#### **Bea Gregory-5252**

From: RCInbox

**Sent:** Tuesday, 13 November 2018 2:57 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.

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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

То

Marlborough District Council

#### **Applicant**

l.

Goulding Trustees Limited

108 Glen Road Glenduan Nelson 7071

670286

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 8095

## **Property details**

#### Site and location details

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

MARINE FARM SITE 8095 CAMP BAY, WAITATA BAY, OUTER PELORUS MARLBOROUGH

#### Legal description

Marine Farm 8095

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

"Marine farm 8095 is located along the northern shoreline of Camp Bay, Waitata Bay. Camp Bay is a very small bay along the northern shore of Waitata Bay (Waitata Reach, Pelorus Sound). Camp Bay is located approximately 2 km northwest of Boat Rock Point and some 13 km by sea from the Pelorus Harbour limit. Camp Bay has a coastline length of just 650 m and covers an area of sea of approximately 6.3 ha. The Bay is roughly 380 m wide." (Davidson Environmental Report 885)

The farm sits alongside other farms on the northern coast of Waitata Bay. The nearest marine farms to 8095 are the adjacent farms to the west 8096 and to the east 8094, 8093 and 8092.

The adjacent land is zone Rural 1.

There is one residence and two holiday accommodation units near the site. The nearest residence is approximately 300 metres for the site.

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

## Owners and occupiers of the application site

## **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 U110243 and U110259 for marine farm site 8095 (total 3.87ha) for the purpose of farming Greenshell mussels (Perna canaliculus), blue shell mussels (Mytilus edulis), scallops (Pecten novaezelandiae), dredge oysters (Tiostrea chilensis) and seaweeds (Macrocystis pyrifera, Ecklonia radiata, Gracilaria spp and Pterocladia lucida), using conventional long line methods. (Refer attached layout diagrams illustrating the site.)

U110243 – 2.36ha parent farm was originally granted in July 1996 and the associated marine farming permit MPE316 was issued in 1997, the consent was renewed in June 2011 and expires July 2031.

U110259 – 1.51ha extension was originally granted in December 2001 and the associated MPE805 was issued in June 2006, the consent was renewed in April 2012 and expires December 2024.

The Applicant seeks a 20-year term and to combine the extension and the original licence into one consent. The expiry date of the existing consent is 2024, along with over 300 marine farms located in the Marlborough Sounds.

As there will be a large bottleneck of applications to the Marlborough District Council around this time, the applicant has requested that if the consent is granted, then the commencement date of the new consent could be delayed for 3 years, until 2021.

The applicant is aware of the impending bottleneck and this is the reason for submitting the application prior to the expiry date. It is believed this early submission will assist the Marlborough District Council processing of applications, availability of specialist to complete appropriate reports and be timely for submitters.

8095 is 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.

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 industry codes of practice, 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 8 long lines, each being between approximately 158 metres long.

There are currently 8 lines installed and operating at the site that grow Greenshell mussels.

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 8095 in Waitata 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; • Fish farming licence

#### 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 U11029 and U110243 for marine farm site 8095, in Camp Bay, Waitata Bay, Outer Pelorus, to seed, cultivate and harvest Greenshell mussels (Perna canaliculus), blue shell mussels (Mytilus edulis), scallops (Pecten novaezelandiae), dredge oysters (Tiostrea chilensis) and seaweeds (Macrocystis pyrifera, Ecklonia radiata, Gracilaria spp and Pterocladia lucida), using conventional long line methods, including occupation of 3.87ha 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 8095.

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 8095

#### Consent type

Coastal

#### Subcategory type

Activity

#### Description of consent being applied for

Goulding Trustees Limited has applied to renew the existing resource consent U110243 and U110259 for marine farm site 8095 (total 3.87ha) for the purpose of farming Greenshell mussels (Perna canaliculus), blue shell mussels (Mytilus edulis), scallops (Pecten novaezelandiae), dredge oysters (Tiostrea chilensis) and seaweeds (Macrocystis pyrifera, Ecklonia radiata, Gracilaria spp and Pterocladia lucida), using conventional long line methods. (Refer attached layout diagrams illustrating the site.)

U110243 – 2.36ha parent farm was originally granted in July 1996 and the associated marine farming permit MPE316 was issued in 1997, the consent was renewed in June 2011 and expires July 2031.

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The Applicant seeks a 20-year term and to combine the extension and the original licence into one consent. The expiry date of the existing consent is 2024, along with over 300 marine farms located in the Marlborough Sounds.

As there will be a large bottleneck of applications to the Marlborough District Council around this time, the applicant has requested that if the consent is granted, then the commencement date of the new consent could be delayed for 3 years, until 2021.

The applicant is aware of the impending bottleneck and this is the reason for submitting the application prior to the expiry date. It is believed this early submission will assist the Marlborough District Council processing of applications, availability of specialist to complete appropriate reports and be timely for submitters.

8095 is 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.

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 industry codes of practice, 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).

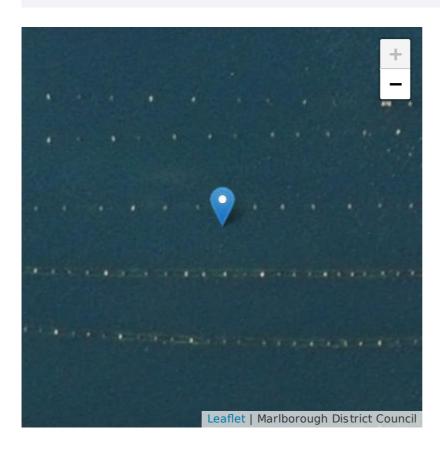
#### Location of the consent

#### **Easting**

1678185.466

#### **Northing**

5464866.944



## **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 U11029 and U110243 for marine farm site 8095, in Camp Bay, Waitata Bay, Outer Pelorus, to seed, cultivate and harvest Greenshell mussels (Perna canaliculus), blue shell mussels (Mytilus edulis), scallops (Pecten novaezelandiae), dredge oysters (Tiostrea chilensis) and seaweeds (Macrocystis pyrifera, Ecklonia radiata, Gracilaria spp and Pterocladia lucida), using conventional long line methods, including occupation of 3.87ha 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 8095.

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;

· Fish farming licence

## 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

## 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 lwi listed below identifying the site prior to the application being submitted. Initial meetings have taken place with Ngati Koata and Ngati Kuia

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 in the AEE attached

#### 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)

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.

No adjustments to the proposed reconsenting farm, 8095 are recommended.

The substratum under the consent is dominated by mud, the most common and widespread habitat type in sheltered shores of the Marlborough Sounds. The impacts associated with mussel farming on muddy habitats characterised by silt and clay are low compared to farm impacts in shallow, habitats dominated by rocky or biogenic communities.

Based on the substratum located under structures and the low impact levels of the existing activity, no monitoring is suggested."

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 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 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 lwi who are operating within the Maori Customary and commercial Deeds of Settlement."

The Applicant will discuss the proposal further with relevant lwi 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 conventions established in the

Marlborough Sounds Resource Management Plan.

#### 8.2 Headlands

There are no headlands immediately adjacent to the site.

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

#### 8.4 Anchorages or Mooring Areas (Formal/Informal)

There is one registered mooring in the vicinity of the site. Mooring 131 is approximately 220 metres from the site and is owned by the Waitata Bay Lodge Limited and Pelorus Boating Club Inc, Waikawa Boating club incorporated and the Mana Cruising club.

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 30-40 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 95 - 105 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 is one residence and two holiday accommodation units near the site. The nearest residence is approximately 300 metres for 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 been described as an area of outstanding nature landscapes and features in the proposed Plan, these assessments were made with the farms already in place and operational.

