6 – Where there is an application by a resource consent holder to request a waiver (in whole or in part) of a coastal occupation charge, the following circumstances will be considered: [(a) – (d)] [C]</p>	<p>Refer Policy 5.10.4</p>
<p>Objective 6.2 – Preserve the natural character of the coastal environment, and lakes and rivers and their margins, and protect them from inappropriate subdivision, use and development. [RPS, R, C, D]</p>	<p>The farm will not adversely compromise the existing values of the area and is appropriate development</p>
<p>Policy 6.2.1 – Avoid the adverse effects of subdivision, use or development on areas of the coastal environment with outstanding natural character values... [RPS, R, C, D]</p>	<p>N/A –site is not identified in the MEP has having outstanding natural character values.</p>
<p>Policy 6.2.2 – Avoid significant adverse effects of subdivision, use or development on coastal natural character, having regard to the significance criteria in Appendix 4. [RPS, R, C, D]</p>	<p>The proposal avoids significant adverse effects. There will be no damage, loss or destruction. The effects are reversible upon removal of the farm.</p>

MEP Provision	Evaluation
<p>Policy 6.2.3 – Where natural character is classified as high or very high, avoid any reduction in the degree of natural character of the coastal environment or freshwater bodies. [RPS, R, C, D]</p>	<p>The site is classified as having high natural character in the MEP. There will be no change in the degree of the biological components of natural character.</p>
<p>Policy 6.2.4 – Where resource consent is required to undertake an activity within coastal or freshwater environments with high, very high or outstanding natural character, regard will be had to the potential adverse effects of the proposal on the elements, patterns, processes and experiential qualities that contribute to natural character. [RPS, R, C, D]</p>	<p>See above and AEE sections 9 and 22.3.</p>
<p>Policy 6.2.5 – Recognise that development in parts of the coastal environment and in those rivers and lakes and their margins that have already been modified by past and present resource use activities is less likely to result in adverse effects on natural character. [RPS, R, C, D]</p>	<p>The proposal is less likely to have an adverse effect on natural character, given existing development in the area.</p>
<p>Policy 6.2.6 – In assessing the appropriateness of subdivision, use or development in coastal or freshwater environments, regard shall be given to the potential to enhance natural character in the area subject to the proposal. [RPS, R, C, D]</p>	<p>The effects are not of a scale to justify an enhancement programme.</p>
<p>Policy 6.2.7 – In assessing the cumulative effects of activities on the natural character of the coastal environment, or in or near lakes or rivers, consideration shall be given to: (a) the effect of allowing more of the same or similar activity; (b) the result of allowing more of a particular effect, whether from the same activity or from other activities causing the same or similar effect; and (c) the combined effects from all activities in the coastal or freshwater environment in the locality. [RPS, R, C, D]</p>	<p>There are existing aquaculture activities in the area and the farm has been operating for a number of years. There are unlikely to be cumulative effects issues.</p>
<p>Objective 7.2 – Protect outstanding natural features and landscapes from inappropriate subdivision, use and development and maintain and enhance landscapes with high amenity value.</p>	<p>The area is not mapped as ONFL (although these maps are subject to challenge through the consultation process on the MEP).</p>

MEP Provision	Evaluation
<p>Policy 7.2.1 – Control activities that have the potential to degrade those values contributing to outstanding natural features and landscapes by requiring activities and structures to be subject to a comprehensive assessment of effects on landscape values through the resource consent process. [R, C, D]</p>	<p>See above and sections 9</p>
<p>Policy 7.2.3 – Control activities that have the potential to degrade the amenity values that contribute to those areas of the Marlborough Sounds Coastal Landscape not identified as being an outstanding natural feature and landscape by:</p> <ul style="list-style-type: none"> (a) using a non-regulatory approach as the means of maintaining and enhancing landscape values in areas of this landscape zoned as Coastal Living; (b) setting standards/conditions that are consistent with the existing landscape values and that will require greater assessment where proposed activities and structures exceed those standards; and... <p>[C, D]</p>	<p>Policy 7.2.3(b) does not apply to the proposed site, because aquaculture rules have yet to be included in the MEP. As a result, the application must be assessed against the rules applying under the operative MSRMP. This has been done in a separate policy analysis table, at Appendix B.</p>
<p>Policy 7.2.4 – Where resource consent is required to undertake an activity within an outstanding natural feature and landscape or a landscape with high amenity value, regard will be had to the potential adverse effects of the proposal on the values that contribute to the landscape. [R, C, D]</p>	<p>See above.</p>
<p>Policy 7.2.5 – Avoid adverse effects on the values that contribute to outstanding natural features and landscapes in the first instance. Where adverse effects cannot be avoided and the activity is not proposed to take place in the coastal environment, ensure that the adverse effects are remedied. [R, C, D]</p>	<p>See above.</p>
<p>Policy 7.2.7 – Protect the values of outstanding natural features and landscapes and the high amenity values of the Wairau Dry Hills and the Marlborough Sounds Coastal Landscapes by:</p> <p>(a) In respect of structures:</p> <ul style="list-style-type: none"> (i) avoiding visual intrusion on skylines, particularly when viewed from public places; (ii) avoiding new dwellings in close proximity to the foreshore; (iii) using reflectivity levels and building materials that complement the colours in the surrounding landscape; (iv) limiting the scale, height and placement of structures to minimise intrusion of built form into the landscape; (v) recognising that existing structures may contribute to the landscape character of an 	<p>The applicant will minimise the scale, height and placement of structures to minimise intrusion of built form into the landscape. Buoys are low profile and predominantly black, save for orange navigation buoys required for navigational safety. The remainder of policy 7.2.7 does not apply to marine farming structures.</p>

MEP Provision	Evaluation
<p>area and additional structures may complement this contribution; (vi) making use of existing vegetation as a background and utilising new vegetation as a screen to reduce the visual impact of built form on the surrounding landscape, providing that the vegetation used is also in keeping with the surrounding landscape character; and (vii) encouraging utilities to be co-located wherever possible...</p> <p>[R, C, D]</p>	
<p>Policy 7.2.8 – Recognise that some outstanding natural features and landscapes and landscapes with high amenity value will fall within areas in which primary production activities currently occur.</p> <p>[C, D]</p>	<p>Existing farming and aquaculture already occurs within the embayment and general area. The proposal is consistent with this primary production character.</p>
<p>Policy 7.2.9 – When considering resource consent applications for activities in close proximity to outstanding natural features and landscapes, regard may be had to the matters in Policy 7.2.7.</p> <p>[R, C, D]</p>	<p>See above.</p>
<p>Policy 8.3.1 – Manage the effects of subdivision, use or development in the coastal environment by: (a) avoiding adverse effects where the areas, habitats or ecosystems are those set out in Policy 11(a) of the New Zealand Coastal Policy Statement 2010; (b) avoiding adverse effects where the areas, habitats or ecosystems are mapped as significant wetlands or ecologically significant marine sites in the Marlborough Environment Plan; or (c) avoiding significant adverse effects and avoiding, remedying or mitigating other adverse effects where the areas, habitats or ecosystems are those set out in Policy 11(b) of the New Zealand Coastal Policy Statement 2010 or are not identified as significant in terms of Policy 8.1.1 of the Marlborough Environment Plan.</p>	<p>There are no areas of ecological significance in the MEP.</p> <p>The effect of the marine farm on the adjacent area will not have an effect on the flora and fauna of this area.</p>
<p>Policy 8.3.2 – Where subdivision, use or development requires resource consent, the adverse effects on areas, habitats or ecosystems with indigenous biodiversity value shall be: (a) avoided where it is a significant site in the context of Policy 8.1.1; and (b) avoided, remedied or mitigated where indigenous biodiversity values have not been assessed as being significant in terms of Policy 8.1.1</p>	<p>According to the Davidson Environmental report, the proposed farm is consistent with policy 8.3.2(b).</p>

MEP Provision	Evaluation
<p>Policy 8.3.5 – In the context of Policy 8.3.1 and Policy 8.3.2, adverse effects to be avoided or otherwise remedied or mitigated may include: [(a) – (t)]</p>	<p>See AEE and Davidson Environmental report.</p>
<p>Policy 8.3.8 – With the exception of areas with significant indigenous biodiversity value, where indigenous biodiversity values will be adversely affected through land use or other activities, a biodiversity offset can be considered to mitigate residual adverse effects. Where a biodiversity offset is proposed, the following criteria will apply:</p> <p>(a) the offset will only compensate for residual adverse effects that cannot otherwise be avoided, remedied or mitigated;</p> <p>(b) the residual adverse effects on biodiversity are capable of being offset and will be fully compensated by the offset to ensure no net loss of biodiversity;</p> <p>(c) where the area to be offset is identified as a national priority for protection under Objective 8.1, the offset must deliver a net gain for biodiversity;</p> <p>(d) there is a strong likelihood that the offsets will be achieved in perpetuity;</p> <p>(e) where the offset involves the ongoing protection of a separate site, it will deliver no net loss and preferably a net gain for indigenous biodiversity protection; and</p> <p>(f) offsets should re-establish or protect the same type of ecosystem or habitat that is adversely affected, unless an alternative ecosystem or habitat will provide a net gain for indigenous biodiversity.</p>	<p>Biodiversity offsetting is not justified in this case.</p>
<p>Objective 9.1 – The public are able to enjoy the amenity and recreational opportunities of Marlborough’s coastal environment, rivers, lakes, high country and areas of historic interest. [RPS, R, C, D]</p>	<p>See sections 8, 9, 11, 13, 14 and 18 of the AEE.</p>
<p>Policy 9.1.1 – The following areas are identified as having a high degree of importance for public access and the Marlborough District Council will as a priority focus on enhancing access to and within these areas:</p> <p>(a) high priority waterbodies for public access on the Wairau Plain and in close proximity to Picton, Waikawa, Havelock, Renwick, Seddon, Ward and Okiwi Bay;</p> <p>(b) coastal marine area, particularly in and near Picton, Waikawa and Havelock, Kaiuma Bay, Queen Charlotte Sound (including Tory Channel), Pelorus Sound,, Pelorus Sound, Mahau Sound, Mahikipawa Arm and Croiselles Harbour, Rarangi to the Wairau River mouth, Wairau Lagoons, Marfells Beach and Ward Beach...</p>	<p>N/A</p>

MEP Provision	Evaluation
[RPS]	
<p>Policy 9.1.2 – In addition to the specified areas in Policy 9.1.1, the need for public access to be enhanced to and along the coastal marine area, lakes and rivers will be considered at the time of subdivision or development, in accordance with the following criteria:</p> <ul style="list-style-type: none"> (a) there is existing public recreational use of the area in question, or improving access would promote outdoor recreation; (b) connections between existing public areas would be provided; (c) physical access for people with disabilities would be desirable; and (d) providing access to areas or sites of cultural or historic significance is important. <p>[RPS, C, D]</p>	<p>See above. The farm will not prevent access to areas or sites of cultural and historic significance in the area.</p>
<p>Policy 9.1.5 – Acknowledge the importance New Zealander’s place on the ability to have free and generally unrestricted access to the coast.</p> <p>[RPS, C, D]</p>	<p>The applicant acknowledges the importance to New Zealanders of having unrestricted access to the coast. The site design ensures that the public will continue to have access through the site and along the shore.</p>
<p>Policy 9.1.7 – Recognise there is an existing network of marinas at Picton, Waikawa and Havelock, publicly owned community jetties, landing areas and launching ramps that make a significant contribution in providing access for the public to Marlborough’s coastal areas.</p> <p>[RPS, C]</p>	<p>The proposed farm will be able to be accessed from the existing facilities of a contractor or lessee.</p>
<p>Policy 9.1.8 – Enable public use of jetties for the purposes of access to the Sounds Foreshore Reserve and legal road along the coast.</p> <p>[RPS, C]</p>	<p>There are no jetties in the vicinity of the site.</p>
<p>Policy 9.1.13 – When considering resource consent applications for activities, subdivision or structures in or adjacent to the coastal marine area, lakes or rivers, the impact on public access shall be assessed against the following:</p> <ul style="list-style-type: none"> (a) whether the application is in an area identified as having a high degree of importance for public access, as set out in Policy 9.1.1; (b) the need for the activity/structure to be located in the coastal marine area and why it 	<p>The structures have a functional need to be located in the coastal marine area. The public will have access through and around the site. Access to the site is by boat. Any impact on public access would be temporary, being reversible upon removal of the farm. Any restrictions on public access will be consistent with the purpose of a resource consent to farm</p>