Section 6(b) of the Act requires decision makers to recognise as a matter of national importance the protection of outstanding natural features and landscapes (ONFLs) from inappropriate subdivision, use and development. Policy 15(a) of the New Zealand Coastal Policy Statement 2010 (NZCPS) requires adverse effects of activities on ONFLs in the coastal environment to be avoided. NZCPS policy 15(b) requires significant adverse effects from activities on other natural features and natural landscapes in the coastal environment to be avoided, and other adverse effects to be avoided, remedied or mitigated.

The operative Marlborough Sounds Resource Management Plan (MSRMP) identifies Areas of Outstanding Landscape Value (AOLV). The application site is not within an AOLV.

The proposed Marlborough Environment Plan (MEP) contains landscape overlay maps based on the 2015 Marlborough Landscape Study. While these maps are generally considered to be based on more up-to-date methodology than the MSRMP, they are the subject of a large number of submissions. The application site is within an ONFL area in the MEP.

In assessing whether the proposal is appropriate in the context, we must understand what is sought to be protected, namely the values of the area. The values for each of those areas are listed in the schedules in MEP Appendix 1.

Aquaculture is part of the Marlborough Sounds environment. A marine farm in this location does not interfere with the listed values, because it is consistent with the mixed use/working character of this part of the Sounds, is one of a number

of visible human interventions in this area, is low profile in nature and only visible at close range (with visual effects diminishing in some conditions depending on lighting and weather). In addition, Greenshell mussels are naturally occurring in New Zealand and are indigenous. Aquaculture is perhaps the only form of farming where the effects are fully reversible.

On this basis, adverse effects from the activity on identified ONFLs are avoided, consistent with NZCPS policy 15(a); and significant adverse effects on other natural features and natural landscapes are avoided, consistent with NZCPS policy 15(b).

The area has not been described as having outstanding, very high or high natural character in the proposed Plan.

The area has not been described as having outstanding, very high or high natural character in the proposed Plan.

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

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 conventions established in the Marlborough Sounds Resource Management Plan.

#### 8.2 Headlands

There are no headlands immediately adjacent to the site.

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

#### 8.4 Anchorages or Mooring Areas (Formal/Informal)

There is one registered mooring in the vicinity of the site. Mooring 131 is approximately 220 metres from the site and is owned by the Waitata Bay Lodge Limited and Pelorus Boating Club Inc, Waikawa Boating club incorporated and the Mana Cruising club.

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 U110243 and U110259 for marine farm site 8095 (total 3.87ha) for the purpose of farming Greenshell mussels (Perna canaliculus), blue shell mussels (Mytilus edulis), scallops (Pecten novaezelandiae), dredge oysters (Tiostrea chilensis) and seaweeds (Macrocystis pyrifera, Ecklonia radiata, Gracilaria spp and 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 been described as an area of outstanding nature landscapes and features 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 outstanding natural landscape value.

#### 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 scrub.

#### 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 lwi.

#### 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 lwi

#### 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 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 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 lwi who are operating within the Maori Customary and commercial Deeds of Settlement."

The Applicant will discuss the proposal further with relevant lwi 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 Tirti 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 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 lwi who are operating within the Maori Customary and commercial Deeds of Settlement."

The Applicant will discuss the proposal further with relevant lwi 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

#### 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

U110243 and U110259

#### The value of investment of the existing consent holder is

As part of this Application to renew site 8095, 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 site has been held by the applicant since 1996. From that time the applicant has expended significantly on the establishment and maintenance of the farm. The farm produces approximately 140 tonnes per annum (\$1200/ Green Weight Tonne (GWT). The mussels are currently processed into nutraceutical products. The processor requires the value of this information to remain confidential as it contains an Intellectual Property component and is commercially sensitive. However if the mussels after processing were ½ shell product it would be sold on the export market at approximately \$318,000. Approximately 95% of mussel products are exported. All lines are restocked after harvest to achieve 140 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 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	-	-	-	-	8095 Locality Map.pdf (3 MB)
Site Plan	-	-	-	-	8095 Renewal Layout Plan.pdf (407 kB)
Site Plan	-	-	-	-	8095 Renewal Site Plan.pdf (760 kB)
Benthic report	-	-	-	-	8095 Camp Bay (Goulding) (002).pdf (2 MB)
Miscellaneous	-	-	-	-	8095 AEE Renewal November 2018.pdf (670 kB)

## Affected person approvals

Have you obtained affected person(s) approvals?

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

#### lwi

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**

000GKY

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.
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# 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 8095 CAMP BAY, WAITATA BAY, OUTER PELORUS MARLBOROUGH

#### 1.0 INTRODUCTION – OVERVIEW OF APPLICATION

Goulding Trustees Limited has applied to renew the existing resource consent U110243 and U110259 for marine farm site 8095 (total 3.87ha) for the purpose of farming Greenshell mussels (Perna canaliculus), blue shell mussels (Mytilus edulis), scallops (Pecten novaezelandiae), dredge oysters (Tiostrea chilensis) and seaweeds (Macrocystis pyrifera, Ecklonia radiata, Gracilaria spp and Pterocladia lucida), using conventional long line methods. (Refer attached layout diagrams illustrating the site.)

U110243 – 2.36ha parent farm was originally granted in July 1996 and the associated marine farming permit MPE316 was issued in 1997, the consent was renewed in June 2011 and expires July 2031.

U110259 – 1.51ha extension was originally granted in December 2001 and the associated MPE805 was issued in June 2006, the consent was renewed in April 2012 and expires December 2024.

The Applicant seeks a 20-year term and to combine the extension and the original licence into one consent.

The expiry date of the existing consent is 2024, along with over 300 marine farms located in the Marlborough Sounds.

As there will be a large bottleneck of applications to the Marlborough District Council around this time, the applicant has requested that if the consent is granted, then the commencement date of the new consent could be delayed for 3 years, until 2021.

The applicant is aware of the impending bottleneck and this is the reason for submitting the application prior to the expiry date. It is believed this early submission will assist the Marlborough District Council processing of applications, availability of specialist to complete appropriate reports and be timely for submitters.

8095 is 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.

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 industry codes of practice, 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 8 long lines, each being between approximately 158 metres long.

There are currently 8 lines installed and operating at the site that grow Greenshell mussels.

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 8095 in Waitata 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 3.87ha.

**2.2 Structures:** The site dimensions will be: inshore boundary 227.8 metres long, outer boundary 251 metres, western boundary 162.26 metres long and north eastern boundary 162 metres long (refer attached site plan).

There will be a total of 8 longlines (refer attached layout diagram).

**2.3 Species:** It is proposed to farm and harvest Greenshell mussels (Perna canaliculus), blue shell mussels (Mytilus edulis), scallops (Pecten novaezelandiae), dredge oysters (Tiostrea chilensis) and seaweeds (Macrocystis pyrifera, Ecklonia radiata, Gracilaria spp and 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 U11029 and U110243 for marine farm site 8095, in Camp Bay, Waitata Bay, Outer Pelorus, to seed, cultivate and harvest Greenshell mussels (Perna canaliculus), blue shell mussels (Mytilus edulis), scallops (Pecten novaezelandiae), dredge oysters (Tiostrea chilensis) and seaweeds (Macrocystis pyrifera, Ecklonia radiata, Gracilaria spp and Pterocladia lucida), using conventional long line methods, including occupation of 3.87ha 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 8095.

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;

Fish farming licence

#### 4.0 TERMS OF CONSENT

U110243 – 2.36ha expires July 2031.

U110259 – 1.51ha expires December 2024.

The Applicant seeks a 20-year term and to combine the extensions and the original licence into one consent. As there will be a large bottleneck of applications to the Marlborough District Council around this time, the applicant has requested that if the consent is granted, then the commencement date of the new consent could be delayed for 3 years, until 2021.