MEP Provision	Evaluation
<p>cannot be located elsewhere; ...</p> <p>(d) the extent to which the activity/subdivision/structure would benefit or adversely affect public access, customary access and recreational use, irrespective of its intended purpose;</p> <p>(e) in the coastal marine area, whether exclusive rights of occupation are being sought as part of the application;</p> <p>(f) for the Marlborough Sounds, whether there is practical road access to the site of the application;</p> <p>(g) how public access around or over any structure sought as part of an application is to be provided for;</p> <p>(h) whether the impact on public access is temporary or permanent and whether there is any alternative public access available; and</p> <p>(i) whether public access is able to be restricted in accordance with Policies 9.2.1 and 9.2.2.</p> <p>[C, D]</p>	<p>mussels, in line with policy 9.2.1. The effects on public access will be no more than minor, in accordance with policy 9.2.2.</p>
<p>Policy 9.3.2 – Seek diversity in the type and size of open spaces and recreational facilities to meet local, district, regional and nationwide needs, by: ... (d) recognising and protecting the value of open space in the coastal marine area, high country environments and river beds.</p> <p>[RPS, C, D]</p>	<p>The applicant recognises the value of open space and has designed the site layout with this in mind.</p>
<p>Objective 10.1 – Retain and protect heritage resources that contribute to the character of Marlborough.</p> <p>[RPS]</p>	<p>See section 12 AEE.</p>
<p>Policy 10.1.3 – Identify and provide appropriate protection to Marlborough’s heritage resources, including:</p> <p>(a) historic buildings (or parts of buildings), places and sites;</p> <p>(b) heritage trees;</p> <p>(c) places of significance to Marlborough’s tangata whenua iwi;</p> <p>(d) archaeological sites; and</p> <p>(e) monuments and plaques.</p> <p>[RPS, C, D]</p>	<p>See above</p>

MEP Provision	Evaluation
Chapter 13 objectives and policies.	N/A – Chapter 13 expressly states that it “does not contain provisions managing marine farming.”
<p>Objective 15.1a – Maintain and where necessary enhance water quality in Marlborough’s rivers, lakes, wetlands, aquifers and coastal waters, so that:</p> <ul style="list-style-type: none"> (a) the mauri of wai is protected; (b) water quality at beaches is suitable for contact recreation; (c) people can use the coast, rivers, lakes and wetlands for food gathering, cultural, commercial and other purposes; ... (f) coastal waters support healthy ecosystems. <p>[RPS, R, C]</p>	Mussel farming will not have an adverse effect on water quality and may even enhance water quality.
<p>Policy 15.1.1 – As a minimum, the quality of freshwater and coastal waters will be managed so that they are suitable for the following purposes:</p> <ul style="list-style-type: none"> (a) Coastal waters: protection of marine ecosystems; potential for contact recreation and food gathering/marine farming; and for cultural and aesthetic purposes; ... <p>[RPS, R, C]</p>	Aquaculture requires excellent water quality. The proposed farm will not have an adverse effect on water quality.
<p>Policy 15.1.9 – Enable point source discharge of contaminants or water to water where the discharge will not result:</p> <ul style="list-style-type: none"> (a) in any of the following adverse effects beyond the zone of reasonable mixing: <ul style="list-style-type: none"> (i) the production of conspicuous oil or grease films, scums, foams or floatable or suspended materials; (ii) any conspicuous change in the colour or significant decrease in the clarity of the receiving waters; (iii) the rendering of freshwater unsuitable for consumption by farm animals; (iv) any significant adverse effect on the growth, reproduction or movement of aquatic life; or (c) in the flooding of or damage to another person’s property. <p>[R, C]</p>	Discharge from harvesting will not result in any of the specified adverse effects.

MEP Provision	Evaluation
<p>15.1.10 – Require any applicant applying for a discharge permit that proposes the discharge of contaminants to water to consider all potential receiving environments and adopt the best practicable option, having regard to:</p> <ul style="list-style-type: none"> (a) the nature of the contaminants; (b) the relative sensitivity of the receiving environment; (c) the financial implications and effects on the environment of each option when compared with the other options; and (d) the current state of technical knowledge and the likelihood that each option can be successfully applied. <p>[RPS, R, C]</p>	<p>See Davidson Environmental report. Discharge occurs during harvesting, and the effects are momentary and insignificant. Contaminants are materials that are already in the water column, such as sediments and organic materials trapped by lines and structures.</p>
<p>15.1.11 – When considering any discharge permit application for the discharge of contaminants to water, regard will be had to:</p> <ul style="list-style-type: none"> (a) the potential adverse effects of the discharge on spiritual and cultural values of Marlborough’s tangata whenua iwi; (b) the extent to which contaminants present in the discharge have been removed or reduced through treatment; and (c) whether the discharge is of a temporary or short term nature and/or whether the discharge is associated with necessary maintenance work for any regionally significant infrastructure. <p>[RPS, R, C]</p>	<p>See above</p> <p>Discharge during harvest is temporary in nature and sedimentation soon reverts to background levels, consistent with policy 15.1.11(c).</p>
<p>15.1.12 – After considering Policies 15.1.10 and 15.1.11, approve discharge permit applications to discharge contaminants into water where:</p> <ul style="list-style-type: none"> (a) the discharge complies with the water quality classification standards set for the waterbody, after reasonable mixing; or (b) in the case of non-compliance with the water quality classification standards set for the waterbody: <ul style="list-style-type: none"> (i) the consent holder for an existing discharge can demonstrate a reduction in the concentration of contaminants and a commitment to a staged approach for achieving the water quality classification standards within a period of no longer than five years from the date the consent is granted; and (ii) the degree of non-compliance will not give rise to significant adverse effects. <p>[RPS, R, C]</p>	<p>Water discharged during harvesting will comply with SG standards in Appendix 5.</p>

MEP Provision	Evaluation
<p>Policy 15.1.16 – The duration of any new discharge permit will be either:</p> <p>(a) Up to a maximum of 15 years for discharges into waterbodies or coastal waters where the discharge will comply with water quality classification standards for the waterbody or coastal waters;</p> <p>... (c) no more than five years where the existing discharge will not comply with water quality classification standards for the waterbody or coastal waters.</p> <p>With the exception of regionally significant infrastructure, no discharge permit will be granted subsequent to the one granted under (c), if the discharge still does not meet the water quality classification standards for the waterbody or coastal waters.</p> <p>[R, C]</p>	<p>This policy is inconsistent with s 123A of the Resource Management Act, which provides for a minimum 20-year term for coastal permits authorising aquaculture activities, unless a shorter period is required to ensure that adverse effects on the environment are adequately managed. This high threshold is not met in these circumstances.</p> <p>It is illogical to allow for a marine farming permit for 20 years and restrict a discharge permit for harvesting to 15 years.</p> <p>The applicant is seeking 20-year resource consent. The AEE suggests that this term is appropriate in these circumstances.</p>

Foot Notes

¹ MEP Volume 3, Appendix 1, pp 1-27 to 1-28.

² Dr Rachel McClellan, *King Shag Advice – Effects of Renewal of Outer Admiralty Bay Mussel Farm* (Wildland Consultants, December 2017) at p 4.

³ R Davidson et al *Ecologically Significant Marine Sites in Marlborough, New Zealand* (September 2011, Davidson Environmental Ltd, Department of Conservation, Marlborough District Council and DuFresne Ecology Ltd).

⁴ A new breeding colony at Tawhitinui Reach means that inner Pelorus Sound and the Kenepuru entrance are now within the king shag foraging range: Davidson, R.J.; Richards, L.A.; Rayes, C. 2017. Significant marine site survey and monitoring programme (survey 3): Summary report 2016-2017. Prepared by Davidson Environmental Limited for Marlborough District Council. Survey and monitoring report number 859.

⁵ Schuckard (2017). MPI Salmon farm relocation proposal - submission on behalf of Friends of Nelson Haven and Tasman Bay Inc. ~n=1,000 sightings over 25 years; cited in Statement of Evidence in Chief of Paul Richard Fisher on behalf of Friends of Nelson Haven and Tasman Bay Inc and Marlborough District Council (4 April 2017) at p 9 (in *Clearwater Mussels Limited v Marlborough District Council* ENV-2016-CHC-40 and 41).

⁶ *Clearwater Mussels Limited v Marlborough District Council* [2018] NZEnvC 88 at [85].

⁷ Rebuttal Evidence of Rachel Katherine McClellan (28 April 2018) at [15] (in *Clearwater Mussels Limited v Marlborough District Council* ENV-2016-CHC-40 and 41); and Statement of Evidence of Robert James Davidson for the Council Hearing of U170941 for a resource consent in Pigyard Bay, Kenepuru Sound (April 2018) at [56].

⁸ Such as providing a safe resting place, or causing changes in benthic communities which may be beneficial for king shag prey species.

⁹ *Clearwater Mussels* at [86(a) and (c)].

¹⁰ *Ibid* at [86(c)(iii)].

¹¹ While the requirement to secure lines and structures is directed at navigational safety, it will have a corresponding benefit of reducing the risk of entanglement or ingestion of debris by King shag.

¹² A copy is available here: <http://www.marinefarming.co.nz/media/1518/mfa-mussel-standard-operating-procedures-current.pdf>.

¹³ A copy is available here: <http://www.marinefarming.co.nz/media/1303/code-of-practice-noise-2016-current.pdf>.

¹⁴ A copy is available here: <http://www.marinefarming.co.nz/media/1070/industry-cop-reducing-pollution-on-water.pdf>.