#### 5.0 THE SITE - LOCATION

"Marine farm 8095 is located along the northern shoreline of Camp Bay, Waitata Bay. Camp Bay is a very small bay along the northern shore of Waitata Bay (Waitata Reach, Pelorus Sound). Camp Bay is located approximately 2 km northwest of Boat Rock Point and some 13 km by sea from the Pelorus Harbour limit. Camp Bay has a coastline length of just 650 m and covers an area of sea of approximately 6.3 ha. The Bay is roughly 380 m wide." (Davidson Environmental Report 885)

The farm sits alongside other farms on the northern coast of Waitata Bay. The nearest marine farms to 8095 are the adjacent farms to the west 8096 and to the east 8094, 8093 and 8092.

The adjacent land is zone Rural 1.

There is one residence and two holiday accommodation units near the site. The nearest residence is approximately 300 metres for the site.

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

#### 6.0 THE SITE - DIMENSIONS

The site dimensions are as per the layout plans attached. The depth of the water at each of the site corners is 16.6 metres (NW), 18.7 metres (NE), 19.7 metres (SE), and 20.6 metres (SW).

The application includes 8 long lines, each being approximately 158 metres long.

There are currently 8 lines installed and operating at the site that grow Greenshell mussels.

The site layout is attached to the application.

The warp lengths are between 34-48 metres from each end of the backbone (see line layout diagram for individual longline lengths). The warp ratio is approximately 2:1.

The farm is identified as being onsite as shown on the Marlborough District Council website (smart maps).

#### 7.0 THE PRESENT ENVIRONMENT

#### 7.1 The Marine Environment

In July 2018 Mr RJ Davidson, of Davidson Environmental Ltd, undertook a biological study of the ecology of the marine area of site 8095 (Report 885, 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;

#### "5.0 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.

The benthos under the farm consent was dominated by silt and clay (i.e. mud). A bedrock reef was observed on the western area inshore of the consent and has previously been documented by Davidson and Richards (2011). All observed hard substrata was inshore of the consent. No species, habitats or communities of scientific, conservation or ecological importance were observed during the present study.

Mud (i.e. silt and clay) dominated the benthos under farm growing structures. Mud is the most common subtidal habitat in the sheltered Marlborough Sounds (McKnight and Grange, 1991) and has been traditionally targeted for marine farming activities. This substratum type is considered suitable for consideration for marine farming activities in the Marlborough Sounds.

Unlike mud and silt, pebble and cobble substratum are not traditionally considered suitable for marine farming activities as it usually is smothered by shell debris and likely no longer functions as a hard substratum habitat. At this site, hard substratum was observed only inshore of the consent area.

#### 5.2 Mussel farming impacts

#### *5.2.1 Benthic impacts*

Mussel shell debris was recorded from 7 out of 13 images and the majority of these were of low value. Two photos recorded moderate-high and high mussel shell debris inside the consent, inshore and offshore of backbones. Mussel debris around the backbone structures ranged from none to moderate values, but most values were low. No mussel shell was recorded outside of the consent area. This farming activity represents a low impact range compared to other farms in the Sounds.

The amount of mussel shell recorded during the present study was consistent with levels recorded by Davidson and Richards (2011). Davidson and Richards (2011) recorded mostly low mussel shell debris values close to and under droppers, while the present study showed mostly none-low values.

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).

5.3 Boundary adjustments, recommendations and monitoring
No adjustments to the proposed reconsenting farm, 8095 are recommended.

The substratum under the consent is dominated by mud, the most common and widespread habitat type in sheltered shores of the Marlborough Sounds. The impacts associated with mussel farming on muddy habitats characterised by silt and clay are low compared to farm impacts in shallow, habitats dominated by rocky or biogenic communities.

Based on the substratum located under structures and the low impact levels of the existing activity, no monitoring is suggested."

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

Marine farm 8095 is located along the northern shoreline of Camp Bay, Waitata Bay. Camp Bay is a very small bay along the northern shore of Waitata Bay (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 foreshore and the hinterland are dominated regenerating bush and forestry

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 conventions established in the Marlborough Sounds Resource Management Plan.

#### 8.2 Headlands

There are no headlands immediately adjacent to the site.

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

#### 8.4 Anchorages or Mooring Areas (Formal/Informal)

There is one registered mooring in the vicinity of the site. Mooring 131 is approximately 220 metres from the site and is owned by the Waitata Bay Lodge Limited and Pelorus Boating Club Inc, Waikawa Boating club incorporated and the Mana Cruising club.

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 30-40 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 95 - 105 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 is one residence and two holiday accommodation units near the site. The nearest residence is approximately 300 metres for 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 been described as an area of outstanding nature landscapes and features in the proposed Plan, these assessments were made with the farms already in place and operational.

Section 6(b) of the Act requires decision makers to recognise as a matter of national importance the protection of outstanding natural features and landscapes (ONFLs) from inappropriate subdivision, use and development. Policy 15(a) of the New Zealand Coastal Policy Statement 2010 (NZCPS) requires adverse effects of activities on ONFLs in the coastal environment to be avoided. NZCPS policy 15(b) requires significant adverse effects from activities on other natural features and natural landscapes in the coastal environment to be avoided, and other adverse effects to be avoided, remedied or mitigated.

The operative Marlborough Sounds Resource Management Plan (MSRMP) identifies Areas of Outstanding Landscape Value (AOLV).<sup>1</sup> The application site is not within an AOLV.

The proposed Marlborough Environment Plan (MEP) contains landscape overlay maps based on the 2015 Marlborough Landscape Study.<sup>2</sup> While these maps are generally considered to be based on more up-to-date methodology than the MSRMP, they are the subject of a large number of submissions. The application site is within an ONFL area in the MEP.

In assessing whether the proposal is appropriate in the context, we must understand what is sought to be protected, namely the values of the area.<sup>3</sup> The values for each of those areas are listed in the schedules in MEP Appendix 1.

Aquaculture is part of the Marlborough Sounds environment. A marine farm in this location does not interfere with the listed values, because it is consistent with the mixed use/working character of this part of the Sounds, is one of a number of visible human interventions in this area, is low profile in nature and only visible at close range (with visual effects diminishing in some conditions depending on lighting and weather). In addition, Greenshell mussels are naturally occurring in New Zealand and are indigenous. Aquaculture is perhaps the only form of farming where the effects are fully reversible.<sup>4</sup>

On this basis, adverse effects from the activity on identified ONFLs are avoided, consistent with NZCPS policy 15(a); and significant adverse effects on other natural features and natural landscapes are avoided, consistent with NZCPS policy 15(b).

The area has not been described as having outstanding, very high or high natural character in the proposed Plan.

The area has not been described as having outstanding, very high or high natural character in the proposed Plan.

#### **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.<sup>5</sup> 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 effect of the marine farm on the adjacent area will not have an effect on the flora and fauna of this area.

The area 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 in the Marlborough Sounds Resource Management Plan for off shore but adjacent to Site 8095 (1/11 – King shags)

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:<sup>6</sup>

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.

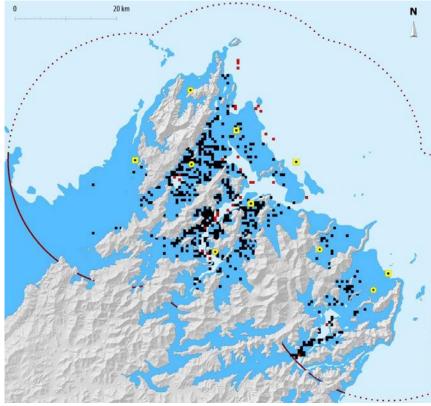
The industry, via the Marine Farming Association (MFA), is actively involved in a Working Group with the Department of Conservation and key stakeholders which is undertaking research into king shag population and breeding dynamics. The applicant is supportive both financially and practically of this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

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.<sup>7</sup> The four main king shag breeding colonies and a number of satellite colonies are included in this report.