¹⁵ A copy is available here:

<https://static1.squarespace.com/static/55d2b0eee4b0649ae7068665/t/55f7d6afe4b05cc86891dd9f/1442305711334/Greenshell+Mussel+SMF+July+2015+10-9-15.pdf>

¹⁶ Raymond Smith – Ngati Kuia

¹⁷ Handley, S. et al. 2017. A 1,000 year history of seabed change in Pelorus Sound/Te Hoiere, Marlborough. Prepared for Marlborough District Council, Ministry of Primary Industries and the Marine Farming Association. 136 p. NIWA Client Report No: 2016119NE. A copy is available

here: https://www.marlborough.govt.nz/repository/libraries/id:1w1mps0ir17q9sgxanf9/hierarchy/Documents/Environment/Coastal/Scientific%20Investigations%20List/A_1000_year_history_of_seabed_change_in_Pelorus_Sound_Te_Hoiere.pdf

¹⁸ Handley, S. 2016. History of benthic change in Queen Charlotte Sound/Totaranui, Marlborough. Prepared for Marlborough District Council. NIWA client report No: NEL2015-018:

[https://www.marlborough.govt.nz/repository/libraries/id:1w1mps0ir17q9sgxanf9/hierarchy/Documents/Environment/Coastal/Scientific%20Investigations%20List/History of Benthic Change in Queen Charlotte Sound Taranui Marlborough.pdf](https://www.marlborough.govt.nz/repository/libraries/id:1w1mps0ir17q9sgxanf9/hierarchy/Documents/Environment/Coastal/Scientific%20Investigations%20List/History%20of%20Benthic%20Change%20in%20Queen%20Charlotte%20Sound%20Taranui%20Marlborough.pdf); and Handley, S. 2015. The history of benthic change in Pelorus Sound (Te Horiere), Marlborough. Prepared by NIWA for Marlborough District Council. NIWA client report NEL2015-001, NIWA project ELF15202:

<https://www.marlborough.govt.nz/repository/libraries/id:1w1mps0ir17q9sgxanf9/hierarchy/Documents/Environment/Coastal/Scientific%20Investigations%20List/HistorySeabedChangePelorusSound.pdf>.

¹⁹ MacDiarmid, A.; McKenzie, A.; Sturman, J.; Beaumont, J.; Mikaloff-Fletcher, S.; Dunne, J. (2012). Assessment of Anthropogenic Threats to New Zealand Marine Habitats, New Zealand Aquatic Environment and Biodiversity Report No. 93, 2012; and Ministry for the Environment & Statistics New Zealand (2016) *New Zealand's Environmental Reporting Series: Our marine environment 2016* at 24. A copy is available here: <http://www.mfe.govt.nz/sites/default/files/media/Environmental%20reporting/our-marine-environment.pdf>

²⁰ Handley et al 2017 *History of seabed change* at p 25.

²¹ For example Ministry for Primary Industries *Literature Review of Ecological Effects of Aquaculture – Cumulative Effects* (August 2013, Cawthron Institute/NIWA), at pp 12-3 to 12-4; Stewart, B. *Mussel Farming in Central Pelorus Sound* (Ryder Consulting, 3 December 2015, prepared for the Kenepuru and Central Sounds Residents Association) at [50]; and Further Submissions of the Marine Farming Association and Aquaculture New Zealand Limited on the proposed Marlborough Environment Plan (23 June 2017), at points 66, 73 and 78.

²² Raymond Smith – Ngati Kuia



Davidson Environmental Limited

Biological report for the reconsenting of marine farm 8207 in Horseshoe Bay, Pelorus Sound

Research, survey and monitoring report number 884

*A report prepared for:
Goulding Trustees Limited
Glenduan,
Nelson*

June 2018

Bibliographic reference:

Davidson, R.J.; Richards, L.A.; Rayes C. 2018. Biological report for the reconsenting of marine farm 8207 in Horseshoe Bay, Pelorus Sound. Prepared by Davidson Environmental Ltd. for Goulding Trustees Limited. Survey and monitoring report no. 884.

© Copyright

The contents of this report are copyright and may not be reproduced in any form without the permission of the client.

Prepared by:

Davidson Environmental Limited
6 Ngapua Place, Nelson 7010
Phone 03 545 2600
Mobile 027 445 3352
e-mail davidson@xtra.co.nz

June 2018



Specialists in research, survey and monitoring

Contents

1.0	Introduction	4
2.0	Background information	6
2.1	Study area.....	6
2.2	Historical reports.....	6
3.0	Methods (present survey).....	10
3.1	Sonar imaging.....	10
3.2	Drop camera stations, mussel debris and low tide.....	11
4.0	Results.....	11
4.1	Consent corners and surface structures	12
4.2	Sonar imaging.....	12
4.3	Drop camera images	17
5.0	Conclusions	23
5.1	Benthic habitats and substratum	23
5.2	Species and communities.....	24
5.3	Mussel farming impacts	24
5.3.1	Benthic impacts.....	24
5.3.2	Productivity.....	25
5.4	Boundary adjustments, recommendations and monitoring	25
5.5	Relinquishment of the western consent area.....	26
	References	27
	Appendix 1. Drop camera photographs.....	28

Specialists in research, survey and monitoring

1.0 Introduction

The aim of the present study was to provide biological information for the proposed consenting of marine farm site 8207 in Horseshoe Bay, Pelorus Sound. The study also provides information on the seabed located offshore of the present consent as the farm owner may relinquish the western end and inshore exclusion area of the consent in favor of this area.

The 4.85 ha consent area is located at the north-western corner of Horseshoe Bay near where it meets Waitata Reach (Figure 1, Plates 1 & 2). It is noted that a marine structure exclusion zone also exists along the inshore boundary of the parent farm. This study describes the benthic substrata and habitats associated with the existing mussel farm consent.

This report was commissioned by Aquaculture Direct on behalf of the farm owner, Goulding Trustees Ltd.

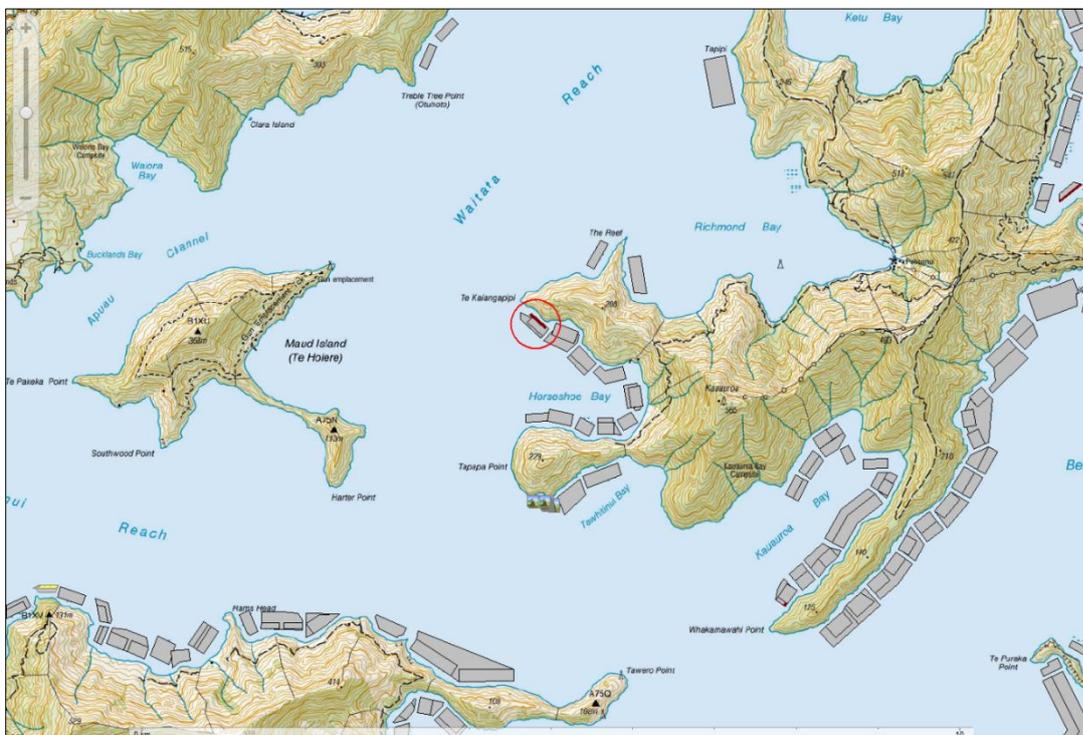


Figure 1. Location of marine farm 8207 in Horseshoe Bay (red circle).



Plate 1. Looking southeast through the existing backbone lines of farm 8207 towards the head of Horseshoe Bay. Photo taken near the inshore western consent corner.

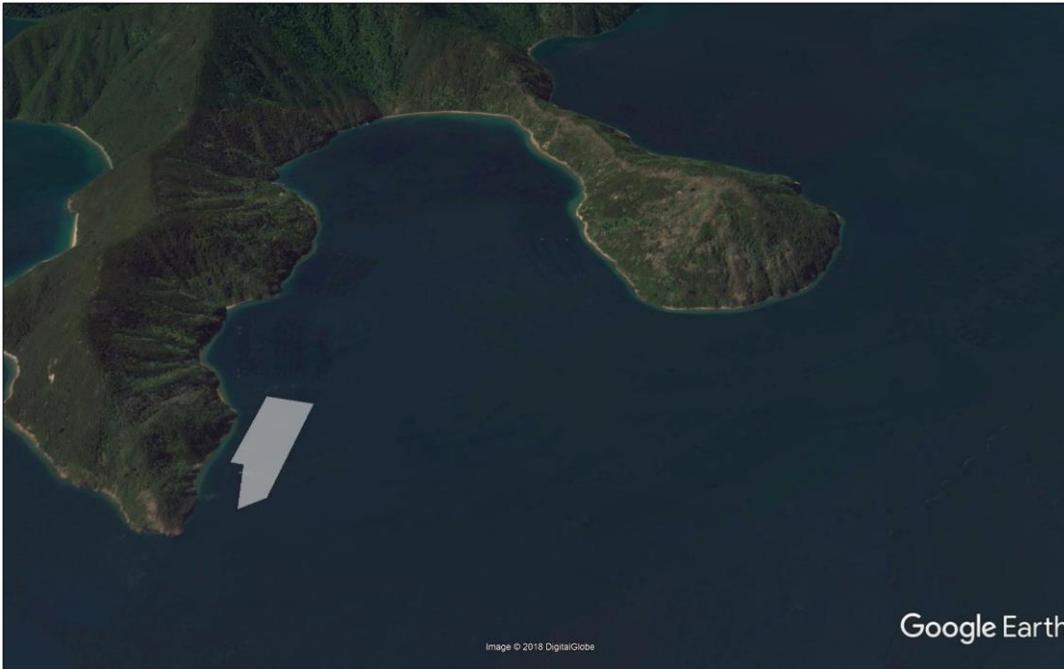


Plate 2. Oblique of the location of marine farm 8207 in Horseshoe Bay. Aerial photo February 2016.

2.0 Background information

2.1 Study area

Horseshoe Bay is a west-facing bay on the southeastern shore of Waitata Reach. Horseshoe Bay is roughly 17 km from the Pelorus Harbour limit, and some 40 km by sea from Havelock. The Bay has a coastline length of approximately 4.5 km and is approximately 182 ha in size. The mouth of Horseshoe Bay is approximately 1.6 km wide and 1.7 km long. (Figure 1, Plates 1 & 2).

2.2 Historical reports

Two biological reports were found during a literature search. A report was produced by Davidson (1996) for the original 3 ha farm application. A second report was produced by Davidson and Brown (1999) for a proposed extension to the parent farm.

Davidson (1996) reported:

“Depths along the inshore boundary were approximately 17 m (north-west) and 18 m (north-east), while depths along the offshore boundary were approximately 39 m (south-west) and 41 m (south-east). Depth soundings and a scooter run across random parts of the proposed farm area suggested that:

- 1) substrata present were cobbles, pebbles, small boulders and various combinations of fine sand, medium sand, broken shell and dead whole shell, shell debris and silt;
- 2) no reef structures or shallow abnormalities extending offshore from the coast were observed during the scooter run;
- 3) no outcropping rock, bedrock, or boulder substrata were recorded within the boundaries of the proposed marine farm, but a low percentage cover of small cobbles was recorded from inshore parts of both transects;
- 4) tubeworm mounds (*Galeolaria hystrix*) were observed within the boundaries of the proposed marine farm at transect 2;
- 5) all areas offshore of 70 m distance from shore were dominated by soft bottoms with a small proportion of cobbles to 50 m to 70 m distance from shore;

Specialists in research, survey and monitoring

- 6) large brown algae were observed along immediate subtidal zone along the shore adjacent to the proposed marine farm; and
- 7) a zone of hydroids and bryozoans was located between 30 m to 65 m distance from shore.