These sites are mapped as Ecologically Significant Marine Sites in Volume 4 of the proposed Marlborough Environment Plan (MEP).

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 Sound<sup>8</sup> 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)<sup>9</sup>

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. 10 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.<sup>11</sup> It is unclear whether marine farms have an adverse, positive<sup>12</sup> or neutral effect for King shag foraging, or on King shag prey.<sup>13</sup> Observations suggest that the mere physical presence of marine farm structures does not preclude foraging.<sup>14</sup>

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 servicing vessels do not operate within less than 1,000 metres from any colonies.

A number of standard consent conditions might be imposed, including:

- A requirement to ensure that structures are restrained, secure, and in good working order.<sup>17</sup>
- 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 Procedures<sup>18</sup> includes provisions to maintain farms in good condition and to minimise debris. This reduces entanglement risk.
- The MFA Noise Code of Practice<sup>19</sup> 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' Activities<sup>20</sup> 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 mussels<sup>21</sup> (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.<sup>22</sup>"

#### 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 currently in Waitata Bay. The farm would not interfere with commercial fishing operations offshore from the farm. 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 farm is consented for 8 long lines and the farm structures presently consist of 8 long lines each being approximately 158 metres in length containing black mussel buoys ranging between approximately 4 and 60 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 8095 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 885.

No specific sites of marine ecological significance have been identified in Waitata 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 Waitata Bay. The continuing activity itself is unlikely to create any significant detrimental effects on water quality. Exert from Davidson Report (Benthic Report 885, refer attached).

#### 5.2.2 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 aspect has not been well studies in the Sounds. 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).

Previous species observations suggest tidal currents remain predominantly light at this site (Davidson, 1999). However, the location is relatively close to the main reach, so water turnover times are likely to be relatively short compared to bays distant to the main reach (e.g. Hallam Cove).

Based on these considerations, it is probable the site is unlikely to cause significant phytoplankton depletion outside the boundaries of the consent. As the present proposal is to reconsent the farm, there will be little or no change to activities that presently occur, therefore consumption of phytoplankton will remain consistent.

#### 17.0 THE BENTHIC ENVIRONMENT

In terms of the benthic environment, the ecology of this area has been documented in Davidson Environmental Ltd Report 885 (refer to 7.1 above).

The farm structures are located over habitat considered suitable for this type of activity. No monitoring appeared to be necessary.

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;<sup>23</sup>
- (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.

The applicant continues to support the industry's collective response to these issues.

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.<sup>24</sup> 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.<sup>25</sup>

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.<sup>26</sup> Mussels remove nutrients derived from land-use practices.

The applicant agrees with other stakeholders who are calling for a strategic assessment of cumulative effects.<sup>27</sup> 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 has a farm base located in Waitata Bay where they continue to operate from.

### 21.0 VALUE OF INVESTMENT

As part of this Application to renew site 8095, 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 site has been held by the applicant since 1996. From that time the applicant has expended significantly on the establishment and maintenance of the farm.

The farm produces approximately 140 tonnes per annum (\$1200/ Green Weight Tonne (GWT). The mussels are currently processed into nutraceutical products. The processor requires the value of this information to remain confidential as it contains an Intellectual Property component and is commercially sensitive. However if the mussels after processing were ½ shell product it would be sold on the export market at approximately \$318,000. Approximately 95% of mussel products are exported. All lines are restocked after harvest to achieve 140 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 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 been described as an area of outstanding nature landscapes and features 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 outstanding natural landscape value.

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 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 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.<sup>28</sup>"

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 Waitata 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.

### 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 character.

The area has not been described as an area of outstanding or very high or high natural character in the proposed Plan.

### 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 is one registered mooring in the vicinity of the site. The site does not impede access to this mooring.

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. Initial meetings have taken place with Ngati Koata and Ngati Kuia

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 8095 is appropriate, thereby allowing the continued farming of Greenshell mussels at the site.

The site is in that part of 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
5.3.2:	5.3.5: Avoid, remedy or mitigate the reduction of	No artificial feed or attractants are added.
That water quality in the coastal marine area be	coastal water quality by contaminants arising	No Chemicals, antibiotics or other theraputants
maintained at a level which provides for the	from activities occurring within the coastal	added
sustainable management of the marine	marine area.	Any discharges of organic matter associated with
ecosystem		harvesting will be transitory.
5.3.10:	5.3.11: Avoid, remedy or mitigate habitat	Any disruption associated with the existing
The natural species diversity and integrity of	disruption arising from activities occurring within	mooring of the farm is minor in scale and
marine habitats be maintained or enhanced	the coastal marine area.	transitory. The seabed is already in a modified
		state due to terrestrial run off.
7.1.9:	7.1.10:	The marine farm is consistent with the current
To enable present and future generations to	To enable appropriate type, scale and location of	Policy and the designated consented area is
provide for their wellbeing by allowing use,	activities by:	within a bay with other marine farms.
development and protection of resources	<ul> <li>clustering activities with similar effects;</li> </ul>	
provided any adverse effects of activities are	<ul> <li>ensuring activities reflect the character and</li> </ul>	
avoided, remedied or mitigated.	facilities available in the communities in	
	which they are located;	
	<ul> <li>promoting the creation and maintenance of</li> </ul>	
	buffer zones (such as stream banks or	
	'greenbelts');	
	<ul> <li>locating activities with noxious elements in</li> </ul>	
	areas where adverse environmental effects	
	can be avoided, remedied or mitigated.	
	7.1.12:	The marine farm is located within the consented
	To ensure that no undue barriers are placed on	area which marine farming is a permitted
	the establishment of new activities (including	activity. There will be no change in permitted
	new primary production species) provided the	activity or permitted structures when the
	life supporting capacity of air, water, soil and	consent is renewed.
	ecosystems is safeguarded and any adverse	
	environmental effects are avoided, remedied or	
	mitigated.	

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. 7.2.10(a) - (d)	The marine farm is within a bay with other marine farms. The marine farm's activity is biologically sustainable.  The marine farm is located within the consented
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	area which is permitted for marine farming.  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
Ch 2, 2.2, Obj 1: The preservation	Policy 1.1: Avoid the adverse effects of subdivision,	This application is set in an area which is regenerating scrub.
of the natural character of the	use or development within those areas of the	The marine farm is within a bay with other marine farms.
coastal environment, wetlands,	coastal environment and freshwater bodies which	
lakes, and rivers and their margins	are predominantly in their natural state and have	
and the protection of them from	natural character which has not been compromised.	
inappropriate subdivision, use and	Policy 1.2: Appropriate use and development will be	Refer above.
development.	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.	
	Policy 1.3: To consider the effects on those qualities,	These matters have been considered in the assessment of
	elements and features which contribute to natural	environmental effects.
	character, including:	
	<ul> <li>a) Coastal and freshwater landforms;</li> </ul>	
	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.	
	Policy 1.4: In assessing the actual or potential	The application will not have any additional impact on the
	effects of subdivision, use or development on	components of these policies which impact natural character
	natural character of the coastal and freshwater	values.
	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.	

	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, makes 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 has been sent to all Iwi identifying the site prior to the application being submitted.
Ch 8, 8.3, Obj 1: That public access to and along the coastal marine area, lakes and rivers be maintained and enhanced.	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 as far as practicable be avoided. Where complete	There are no additional adverse effects on public access caused by the marine farm.

	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	There are no additional adverse effects on public access
	marine farms that restrict public access in the	caused by the marine farm.
	coastal marine area where it is subjected to high	
	public usage.	
	Policy 1.8: Public access to and along the coastal	There are no additional adverse effects on public access
	marine area should be maintained and enhanced	caused by the marine farm.
	except where it is necessary to [circumstances do	
	not apply].	
Ch 9, 9.2.1, Obj 1: The	Policy 1.1: Avoid, remedy and mitigate the adverse	The way in which adverse effects on the stated values will be
accommodation of appropriate	effects of use and development of resources in the	avoided, remedied and mitigated is addressed elsewhere in
activities in the coastal marine	coastal marine area on any of the following:	the assessment of environmental effects. Overall, the
area whilst avoiding, remedying or	a) Conservation and ecological values;	proposal is consistent with this policy.
mitigating the adverse effects of	b) Cultural and iwi values;	, , , , , , , , , , , , , , , , , , , ,
those activities.	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.	
	Policy 1.2: Adverse effects of subdivision, use or	The marine farm is within a bay with other marine farms.
	development in the coastal environment should as	There are no additional adverse effects on the coastal
	far as practicable be avoided. Where complete	
	avoidance is not practicable, the adverse effects	
	avoidance is not practicable, the daverse effects	regarierite will not enange from the existing consent.

	should be mitigated and provision made for	
	remedying those effects to the extent practicable.	
	Policy 1.3: Exclusive occupation of the coastal	Consistent with other marine farms in the Marlborough
	marine area or occupation which effectively	Sounds, exclusive occupation of the consent area is not
	excludes the public will only be allowed to the	sought, other than for the area physically occupied by the
	extent reasonably necessary to carry out the activity.	lines and anchoring devices.
	Policy 1.6: Ensure recreational interests retain a	Not applicable
	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.	
	Policy 1.7: Avoid adverse effects from the	Exclusive occupation of the consent area is not sought. There
	occupation of coastal space in or around recognised	is one mooring located in the vicinity of the farm. The farm
	casual mooring areas.	does not impede the navigation to this mooring.
	Policy 1.12: To enable a range of activities in	Policy 1.12 enables marine farming in appropriate places. Site
	appropriate places in the waters of the Sounds	8095 is consented for marine farming, there are other marine
	including marine farming, tourism and recreation.	farms consented in the adjacent bay.
	<i>(a)</i>	, , , , , , , , , , , , , , , , , , , ,
	Policy 1.13: Enable the renewal as controlled	NA
	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.	
Ch 9, 9.3.2, Obj 1: Management of	Policies 1.1 to 1.11	This application is not anticipated to have any impact on
the effects of activities so that		shellfish quality.
water quality in the coastal marine		
area is at a level which enables the		
gathering or cultivating of shellfish		
for human consumption (Class SG).		

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.	effects of activities and structures on navigation and	
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 is one residence and two holiday accommodation units near the site. A servicing vessel is estimated to spend approximately 95-105 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
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]	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.
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]	See sections 12 and 22 AEE.
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]	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.
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	See above.

MEP Provision	Evaluation
natural and physical resources, where this is not inconsistent with the Resource Management Act 1991. [RPS]	
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.  [RPS]	See above.
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:  (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: 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. [RPS]	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
Policy 3.1.5 – Ensure iwi management plans are taken into account in resource management decision making processes. [RPS]	The applicant has reviewed the Iwi management plans of Ngāti Kōata and Te Ātiawa o Te Waka-a-Māui.
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]	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.
Policy 4.1.2 – Enable sustainable use of natural resources in the Marlborough environment. [RPS]	As above at Objective 4.1.
Policy 4.1.3 – Maintain and enhance the quality of natural resources. [RPS]	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.
Objective 4.3 – The maintenance and enhancement of the visual, ecological and physical qualities that contribute to the character of the Marlborough Sounds.  [RPS]	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.
	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.

MEP Provision	Evaluation
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]	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.
Policy 4.3.3 – Provide direction on the appropriateness of resource use activities in the Marlborough Sounds environment.  [RPS]	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.
Policy 4.3.4 – Enhance the qualities and values that contribute to the unique and iconic character of the Marlborough Sounds. [RPS]	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.
Policy 4.3.5 – Recognise that the Marlborough Sounds is a dynamic environment [RPS]	The applicant recognises that the Sounds is a dynamic environment. The appropriateness of the farm can be reassessed by future generations in the context of the future environment of the area through the resource consenting process.
Objective 5.10 – Equitable and sustainable allocation of public space within Marlborough's coastal marine area. [RPS, C]	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.
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]	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.
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]	The applicant considers that the first in first served method of allocation is appropriate for applications that meet the statutory requirements.

MEP Provision	Evaluation
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]	The design of the site layout ensures the public will have access inshore of and through the farm.
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]	The applicant has insufficient information on coastal occupancy charges to understand the implications.
Policy 5.10.5 – The Marlborough District Council will waive the need for coastal occupancy charges for the following: (b) monitoring equipment;  [C]	Davidson Environmental has not indicated that ongoing monitoring is necessary at this site.
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]	Refer Policy 5.10.4
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]	The farm will not adversely compromise the existing values of the area and is appropriate development
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]	N/A —site is not identified in the MEP has having outstanding natural character values.
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]	The proposal avoids significant adverse effects. There will be no damage, loss or destruction. The effects are reversible upon removal of the farm.

MEP Provision	Evaluation
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]	The site is not classified as having high natural character in the MEP. There will be no change in the degree of the biological components of natural character.
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]	See above and AEE sections 9 and 22.3.
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]	The proposal is less likely to have an adverse effect on natural character, given existing development in the area.
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]	The effects are not of a scale to justify an enhancement programme.
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]	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.
Objective 7.2 – Protect outstanding natural features and landscapes from inappropriate subdivision, use and development and maintain and enhance landscapes with high amenity value.	The area is mapped as ONFL (although these maps are subject to challenge through the consultation process on the MEP). 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 ONFL.

MEP Provision	Evaluation
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]	See above and sections 9
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:  (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  [C, D]	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.
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]	See above.
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]	See above.
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:  (a) In respect of structures:  (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	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.

MEP Provision	Evaluation
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  [R, C, D]	
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. [C, D]	Existing farming and aquaculture already occurs within the embayment and general area. The proposal is consistent with this primary production character.
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. [R, C, D]	See above.
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.	There are no areas of ecological significance in the MEP.  The effect of the marine farm on the adjacent area will not have an effect on the flora and fauna of this area.
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	According to the Davidson Environmental report, the proposed farm is consistent with policy 8.3.2(b).

MEP Provision	Evaluation
Delias 0.2.5. In the context of Delias 0.2.1 and Delias 0.2.2 advance offerts to be availed as otherwise.	Cos AFF and Davidson Francescope and Japane
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:	See AEE and Davidson Environmental report.
[(a) – (t)]	
Policy 8.3.8 – With the exception of areas with significant indigenous biodiversity value, where	Biodiversity offsetting is not justified in this case.
indigenous biodiversity values will be adversely affected through land use or other activities, a	blodiversity offsetting is not justified in this case.
biodiversity offset can be considered to mitigate residual adverse effects. Where a biodiversity offset is proposed, the following criteria will apply:	
(a) the offset will only compensate for residual adverse effects that cannot otherwise be avoided, remedied or mitigated;	
(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;	
(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;	
(d) there is a strong likelihood that the offsets will be achieved in perpetuity;	
(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 (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.	
Objective 9.1 – The public are able to enjoy the amenity and recreational opportunities of	See sections 8, 9, 11, 13, 14 and 18 of the AEE.
Marlborough's coastal environment, rivers, lakes, high country and areas of historic interest. [RPS, R, C, D]	
Policy 9.1.1 – The following areas are identified as having a high degree of importance for public access	N/A
and the Marlborough District Council will as a priority focus on enhancing access to and within these areas:	
(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; (b) coastal marine area, particularly in and near Picton, Waikawa and Havelock, Kaiuma Bay,	
Queen Charlotte Sound (including Tory Channel), Port Underwood, Pelorus Sound, Mahau	
Sound, Mahikipawa Arm and Croiselles Harbour, Rarangi to the Wairau River mouth, Wairau Lagoons, Marfells Beach and Ward Beach	
	<u>I</u>