A light tidal current was observed travelling in a westward direction at all stations. Based on the species observed from this site, is expected that tidal water currents would be of moderate to strong strength at particular stages of the tide.

Subtidal transects were terminated at 120 m to 150 m distance from shore due to depth and diver bottom time limitations. At the point of termination, substrata were dominated by silts and clays with a low proportion of broken and dead shell material. It is probable with increasing depth, that this type of benthos would continue to the offshore boundary of the proposed marine farm area.

Subtidal shore profiles were initially dominated by hard substrata. At both transects, rubble and small boulder material with various proportions of shell and fine sand extended to approximately 50 m to 65 m distance from shore. The benthos beyond these hard shores was dominated by soft bottom substrata composed of fine sand/shell. With increasing depth, the soft shores graded from fine sands and shell through to silt and clay at approximately 35 m to 37 m depth.

From transects and scooter run from areas within and adjacent to the proposed marine farm, a total of 34 conspicuous species of invertebrate, 4 algae, 3 ascidians and 7 species of bony fish were observed. The number and composition of species was representative of rubble bank areas in the central sheltered Pelorus Sound. Most common reef fish were spotty and blue cod with cod being common to depths of up to 24 m and a distance of 60 m from shore. Most cod observed during the present study were below legal size. Three species of triplefin and opalfish were also observed during the study. Only one scallop was observed from quadrats during the study. One horse mussel was recorded from quadrats collected during the present study. These densities are well below those considered as constituting a horse mussel bed (Department of Conservation guidelines).

Lampshells (*Terebratella sanguinea*) were observed in low abundance from 50 m to 70 m distance from shore at both transects. Estimated densities from areas where lampshells were

Specialists in research, survey and monitoring

most common were <3 per m². These densities are well below the Department of Conservation guideline threshold.

Three large hydroid species observed during the present study of the marine farm site and adjacent coast. Individuals of these species formed a hydroid zone between 30 m to 65 m distance from shore. These species often form a zone in areas in central and outer Pelorus Sound where tidal currents are moderate or strong. A zone of bryozoan mounds, dominated by the Separation Point "coral" (*Celleporaria agglutinans*), was observed within the same areas as hydroids and often supported hydroid individuals. Although the bryozoan mounds were relatively uncommon and small, they provide a habitat for many associated species including fish.

Most soft bottom substrata and associated communities located within the proposed marine farm area were dominated by dead and broken shell overlying silt and clay sediments or further from shore, silts and clays with very little shell. A relatively low variety of species in low abundance were observed from these offshore soft bottom habitats compared to inshore hard shores. Horse mussels, scallops and brachiopods were recorded from these areas in very low densities.

Substrata and communities observed inshore of 50 m to 65 m were dominated by hard shores or soft shores with a hard substrata component. These areas supported a wide variety of species, often in high abundance, including a tubeworm zone and a hydroid and bryozoan zone. These areas would probably be adversely impacted by a marine mussel farm if it was placed above or in close proximity to these habitats. “

Davidson and Brown (1999) reported:

“Observations from within the proposed farm area suggested that:

- 1) depths increased rapidly from the shoreline. Depth remained relatively consistent in offshore areas (i.e. 40 m), while the proposed inshore boundary was between 16 m to 17 m depth;
- 2) offshore substrata were silt and clay with dead whole shell material present in the shore slope;

Specialists in research, survey and monitoring

- 3) reef, cobble and pebble sized substrata were recorded within the proposed marine farm area;
- 4) horse mussels, lampshells and scallops were relatively uncommon.

A moderate to strong, westward, along-shore tidal current was observed during the present study. Based on the species observed from the site, it is expected that tidal currents are regularly moderate to strong.

The habitats and communities observed from both transects were comparable. The shore was initially characterised by a bedrock reef fringe that extended to 20 m distance from low water at transect 1 and 8 m at transect 2. Beyond the reef fringe, the shore was dominated by broken and dead whole shell over a base of silt and fine sand. A zone of sorted sand and broken shell was observed from 40 m distance to 65 m distance at transect 2. Bedrock reef was again recorded between 70 m to 85 m distance at transect 1 and 85 m to 105 m distance at transect 2. Beyond reef areas, the benthos was characterised by dead whole shell and broken shell material over a base of silt and clay substrata extending well offshore. On the flat sea floor, the benthos was dominated by silt and clay substrata with a small component of shell material.

From transects and free swims, a total of 38 conspicuous surface dwelling species of invertebrate, 4 ascidians, 6 species of algae and 11 species of bony fish were observed. The number and composition of fish species were representative of reef habitats in the sheltered outer sounds. Reef fish were restricted to reef habitats, the rubble bank and soft shores immediately adjacent to these habitats. A variety of triplefins were common from rocky shore areas. Opalfish were the most common fish recorded from offshore a mud habitats. Occasional fish feeding holes in the substrata were observed between 40 m to 60 m distance from transect 2.

Scallops (*Pecten novaezelandiae*) were uncommon from the site with only two individuals recorded from along the transects. No horse mussels (*Atrina zelandica*) were recorded from the areas investigated from within the proposed marine farm area. Occasional lampshells (*Terebratella sanguinea*) were observed from the deeper areas of the shore slope but were not common (estimated abundance <1 individual per m²). Lampshells were not common and did not form a distinct zone or bed. Occasional hydroid trees were recorded from the reef habitats and the shallow shelly zone. Isolated and small bryozoans were observed from the



Specialists in research, survey and monitoring

deep reef at transect 1. Tubeworm mounds were observed between 10 m to 40 m distance from shore at both transects.

Based on the initial draft plan (presented in the present investigation), it is recommended that the marine farm area be located no closer than 110 m distance from shore at transects 1 and 2. These adjustments would ensure that the marine farm would not be located over hard shore habitats including the reef structures.”

3.0 Methods (present survey)

The area was investigated on 29th June 2018. Prior to fieldwork, the consent corners were plotted onto mapping software (TUMONZ Professional). The laptop running the mapping software was linked to a Lowrance HDS-12 Gen2 with an external Lowrance Point 1 high sensitivity GPS, allowing real-time plotting of the corners of marine farm surface structures and to pinpoint drop camera stations in the field. This GPS system has a maximum error of +/- 5 m.

The corners of the existing marine farm surface structures were surveyed by positioning the survey vessel immediately adjacent to the corner floats and the position plotted. It should be noted that surface structures can move due to environmental variables such as tidal current and wind. The plot of surface structures is variable from day to day and over the duration of tidal cycles. These data should not therefore be regarded as a precise measurement of the position of surface structures, but rather an approximate position.

3.1 Sonar imaging

Sonar investigations of the area were conducted using a Lowrance HDS-12 Gen 2 and HDS-8 Gen2 linked with a Lowrance StructureScan™ Sonar Imaging LSS-1 Module. These units provide right and left side imaging as well as DownScan Imaging™. The unit also allows real time plotting of StructureMap™ overlays onto the installed Platinum underwater chart. A Lowrance HDS 10 Gen 1 unit fitted with a high definition 1kw Airmar transducer was used to collect traditional sonar data from the site.

Prior to the collection of underwater photographs, the boundaries of both the consent area and the marine farm surface structure area were investigated using the sonar. Any bottom

Specialists in research, survey and monitoring

abnormalities such as reefs, hard substrata or abrupt changes in depth were noted for inspection using the drop camera (see section 3.2).

3.2 Drop camera stations, mussel debris and low tide

A total of 27 drop camera photographs were collected from the farm (including under droppers and warps) and adjacent areas both inside and outside of the consent. At each drop camera station, a Sea Viewer underwater splash camera fixed to an aluminium frame was lowered to the benthos and an oblique still photograph was collected where the frame landed.

The cover of benthic mussel shell from drop camera photographs were ranked as: None = no mussel shell, Low = 1-30%, Moderate = 31-50%, Moderate to High = 51-75%, and High = 76-100% cover. This assessment is displayed in Table 2 of the present report.

The location of photograph stations was selected to obtain a representative range of habitats and depths within the consent. Additional photographs were taken when any features of interest (e.g. mussel shell, reef structures, cobbles) were observed on the remote monitor on-board the survey vessel. All photographs collected during the survey have been included in Appendix 1.

Low tide was determined at two locations inshore of the consent. The survey vessel was positioned over the low water mark and the position plotted using the mapping software. Low tide was visually determined using the transition between intertidal and subtidal species.

4.0 Results

On the day of the survey, the tide was low at 2.13 pm (0.7 m) and high at 8.28 am (2.6 m). During fieldwork, the tide was outgoing and close to low water. Broekhuizen (2015) shows this area as having good tidal flows (approximately 0.2 m/s). Based on field observations by Davidson (1996) and Davidson and Brown (1999) the site is swept by moderate to strong tidal flows, particularly on the outgoing tides. During the present investigation the tide was close

Specialists in research, survey and monitoring

to low water, but still obvious and travelling across the site from east to west (i.e. alongshore).

4.1 Consent corners and surface structures

The present consent consists of a parent farm and an extension in an alongshore and offshore position. There is also a structure exclusion zone located along an inshore strip of the parent farm.

The inshore corner depths of the consent area ranged from 27.9 m to 39 m. Offshore boundaries of the consent ranged from 29 m to 49.8 m (Table 1, Figure 2). On the day of the survey, only the offshore backbone was partially located outside the consent area (Plate 3, Figure 2) It is noted, however, that this area is swept by moderate to strong tidal currents and it is likely backbones move inshore and offshore depending on time of the tidal cycle.

Existing surface structures consisted of one block of backbones covering a total of 1.45 ha (37%) of the 4.85 ha consent area.

The distance between low tide and the consent boundary was measured at four positions along the adjacent shoreline. The distance to the inshore boundary at the position of low tide number 1 was 44 m and 55 m at low tide 2 (Figure 2).

4.2 Sonar imaging

Sonar runs along the inshore boundary of the consent revealed the rocky substrata inshore and at one location within the consent (Figures 3a and 3b). Cobble substrata was not observed in drop camera photographs and this material is too small to be detected by the sonar. Davidson (1996) did, however observed occasional cobbles in this area. The rock outcrop located on the sonar run was within the consent but within the exclusion area (i.e. up to 9 m from inshore consent boundary (Figure 3b).



Plate 3. Aerial photo with consent (black), exclusion area (red) and farm structures. Photo taken February 2016.

Table 1. Depths at the consent corners and existing surface structures. Depths adjusted to datum. Coordinates = NZTM (Northing/Easting).