MEP Provision	Evaluation
[RPS]	
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:  (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.  [RPS, C, D]	See above. The farm will not prevent access to areas or sites of cultural and historic significance in the area.
Policy 9.1.5 – Acknowledge the importance New Zealander's place on the ability to have free and generally unrestricted access to the coast. [RPS, C, D]	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.
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.  [RPS, C]	The proposed farm will be able to be accessed from the existing facilities of a contractor or lessee.
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. [RPS, C]	There is a jetty 400 metres to the west of the site. The farm does not impede access to the jetty.
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:  (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	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

MEP Provision	Evaluation
cannot be located elsewhere;  (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;  (e) in the coastal marine area, whether exclusive rights of occupation are being sought as part of the application;  (f) for the Marlborough Sounds, whether there is practical road access to the site of the application;  (g) how public access around or over any structure sought as part of an application is to be provided for;  (h) whether the impact on public access is temporary or permanent and whether there is any alternative public access available; and  (i) whether public access is able to be restricted in accordance with Policies 9.2.1 and 9.2.2.	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.
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. [RPS, C, D]	The applicant recognises the value of open space and has designed the site layout with this in mind.
Objective 10.1 – Retain and protect heritage resources that contribute to the character of Marlborough. [RPS]	See section 12 AEE.
Policy 10.1.3 – Identify and provide appropriate protection to Marlborough's heritage resources, including:  (a) historic buildings (or parts of buildings), places and sites; (b) heritage trees; (c) places of significance to Marlborough's tangata whenua iwi; (d) archaeological sites; and (e) monuments and plaques.  [RPS, C, D]	See above

MEP Provision	Evaluation
Chapter 13 objectives and policies.	N/A – Chapter 13 expressly states that it "does not contain provisions managing marine farming."
Objective 15.1a – Maintain and where necessary enhance water quality in Marlborough's rivers, lakes, wetlands, aquifers and coastal waters, so that:  (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.  [RPS, R, C]	Mussel farming will not have an adverse effect on water quality and may even enhance water quality.
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:  (a) Coastal waters: protection of marine ecosystems; potential for contact recreation and food gathering/marine farming; and for cultural and aesthetic purposes;  [RPS, R, C]	Aquaculture requires excellent water quality. The proposed farm will not have an adverse effect on water quality.
Policy 15.1.9 – Enable point source discharge of contaminants or water to water where the discharge will not result:  (a) in any of the following adverse effects beyond the zone of reasonable mixing: (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.  [R, C]	Discharge from harvesting will not result in any of the specified adverse effects.

MEP Provision	Evaluation
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:  (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.  [RPS, R, C]	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.
<ul> <li>15.1.11 – When considering any discharge permit application for the discharge of contaminants to water, regard will be had to: <ul> <li>(a) the potential adverse effects of the discharge on spiritual and cultural values of Marlborough's tangata whenua iwi;</li> <li>(b) the extent to which contaminants present in the discharge have been removed or reduced through treatment; and</li> <li>(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.</li> </ul> </li> <li>[RPS, R, C]</li> </ul>	See above  Discharge during harvest is temporary in nature and sedimentation soon reverts to background levels, consistent with policy 15.1.11(c).
<ul> <li>15.1.12 – After considering Policies 15.1.10 and 15.1.11, approve discharge permit applications to discharge contaminants into water where: <ul> <li>(a) the discharge complies with the water quality classification standards set for the waterbody, after reasonable mixing; or</li> <li>(b) in the case of non-compliance with the water quality classification standards set for the waterbody:</li> <li>(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</li> <li>(ii) the degree of non-compliance will not give rise to significant adverse effects.</li> </ul> </li> <li>[RPS, R, C]</li> </ul>	Water discharged during harvesting will comply with SG standards in Appendix 5.

MEP Provision	Evaluation
(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; (c) no more than five years where the existing discharge will not comply with water quality	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.
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.	It is illogical to allow for a marine farming permit for 20 years and restrict a discharge permit for harvesting to 15 years.  The applicant is seeking 20-year resource consent. The AEE suggests that this term in appropriate in these circumstances.

### **Footnotes**

- <sup>8</sup> A new breading 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.
- <sup>9</sup> 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).
- <sup>10</sup> Clearwater Mussels Limited v Marlborough District Council [2018] NZEnvC 88 at [85].
- <sup>11</sup> 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].

<sup>&</sup>lt;sup>1</sup> These areas are identified in accordance with the specific criteria set out in Appendix 1, Volume 1 of the MSRMP.

<sup>&</sup>lt;sup>2</sup> Boffa Miskell/Marlborough District Council Marlborough Landscape Study (August 2015).

<sup>&</sup>lt;sup>3</sup> Environmental Defence Society Inc v New Zealand King Salmon Company Ltd [2014] NZSC 38 at [101] and [105]; Man O'War Farm Limited v Auckland Council [2017] NZCA 24 (24 February 2017) at [65]; and Western Bay of Plenty District Council v Bay of Plenty Regional Council [2017] NZEnvC 147 at [165] – [167].

<sup>&</sup>lt;sup>4</sup> Davidson, R.J.; Richards L.A. 2014. Recovery of a mussel farm in Otanerau Bay, East Bay, Marlborough Sounds: 2002-2013. Prepared by Davidson Environmental Limited for Marlborough District Council. Survey and Monitoring Report No. 788.

<sup>&</sup>lt;sup>5</sup> MEP Volume 3, Appendix 1, pp 1-27 to 1-28.

<sup>&</sup>lt;sup>6</sup> Dr Rachel McClellan, *King Shag Advice – Effects of Renewal of Outer Admiralty Bay Mussel Farm* (Wildland Consultants, December 2017) at p 4.

<sup>&</sup>lt;sup>7</sup> 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).

<sup>&</sup>lt;sup>12</sup> Such as providing a safe resting place, or causing changes in benthic communities which may be beneficial for king shag prey species.

<sup>&</sup>lt;sup>13</sup> Clearwater Mussels at [86(a) and (c)].

<sup>&</sup>lt;sup>14</sup> Ibid at [86(c)(iii)].

<sup>&</sup>lt;sup>15</sup> Statement of Evidence of Paul Richard Fisher on behalf of Friends of Nelson Haven and Tasman Bay Inc. and Marlborough District Council (4 April 2017) at [90] (in *Clearwater Mussels Limited v Marlborough District Council* ENV-2016-CHC-40 and 41).

<sup>16</sup> Forest and Bird 2015: New Zealand Seabirds: sites on land, coastal sites and islands. The Royal Forest and Bird Protection Society of New Zealand, Wellington. 229 pp. This is similar to the recommendation in Taylor, G.A. (2000). Action plan for seabird conservation in New Zealand. Part A. Threatened Seabirds. *Threatened Species Occasional Publication No. 16.* Department of Conservation, Wellington.

<sup>&</sup>lt;sup>17</sup> 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.

<sup>&</sup>lt;sup>18</sup> A copy is available here: <a href="http://www.marinefarming.co.nz/media/1518/mfa-mussel-standard-operating-procedures-current.pdf">http://www.marinefarming.co.nz/media/1518/mfa-mussel-standard-operating-procedures-current.pdf</a>.