Type	No. & Depth (m)	Coordinates
Consent corner	1, 21.2m	1678752.7,5458439.7
Consent corner	2, 29.2m	1678936.5,5458270.6
Consent corner	3, 29m	1678835.5,5458159.6
Consent corner	4, 49.8m	1678583.9,5458389.3
Consent corner	5, 39m	1678588.5,5458471.3
Consent corner	6, 29m	1678725.6,5458410.4
Structure corner	A, 28.8m	1678735.7,5458409.5
Structure corner	B, 36.2m	1678662.8,5458300.6
Structure corner	C, 34.4m	1678775.1,5458208.7
Structure corner	D, 29.4m	1678839.6,5458315.4
Low tide	Low tide 1	1678878.3,5458382.0
Low tide	Low tide 2	1678806.3,5458464.6

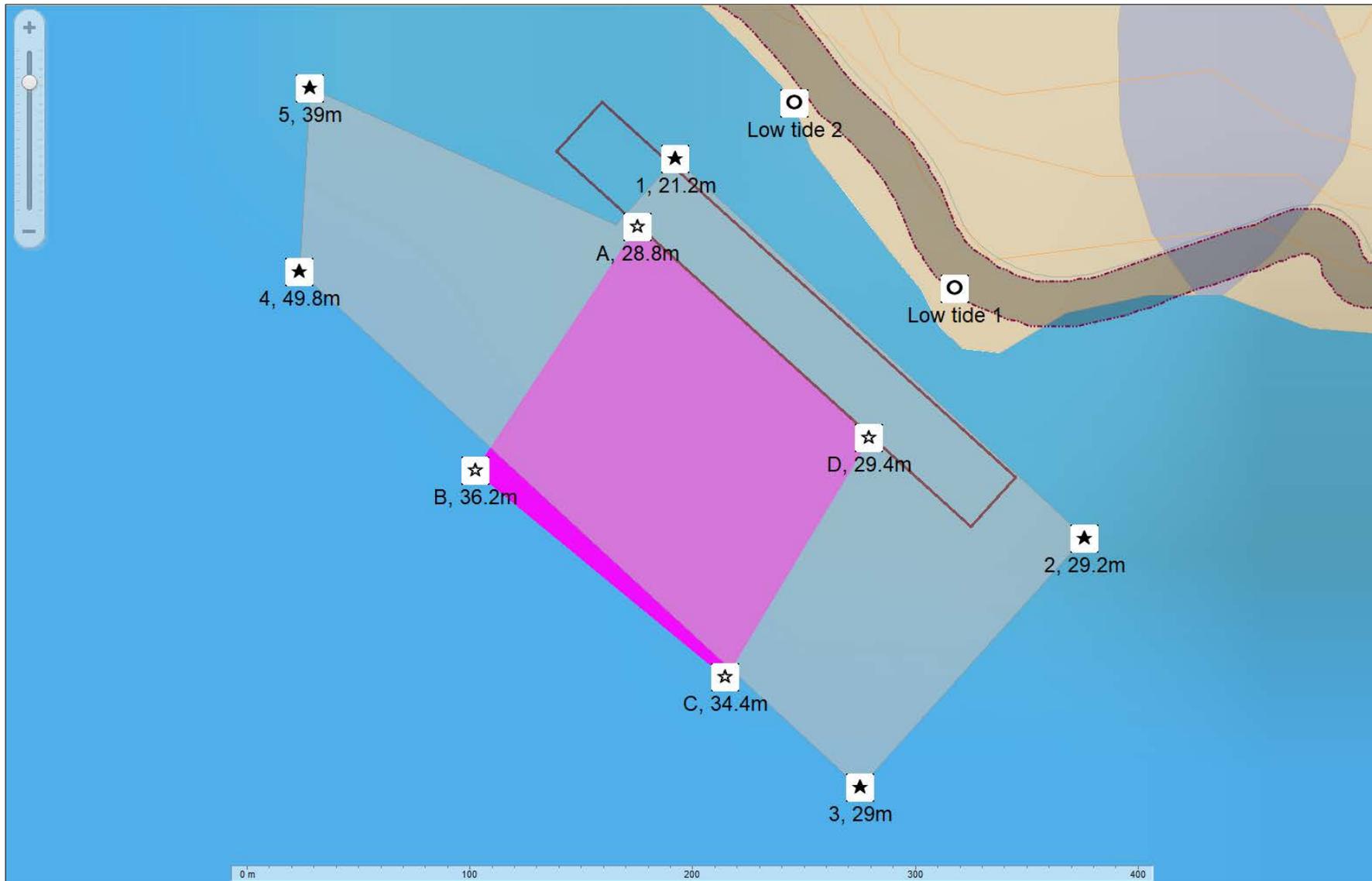


Figure 2. Depths of the proposed reconstent area (grey) and existing marine farm surface structures (pink). The exclusion area is red. Low tide locations also plotted (circles).

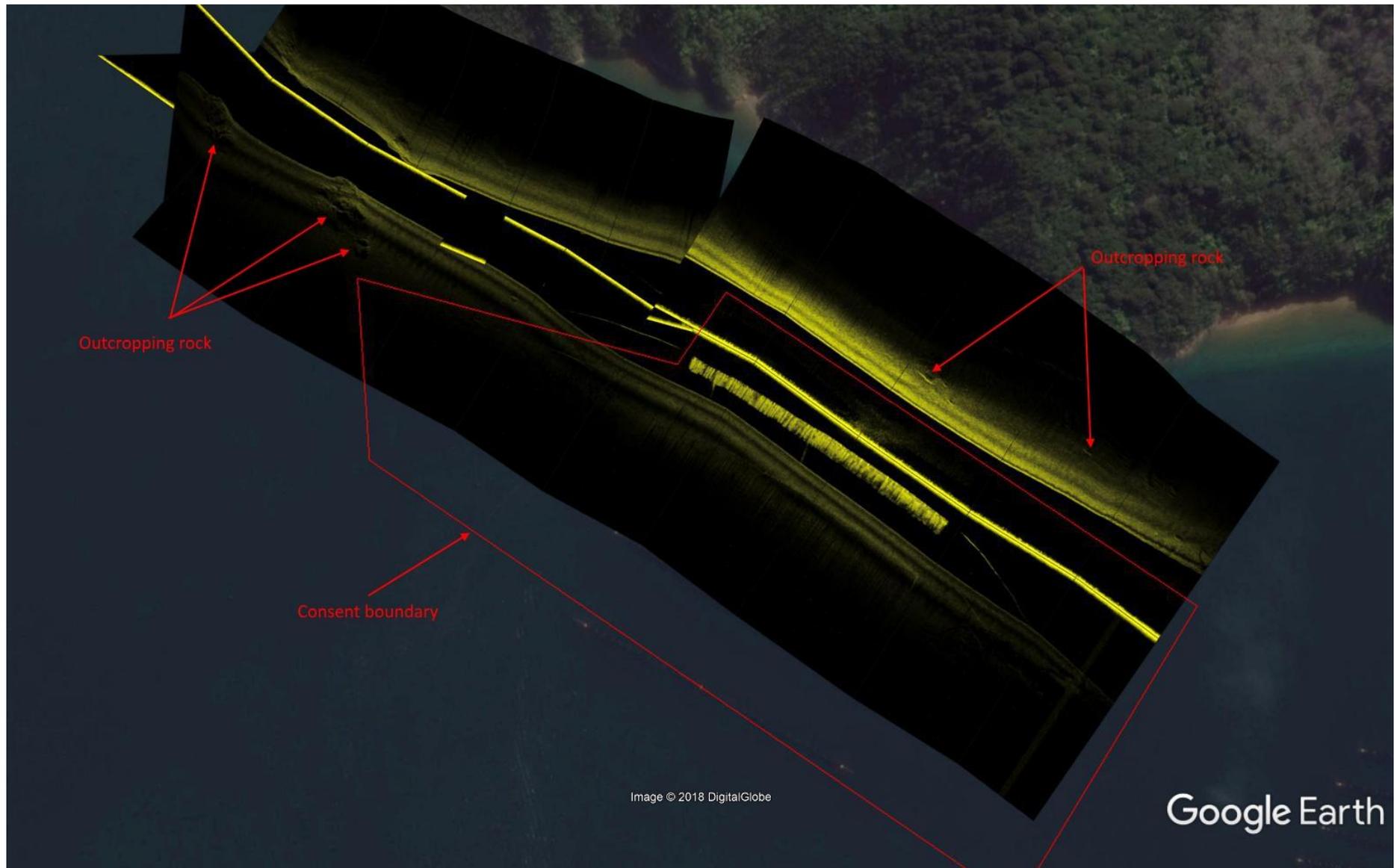


Figure 3a. Sonar transect at farm site 8207. Red polygon = consent boundary.

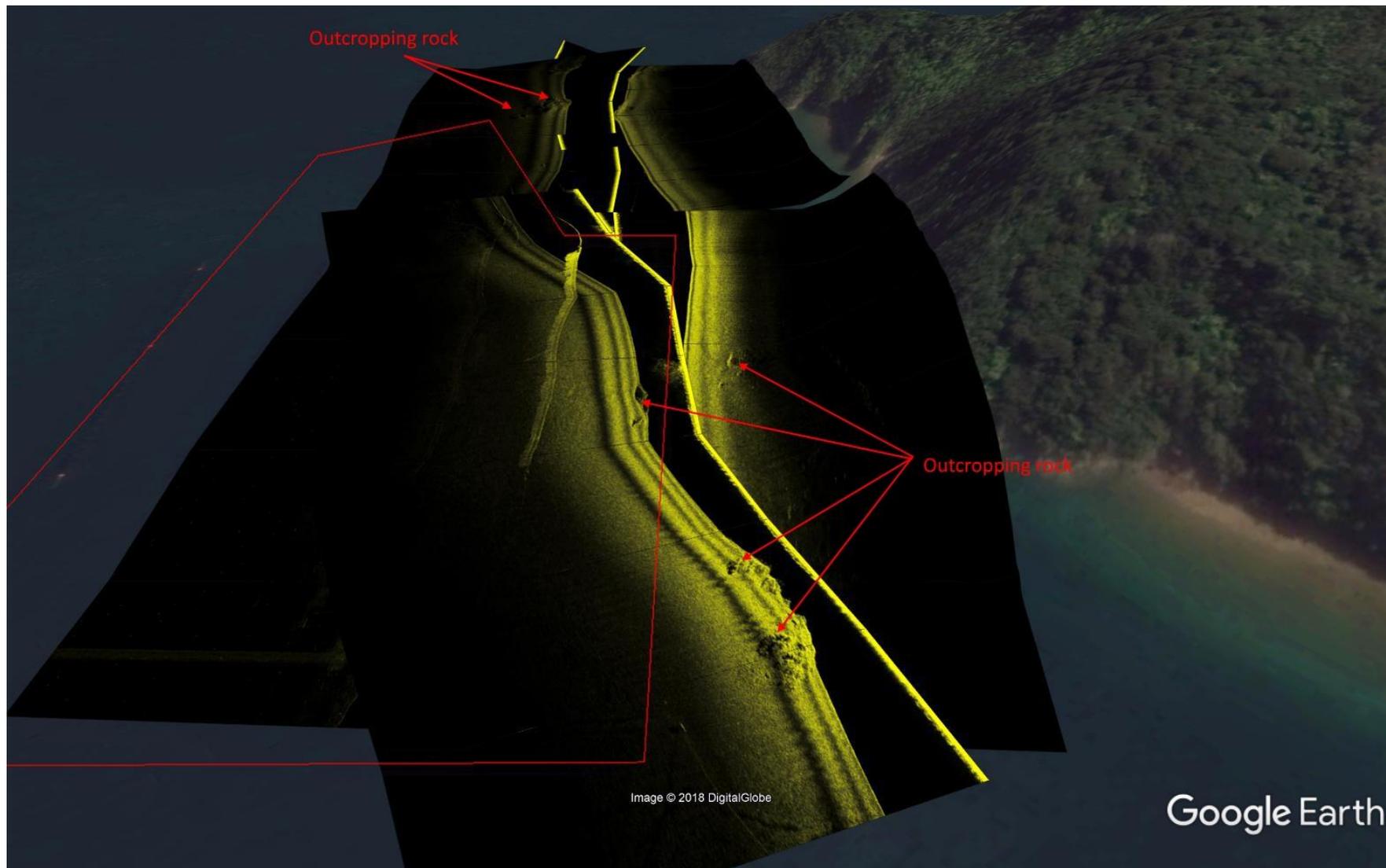


Figure 3b. Oblique view of sonar transect at farm site 8207. Red polygon = consent boundary. Note outcropping rock in exclusion area.

Specialists in research, survey and monitoring

4.3 Drop camera images

Drop camera photographs were taken throughout the existing consent, in the exclusion zone and areas inshore of the consent (Table 2, Figure 4, Appendix 1). Photographs were used to describe the benthic substratum and presence of biological characteristics and substratum.

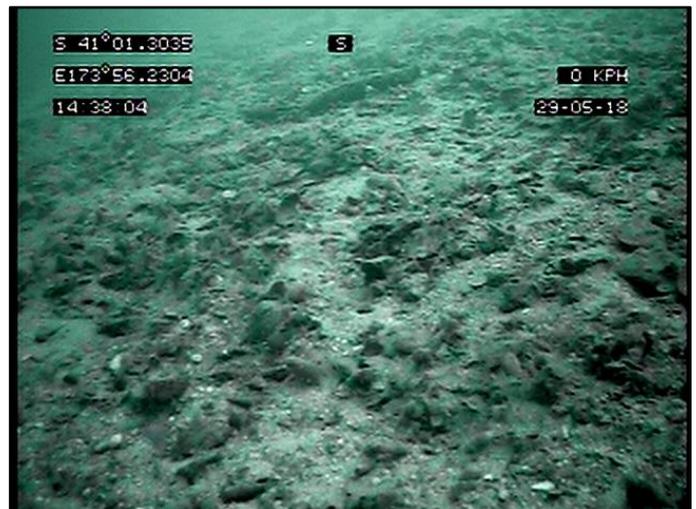
Inshore of the consent

Two benthic photographs taken inshore of the consent both showed the presence of hard substrata combined with silt, fine sand and natural shell substrata (Plates 3 and 4). No mussel shell was observed in this area.



Plate 3. Low lying bedrock, silt, fine sand and natural shell (photo 20, 16.3m depth)

Plate 4. Silt, fine sand, natural shell and occasional cobble (photo 21, 16.3 m depth)



Specialists in research, survey and monitoring

Within the consent

Photographs collected from within the consent area were dominated by silt and clay with variable levels of natural shell and fine sand. Along the inshore consent area, the shore was steep and dominated by silt, fine sand and natural shell (Plate 5). This substratum type was observed through to depths of 25 m. One patch of outcropping rock was observed up to 10 m inside the consent (i.e. within the exclusion zone). No other bedrock was detected.

Deep areas dominated the consent and were characterised by silt and clay with a variable component of natural shell (Plate 6). Mussel shell debris was mostly observed under or close to backbones (Plates 7 and 8). At station 5 mussel debris was observed 14 m along shore of the end of the backbone line. It is likely the strong tidal flows combined with the 31 m depth facilitated the movement of mussel shell in this direction.

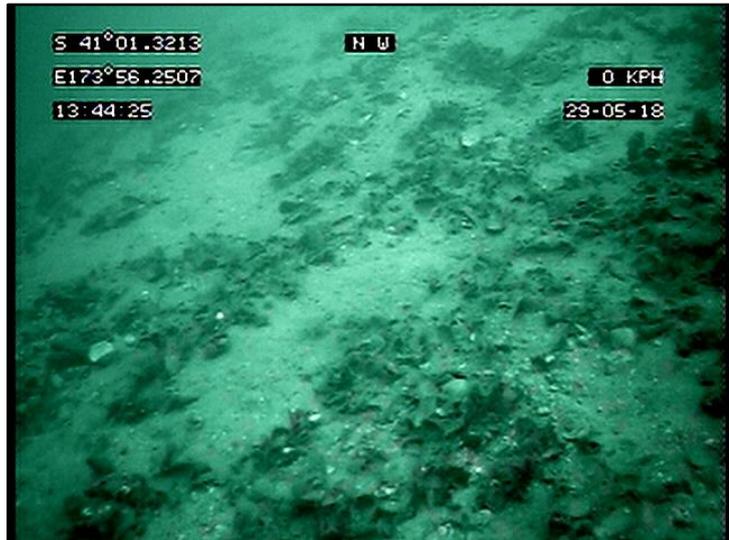


Plate 5. Silt, fine sand and natural shell hash (photo 3, 18.4 m depth).



Plate 6. Silt and natural shell (photo 13, 34.9 m depth).

Specialists in research, survey and monitoring



Plate 7. Silt and clay with a high level of mussel shell debris under backbones (photo 11, 30.1 m depth).



Plate 8. Silt and clay with a high level of mussel shell debris close to droppers (photo 5, 31 m depth).

Specialists in research, survey and monitoring

Offshore of the consent

Photographs collected from areas offshore of the consent area were dominated by silt and clay with variable levels of natural shell (Plate 9). Small clumps of parchment worms and occasional scallops were observed in this area.



Plate 9. Silt and clay with natural dead whole shell (photo 22, 27.5 m depth). Note small clumps of parchment worms.

Table 2. Coordinates of drop camera stations showing location relative to the marine farm consent area (NZTM). Colours are: grey = within consent, red = under backbones, blue = outside consent. Depth, substratum, mussel debris, and algae (% cover) are listed. Mussel debris scale = None = no mussel shell, Low = 1-30%, Moderate = 31-50%, Moderate to High = 51-75%, and High = 76-100% cover.

No. & Depth (m)	Coordinates	Location	Substratum	Mussel debris
1, 27.8m	1678907.4,5458289.3	In consent, no structures	Silt and clay, natural shell	None
2, 24.7m	1678861.6,5458324.5	In consent, no structures	Silt and clay, natural shell, shell hash	None
3, 18.4m	1678826.6,5458367.8	In consent, no structures	Silt and clay, natural shell, shell hash	None
4, 20.7m	1678785.4,5458398.6	In consent, no structures	Silt and clay, natural shell, shell hash	None
5, 31m	1678722.6,5458410.0	In consent, under warps	Silt and clay, mussel shell	High
6, 34.1m	1678650.6,5458444.5	In consent, no structures	Silt and clay, natural shell	None
7, 45.4m	1678610.4,5458403.7	In consent, no structures	Silt and clay, natural shell	None
8, 37.1m	1678618.1,5458455.3	In consent, no structures	Silt and clay, natural shell	None
9, 39.5m	1678651.9,5458342.1	In consent, under warps	Silt and clay, natural shell	None
10, 38.5m	1678684.6,5458373.0	In consent, under warps	Silt and clay, natural shell, mussel shell	Low
11, 30.1m	1678765.5,5458367.7	In consent, under backbones	Silt and clay, mussel shell	High
12, 31.9m	1678816.1,5458320.9	In consent, under backbones	Silt and clay, mussel shell	High
13, 34.9m	1678902.6,5458246.5	In consent, no structures	Silt and clay, natural shell	None
14, 40.9m	1678829.2,5458247.5	In consent, under warps	Silt and clay, natural shell	None
15, 40m	1678781.4,5458288.4	In consent, under backbones	Silt and clay, mussel shell	High
16, 38.2m	1678725.6,5458346.1	In consent, under backbones	Silt and clay, mussel shell	Moderate-high
17, 37.9m	1678694.3,5458308.9	In consent, near backbones	Silt and clay, mussel shell	Moderate
18, 38.2m	1678745.4,5458251.8	In consent, no structures	Silt and clay, natural shell, mussel shell	Moderate to high
19, 31.2m	1678816.0,5458186.5	In consent, no structures	Silt and clay, natural shell	None
20, 17.2m	1678862.1,5458349.9	Inshore of consent, no structures	Bedrock, silt, natural shell	None
21, 16.3m	1678793.2,5458416.2	Inshore of consent, no structures	Silt, natural shell, shell hash, occasional cobble	None
22, 27.5m	1678756.9,5458165.0	Offshore of consent	Silt and clay, dead whole shell	None
23, 29m	1678702.0,5458205.2	Offshore of consent	Silt and clay, dead whole shell	None
24, 32.3m	1678658.7,5458248.0	Offshore of consent	Silt and clay, dead whole shell	None
25, 38.5m	1678614.9,5458293.3	Offshore of consent	Silt and clay, dead whole shell	None
26, 31.4m	1678745.0,5458212.8	Offshore of consent	Silt and clay, dead whole shell	None
27, 34.3m	1678676.2,5458272.9	Offshore of consent	Silt and clay, mussel shell	Low-moderate

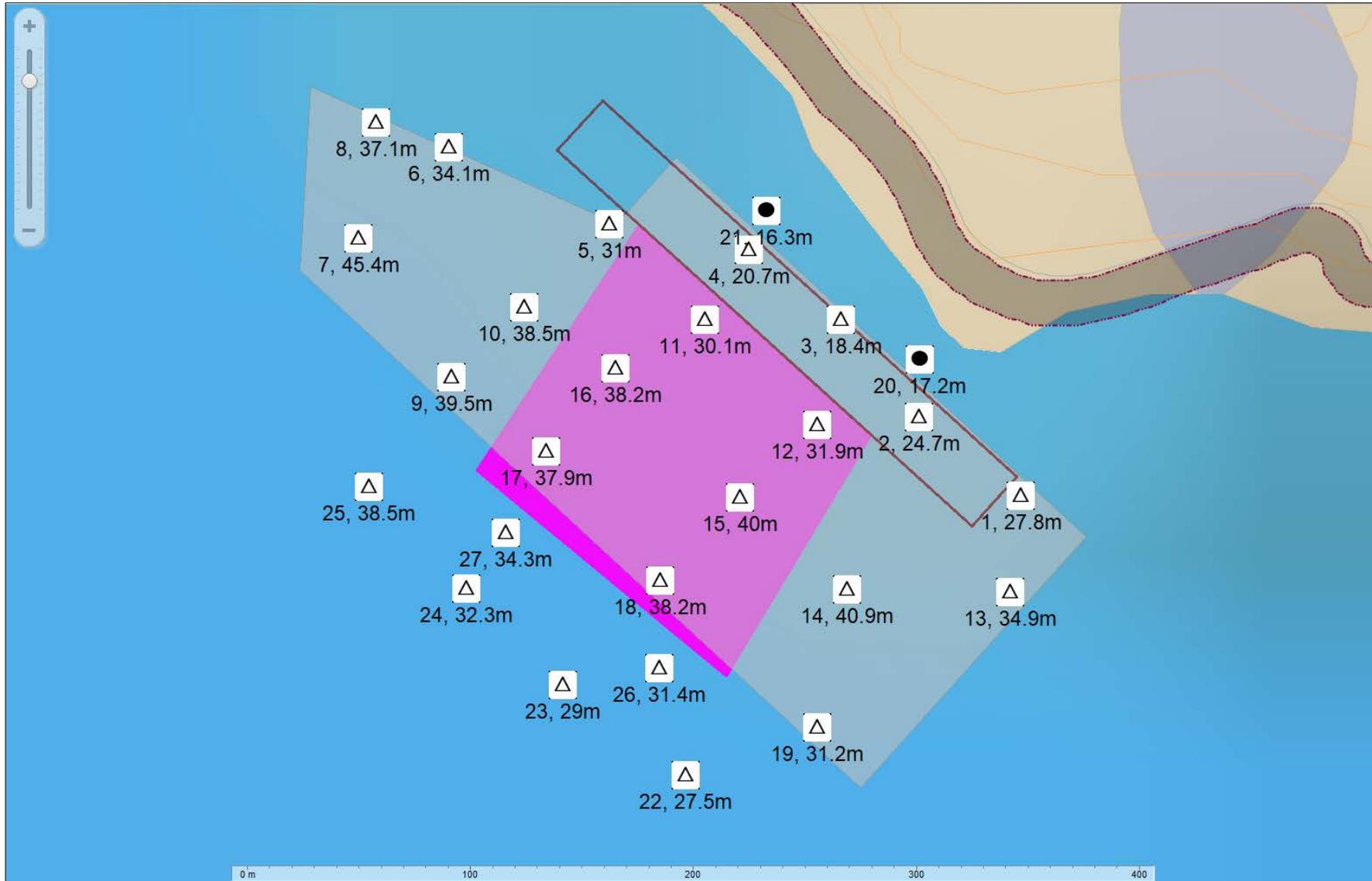


Figure 4. Drop camera stations within the consent area (grey polygon) (closes circle = cobbles/bedrock, open triangles = soft substrata), and surface structures (pink). Numbers are the photo number and water depth (m).