- <sup>19</sup> A copy is available here: <a href="http://www.marinefarming.co.nz/media/1303/code-of-practice-noise-2016-current.pdf">http://www.marinefarming.co.nz/media/1303/code-of-practice-noise-2016-current.pdf</a>.
- <sup>20</sup> A copy is available here: <a href="http://www.marinefarming.co.nz/media/1070/industry-cop-reducing-pollution-on-water.pdf">http://www.marinefarming.co.nz/media/1070/industry-cop-reducing-pollution-on-water.pdf</a>.
- 21 A copy is available here: https://static1.squarespace.com/static/55d2b0eee4b0649ae7068665/t/55f7d6afe4b05cc86
  891dd9f/1442305711334/Greenshell+Mussel+SMF+July+2015+10-9-15.pdf
- <sup>22</sup> Raymond Smith Ngai Kuia
- <sup>23</sup> 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

https://www.marlborough.govt.nz/repository/libraries/id:1w1mps0ir17q9sgxanf9/hierarchy/Documents/Environment/Coastal/Scientific%20Investigations%20List/A\_1000\_year\_historyof seabed change in Pelorus Sound Te Hoiere.pdf

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 Totaranui Marlborough.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:

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

- <sup>25</sup> 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: <a href="http://www.mfe.govt.nz/sites/default/files/media/Environmental%20reporting/our-marine-environment.pdf">http://www.mfe.govt.nz/sites/default/files/media/Environmental%20reporting/our-marine-environment.pdf</a>
- <sup>26</sup> Handley et al 2017 History of seabed change at p 25.
- <sup>27</sup> 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.
- <sup>28</sup> Raymond Smith Ngai Kuia



# **Davidson Environmental Limited**

# Biological report for the reconsenting of marine farm 8095 in Camp Bay, Waitata Bay

Research, survey and monitoring report number 885

A report prepared for: Goulding Trustees Limited Glenduan, Nelson

June 2018

# Bibliographic reference:

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June 2018

# Contents

1.0	Intro	duction	4
2.0	Backg	ground information	6
2.1 2.2		dy areatorical reports	
3.0		ods (present survey)	
3.1		nar imaging	
3.2		op camera stations, mussel debris and low tide	
4.0	Resul	ts	.10
4.1		nsent corners and surface structures	
4.2		nar imaging	
4.3	Dro	op camera images	. 14
5.0	Concl	lusions	.19
5.1	Ber	nthic habitats and substratum	.19
5.2		issel farming impacts	
5	.2.1	Benthic impacts	.19
5	.2.2	Productivity	.20
5.3	Воц	undary adjustments, recommendations and monitoring	.21
Refere	ences .		.22
Apper	ndix 1.	Drop camera photographs	.23



# Specialists in research, survey and monitoring

# 1.0 Introduction

The aim of the present study was to provide biological information for the proposed reconsenting of marine farm site 8095 in Camp Bay, Pelorus Sound. The present survey provides a reduced level of information compared to traditional reconsenting report. The MDC requested that the present report provides an update based on the recent offshore shift of the consent to avoid an inshore reef. New data includes a sonar run to plot the position of the reef relative to the new farm boundary and a small number of photos to check shell debris levels and photos to confirm the rocky substrata is now avoided.

The 3.91 ha consent area is located along the northern shoreline of Camp Bay, Waitata Bay (Plates 1 & 2). The present surface structures consist of one block of surface structures (2.4 ha).

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



Plate 1. Location of marine farm 8095 in Camp Bay, Pelorus Sound.



Plate 2. Marine farm site 8095 looking eastward along the backbone lines.



### Specialists in research, survey and monitoring

# 2.0 Background information

# 2.1 Study area

Marine farm 8095 is located along the northern shoreline of Camp Bay, Waitata Bay (Plates 1 & 2). Camp Bay is a very small bay along the northern shore of Waitata Bay (Waitata Reach, Pelorus Sound). Camp Bay is located approximately 2 km northwest of Boat Rock Point and some 13 km by sea from the Pelorus Harbour limit. Camp Bay has a coastline length of just 650 m and covers an area of sea of approximately 6.3 ha. The Bay is roughly 380 m wide.

# 2.2 Historical reports

Four reports relating to site 8095 were found during a search of available literature. One report was produced for the original marine farm application (U951209) (Davidson 1995); a second for a proposed extension (U991631) (Davidson 1999); a third report for a Fisheries Permit for the extension area (Davidson and Richards 2005); and a fourth an ecological report for the renewal of marine farm site 8095 (Davidson and Richards, 2011).

The author (Davidson 1995) stated:

"Both shore profiles were initially extensions of the intertidal shore being dominated by a combination of bedrock, small boulder, cobble and pebble substrata with no large brown macroalgae. At transect 1, a subtidal bedrock wall extended to approximately 40 m distance from shore, while at transect 2, cobble, pebble and small boulder substrata also extended to 40 m from shore. With increasing distance and depth from shore, the proportion of fine sediments increased. By 40 m to 60 m distance from shore, all fine sand had been replaced by silts with broken and dead whole shell overlying a base of silt dominating. By 70 m to 80 m distance from shore, the benthos was dominated by silts and clays. This substrata continued on to the end of the transects.

From the transects and scooter run, a total of 28 conspicuous species of invertebrate, 5 algae, 5 ascidians and 9 species of bony fish were recorded. A zone of tubeworms (*Galeolaria hystrix*) were observed from transect 1 on the hard shore zone between 10 m to 30 m distance offshore and outside the proposed marine farm boundaries. Further, a zone of red



alga was observed from transect 2 between approximately 40 m to 50 m distance from shore. Brachiopods were observed during the study but in very low numbers.

Nine species of fish were recorded during the investigation. Spotty (*Notolabrus celidotus*) were numerically the most abundant reef fish. Blue cod were relatively common on the rubble bank and around the rock areas on transect 1. Scallops densities were collected from 12 quadrats along transect 2. Mean density was 0.05 individuals per m², SE = 0.023. Overall, scallops were in low abundance. No legal sized scallops were observed during the investigation. Very few horse mussels were observed from the study area. No density data were therefore collected.

All of the benthos investigated below the proposed marine farm was dominated by soft bottoms composed primarily of broken and dead whole shell overlying silt or further from shore silts and clays. A relatively low variety of conspicuous epibenthic species were observed from these soft bottoms. All soft bottom species were observed in relatively low numbers compared to shallow hard substrate and the shelly fine sand zone at the base of the hard shore zone."

#### Davidson (1999) stated:

"All areas within the offshore application were dominated by soft substrata (i.e. silt and clay with a small component of shell material). No cobble material or other hard shore substrata were recorded from within the application area. No ecological values identified in the Department of Conservation report (DoC, 1995) were recorded in offshore areas above trigger levels during the present study."

#### Davidson and Richards (2005) collected a variety of data and concluded:

"All of the benthos under existing mussel farming structures and the proposed extension was dominated by soft substratum (i.e. silt and clay). No species of ecological or fisheries value were apparent from samples. The shell debris impact zone originating from the existing mussel farm is restricted to < 15 m distance from the droppers. It is expected that spreading the existing lines into the proposed extension area will result in a small spread of shell debris on the sea floor of Camp Bay."



Davidson and Richards (2011) described the impact zone and benthic habitats associated with the 8095 farm site:

"The amount of mussel shell recorded during the present study was consistent with levels recorded by Davidson and Richards (2005). These authors also recorded mostly low values close to and under droppers. During the present study, the spread of mussel shell recorded by divers was greater; however, the spread of shell recorded in the present study remains within the normal range of shell debris of Sounds farms.

The benthos under the farm consent was dominated by silt and clay (i.e. mud). A localised area of bedrock was observed at the western inshore boundary. No farm structures have been positioned in this area and it appears free of any farm related impacts. No other areas of hard substrata were observed from within the consent. No species, habitats or communities of scientific, conservation or ecological importance were observed during the present study.