5.0 Conclusions

5.1 Benthic habitats and substratum

Substratum and habitat distribution relative to the consent area was based on drop camera stations and sonar imaging of the benthos.

Most of the consent area was located over deep silt and clay substratum with a variable component of natural shell. In contrast, inshore edges of the consent were characterised by silt, fine sand and natural shell (often as shell hash = areas of dense shell material) on a steeply sloping shore. Previous studies have observed occasional cobbles from this inshore area of the consent and this has been designated as a structure exclusion zone (Davidson 1996; Davidson and Brown 1999).

During the present study, sonar detected a small area with rock outcrops within the exclusion zone (Figure 5). This feature has not been previously found. These hard substrata were located within the inshore part of the exclusion area (up to approximately 10 m distance from the consent boundary). No farm structures were recorded within the exclusion zone during the present survey, with line 1 being well distant to rocky substrata (Figure 4). Based on these considerations there is no need to enlarge or reduce the exclusion zone and the present layout provides sufficient buffering to ensure any bowing of line 1 does not reach rocky substrata. The offshore backbone was located offshore of the consent. This offshore area was characterised by deep silt and clay with a component of natural dead whole shell. Some mussel shell was also recorded close to the offshore backbone.

The area occupied by production lines was characterised by deep silt and clay with a component of natural shell.

Mud and mud and shell are the most common subtidal habitats in the sheltered Marlborough Sounds (McKnight and Grange, 1991) and has been traditionally targeted for marine farming activities as it is considered suitable for consideration for marine farming activities in the Marlborough Sounds.

Unlike mud and mud and shell, bedrock, boulder and cobble substratum are not considered suitable for marine farming activities. Hard substratum can be smothered by shell debris would likely no longer functions as a hard substratum habitat.

5.2 Species and communities

Photos collected from areas offshore of the shore slope and within the consent supported species typical of silt substratum (e.g. cushion seastars, sea cucumbers, occasional horse mussel). Davidson (1996) and Davidson and Brown (1999) observed opalfish from these deep areas and an occasional scallop. Opalfish are widespread from inner, central and outer Sounds deep mud substratum. An occasional scallop was observed from drop camera images (e.g. photo 18) in the present study.

Photographs from nearshore sloping shore showed a greater diversity and abundance of species. Blue cod were also observed from the shore slope. No biogenic communities were observed from the two inshore photographs collected. It is probable that these communities exist closer to Te Kaiangapipi Point where tidal flows are likely higher compared to under the consent.

5.3 Mussel farming impacts

5.3.1 Benthic impacts

Mussel debris was not recorded from rocky substrata or habitats located inshore of the consent. When present mussel shell debris was recorded at high levels. Shell was most often recorded under and close to droppers. The exception was photo 18 located (18 m offshore of the outside production line). It is probable that the strong currents bow the outside line leading to a wide range of shell spread. Shell spread is also increased due to the depths at this site. No mussel shell debris was recorded inshore of the consent area or from photos collected within the exclusion area.

It is probable that the impact of continued shellfish farming at this site will result in the deposition of more shell and fine sediment under and near droppers. Based on the literature and assuming the present level of farming activity remains consistent, it is very unlikely that the surface sediments would become anoxic (Hartstein and Rowden, 2004; Keeley *et al.*, 2009; Davidson and Richards, 2014). Anoxic conditions are particularly unlikely at this site due to the moderate to strong tidal currents that regularly sweep the site.

5.3.2 Productivity

Mussel farms can influence adjacent farms by slowing water flow to farms located in downstream positions. This is particularly pronounced in quiescent areas of the Sounds. However, published work by Zeldis *et al.* (2008, 2013) suggests that the major factors influencing productivity in the Marlborough Sounds relate to cyclical weather patterns in the summer (El Nino and La Nina) and river-derived nutrient inputs in winter. Slow crop cycles in some years are therefore a reflection of a weather cycle and much less about the number of farms.

There has been no data presented to show the ecological carrying capacity of the Sounds has been reached, however, this subject has not been well researched. There is considerable evidence showing the major drivers of the Pelorus system, for example, naturally leads to large within and between year variability. Relative to this, the impact of mussel farms appears to be material but relatively small compared to major environmental drivers (Broekhuizen *et al.*, 2015).

Tidal flows in the north-western corner of Horseshoe Bay are moderate to high (Davidson 1996). Winds may also be a significant driver of water movement in this area, especially during the predominant north-westerly winds. The farm is located immediately adjacent to the main reach and is close to the entrance to Cook Strait. This means water turnover times are likely to be relatively short compared to bays well distant to main reaches or the Cook Strait.

Based on these considerations and the literature, it is probable the site is unlikely to cause significant phytoplankton depletion outside the boundaries of the consent.

5.4 Boundary adjustments, recommendations and monitoring

The consent is located <50 m distance from low water (i.e. inshore eastern consent boundary is currently 44 m from low tide). The exclusion area provides adequate separation between rocky substratum and the growing structures ensuring inshore rocky habitats remain free from farm impacts. Based on the present consent boundary and the exclusion area, no additional modifications are suggested. No change to the consented number of backbones is suggested.

Based on the substratum located under the farmed area of the consent and the present impact levels of the existing activity, no monitoring is suggested.

5.5 Relinquishment of the western consent area

The farm owner may apply to relinquish the western end and inshore exclusion area of the consent in favour of a new offshore area to encompass the offshore backbone that is presently located offshore of the existing consent. This offshore area is composed of comparable habitats to the western end of the consent (i.e. deep mud with dead whole natural shell). The only appreciable difference between these two areas is depth and the level of mussel shell present. The western end is deeper and has no mussel shell, while the offshore area is slightly shallower and has some mussel shell debris present close to the offshore line. The inshore exclusion area supports coarser substratum than the offshore area and also supports rocky substratum. The proposed change therefore represents a small biological improvement to the current situation.

References

- Broekhuizen, N., Hadfield, M., Plew, D. 2015. A biophysical model for the Marlborough Sounds Part 2: Pelorus Sound: 163. Prepared by NIWA for Marlborough District Council. Client report number CHC2014-130, NIWA project MDC13301.
- Davidson, R.J. 1996. Ecological report on a proposed marine farm site in Horseshoe Bay, Pelorus Sound. Survey and Monitoring Report No. 127. Prepared by Davidson Environmental for J. Goulding.
- Davidson R.J.; Duffy C.A.J.; Gaze P.; Baxter A.; Du Fresne S.; Courtney S. 2011. Ecologically significant marine sites in Marlborough, New Zealand. Co-ordinated by Davidson Environmental Limited for Marlborough District Council and Department of Conservation.
- Davidson, R.J. and Brown, D.A. 1999. Biological report on a proposed marine farm extension located in Horseshoe Bay, Pelorus Sound. Survey and Monitoring Report No. 241. Prepared by Davidson Environmental Limited for J. Goulding.
- Hartstein, N.D.; Rowden, A.A. 2004. Effect of biodeposits from mussel culture on macroinvertebrate assemblages at sites of different hydrodynamic regime. *Mar Environ Res.* 57(5): 339-57.
- Keeley, N.; Forrest, B.; Hopkins, G.; Gillespie, P.; Clement, D.; Webb, S.; Knight, B.; Gardner, J. 2009. Sustainable aquaculture in New Zealand: Review of the ecological effects of farming shellfish and other non-fish species. Cawthron Report No. 1476. 150p.
- McKnight, D.G.; Grange, K.R. 1991: Macrobenthos sediment-depth relationships in Marlborough Sounds. Report prepared for Department of Conservation by Oceanographic Institute, DSIR. No. P692. 19 p.
- Morrisey, D.J.; Cole, R.G.; Davey, N.K.; Handley, S.J.; Bradley, A.; Brown, S.N.; Madarasz, A.L. 2006. Abundance and diversity of fish on mussel farms in New Zealand. *Aquaculture* (252), 277-288.
- Zeldis, J.R.; Howard-Williams, C.; Carter, C.M.; Schiel, D.R. 2008. ENSO and riverine control of nutrient loading, phytoplankton biomass and mussel aquaculture yield in Pelorus Sound, New Zealand. *Marine Ecology Progress Series*, Vol. 371, 131-142.
- Zeldis, J.R.; Hadfield, M.G.; Booker, D.J. 2013. Influence of climate on Pelorus Sound mussel aquaculture yields: predictive models and underlying mechanisms. *Aquaculture Environmental Interactions*, Vol. 4, 1-15

Appendix 1. Drop camera photographs

Photo site 1 Silt & clay, natural shell



Photo site 2 Silt & clay, natural shell hash



Photo site 3 Silt & clay, natural shell hash



Photo site 4 Silt & clay, natural shell hash



Photo site 5 Silt & clay, mussel shell



Photo site 6 Silt & clay, natural shell



Photo site 7 Silt & clay, natural shell



Photo site 8 Silt & clay, natural shell



Photo site 9 Silt & clay, natural shell



Photo site 10 Silt & clay, mussel & natural shell

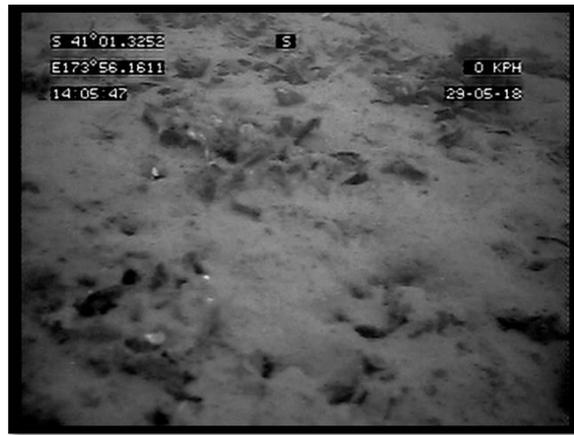


Photo site 11 Silt & clay, mussel shell



Photo site 12 Silt & clay, mussel shell



Photo site 13 Silt & clay, natural shell



Photo site 14 Silt & clay, natural shell



Photo site 15 Silt & clay, mussel shell



Photo site 16 Silt & clay, mussel shell



Photo site 17 Silt & clay, mussel shell



Photo site 18 Silt & clay, natural & mussel shell



Photo 19 Silt & clay, natural shell



Photo 20 Bedrock, natural shell hash, silt



Photo 21 Silt, natural shell, shell hash, occ. cobble

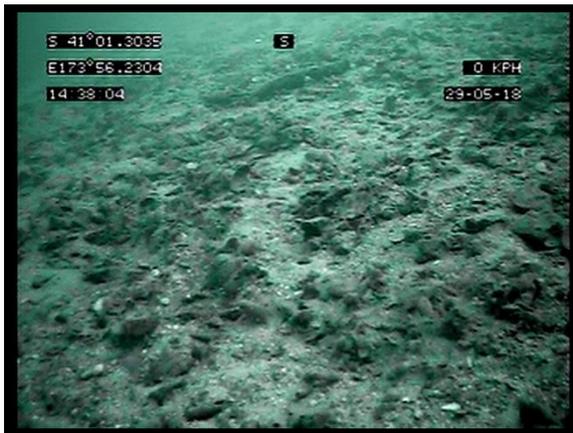


Photo 22 Silt and clay, dead whole shell



Photo 23 Silt and clay, dead whole shell



Photo 24 Silt and clay, dead whole shell



Photo 25 Silt, natural shell, shell hash, occ. cobble



Photo 26 Silt and clay, dead whole shell

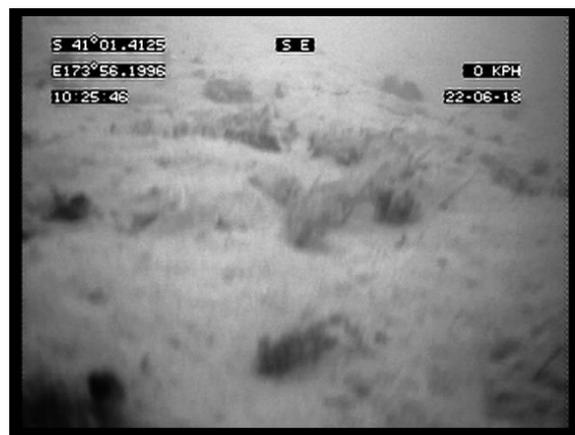


Photo 27 Silt and clay, dead whole shell





Topomap 50 Sheet: BP28

Base Topographical Data sourced from Land Information New Zealand Data. Crown Copyright Reserved.



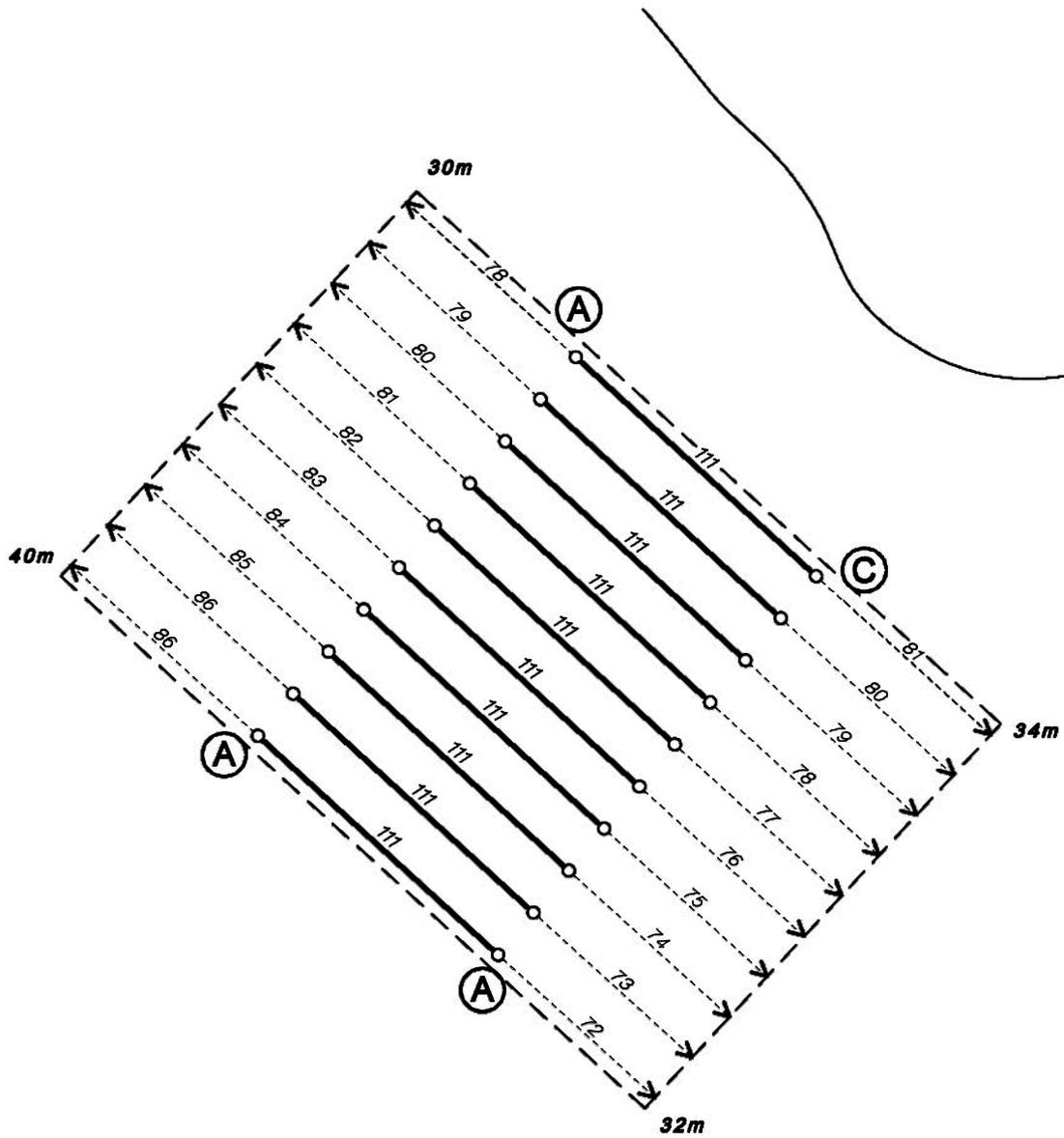
Prepared: 20 June 2018

Locality Map

Marine Farm 8207
Horseshoe Bay, Pelorus Sound



MF_2567



Horseshoe Bay

- REFERENCE**
-  Orange Float Anchors
 -  Anchor Warp
 -  Backbone

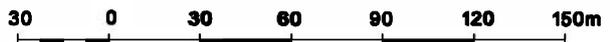
- (A)** Light, Radar Reflector & Reflective Tape
- (B)** Radar Reflector & Reflective Tape
- (C)** Reflective Tape

NOTE: Longline Spacing = 18.78m
 Total Longlines = 10
 Backbone Length = 111
 Total Backbone Length = 1110m
 Warp Surface Loss = as shown

Layout Details

Renewal of Marine Farm 8207 Horseshoe Bay

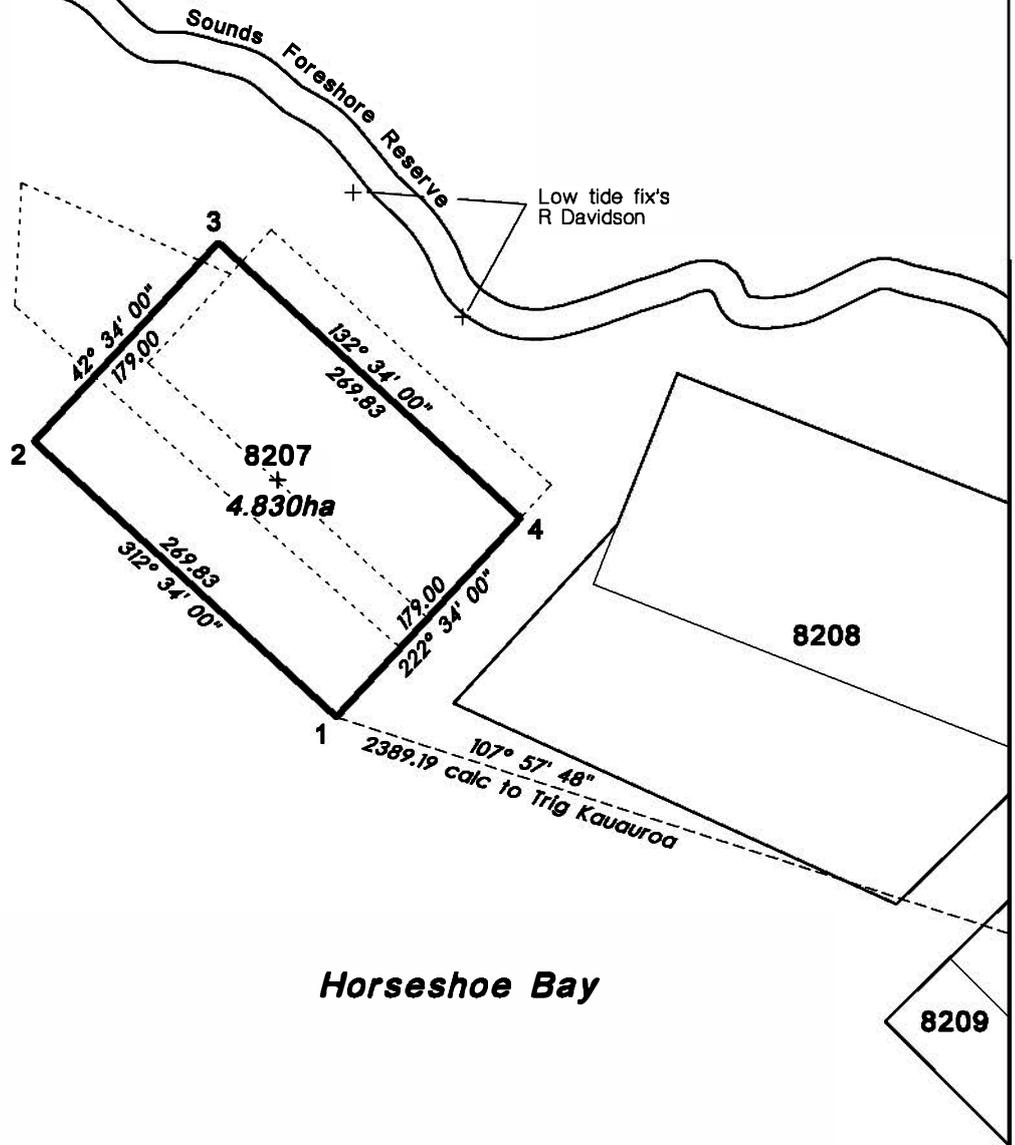
SCALE 1:2,500



MF_2567a
 18 July 2018



Section 11
 BLK XIV Oriari SD
 CT MB4A/116
 Pohuenui Nature Resort Ltd



SCHEDULE OF COORDINATES		
DATUM: NZTM2000		
Point	East	North
1	1678795.35	5458116.80
2	1678596.63	5458299.32
3	1678717.71	5458431.18
4	1678916.44	5458248.63
Centroid	1678756.54	5458273.97
Trig Kauauroa	1681068.08	5457379.95

This site has not been surveyed
 Cadastral Data from Land Information New Zealand Data
 MARLBOROUGH DISTRICT COUNCIL



Proposed Coastal Permit Renewal of Marine Farm 8207 Horseshoe Bay

MF_2567
 20 June 2018