Most of the consent is located over substratum considered suitable for consideration for marine farming activities in Marlborough.

Inshore lines have been positioned further offshore than the inshore boundary to avoid the area of bedrock. This has placed some lines offshore of the consent. It is therefore suggested that the consent be revalidated offshore to encompass existing structures. This would place the farm over habitat suitable for consideration for marine farming and avoid the inshore bedrock reef and associated coarse soft substratum".

## 3.0 Methods (present survey)

The area was investigated on the 29<sup>th</sup> May 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.

On the day of the survey, the tide was high at 8.28 am (2.6 m) and low at 2.13 pm (0.6 m). During fieldwork, the tide was incoming and low.

## 3.1 Sonar imaging

Sonar investigations of the area inshore of the marine farm consent and inshore consent boundary were conducted using a Lowrance HDS-12 Gen 2 and HDS-8 Gen2 linked with a Lowrance StructureScan<sup>TM</sup> Sonar Imaging LSS-1 Module. These units provide right and left side imaging as well as DownScan Imaging<sup>TM</sup>. The unit also allows real time plotting of StructureMap<sup>TM</sup> 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.

Any bottom abnormalities such as reefs, hard substrata or abrupt changes in depth were noted for inspection using the drop camera.

## 3.2 Drop camera stations, mussel debris and low tide

A total of 13 drop camera photographs were collected from within existing farm backbones, areas alongshore of backbones, and areas inshore and offshore of the backbones during the present investigation. The number and location of drop camera photographs were chosen to complement and check the level of impact recorded during the collection of photographs sampled by Davidson and Richards (2011). 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 onboard 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 high at 8.28 am (2.6 m) and low at 2.13 pm (0.6 m). During fieldwork, the tide was incoming after the low tide.

### 4.1 Consent corners and surface structures

Inshore corner depths of the marine farm were 16.6 m and 18.7 m, while the offshore corner depths were 19.7 m and 20.1 m (Table 1, Figure 1). The consent area and areas occupied by surface structures (pink) have been plotted in Figure 1.

## 4.2 Sonar imaging

Sonar runs along the inshore boundary of the consent revealed the rocky substrata inshore of the consent (Figure 2).

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

Туре	No. & Depth (m)	Coordinates
Consent corner	1, 18.7m	1678306.2,5464930.2
Consent corner	2, 19.7m	1678312.7,5464768.7
Consent corner	3, 20.1m	1678061.4,5464773.6
Consent corner	4, 16.6m	1678078.2,5464937.6
Structure corner	A, 18.7m	1678264.9,5464904.8
Structure corner	B, 18.9m	1678136.7,5464916.3
Structure corner	C, 19.4m	1678106.8,5464908.3
Structure corner	D, 19.6m	1678264.9,5464805.3
Structure comer	E, 20.6m	1678099.0,5464800.7
Low tide	Low tide 1	1678285.6,5465067.5
Low tide	Low tide 2	1678090.1,5464976.7

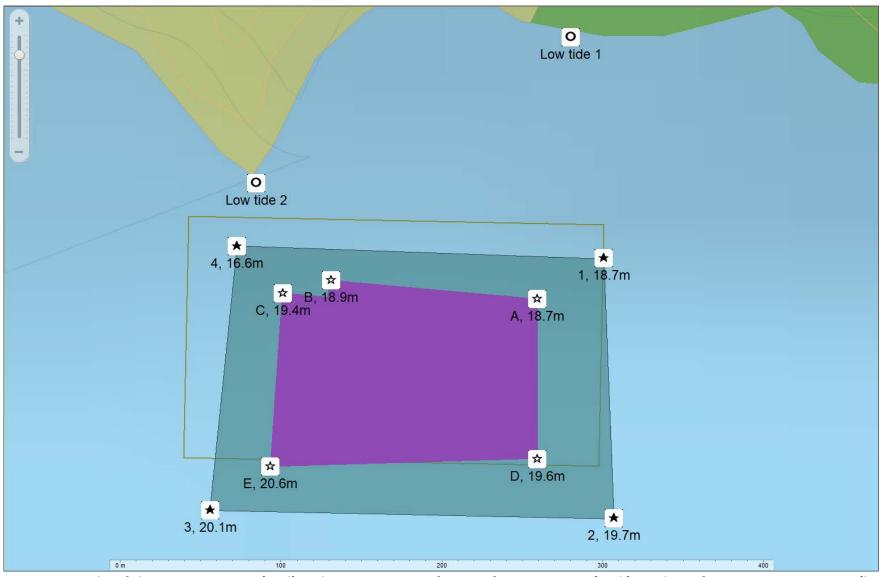


Figure 1. Depths of the reconsent area (teal) and existing marine farm surface structures (pink). Outline of previous consent area (brown polygon). Two low tide locations also plotted (circles).

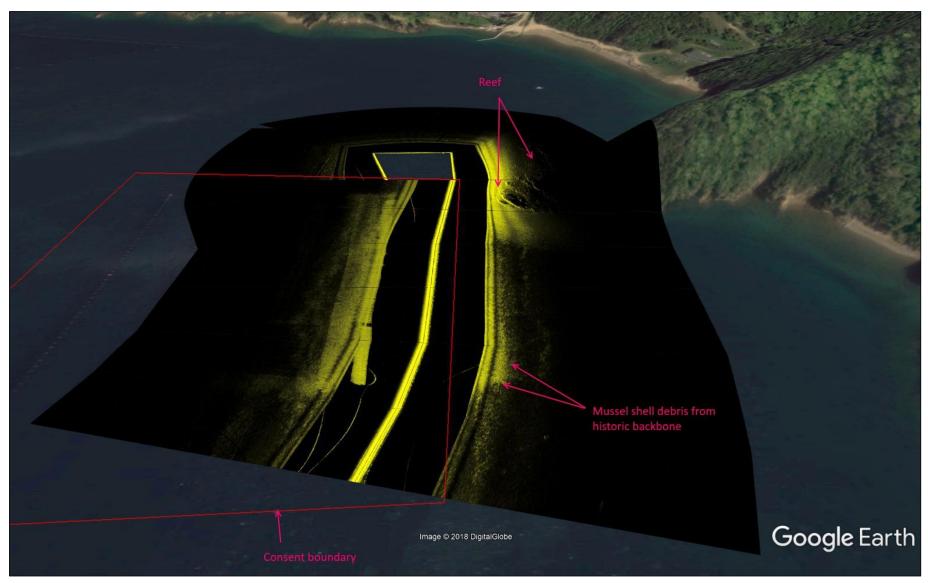


Figure 2. Inshore sonar transects at farm site 8095. Red polygon = consent boundary.



## 4.3 Drop camera images

Drop camera photographs were taken from the existing consent and areas inshore of the consent (Table 2, Figure 3). Photographs were used to describe the benthic substratum and cover of mussel shell debris.

#### Inshore of the consent

Benthic photographs taken inshore of the consent showed the presence of hard substrata. An area of bedrock, boulders and cobbles was observed inshore of the consent (Plate 3). Fine sand and natural shell was also observed in association with this reef (Plate 4).



Plate 3. Bedrock, boulders, cobbles (photo 5, 9.3m depth)



Plate 4. Fine sand, silt and natural shell (photo 6, 15.7 m depth)

#### Within the consent

The benthos under the consent area was dominated by silt and clay substratum (Table 2, Plates 5 & 6). Mussel shell debris was observed within the consent area in 8 of the 11 consent photos collected. Mussel shell debris ranged from none to moderate cover under the backbones (Plates 6). Two photos had moderate-high and high mussel shell debris values



inside the consent, inshore and offshore of backbones (Plates 7 & 8). The majority of mussel shell debris values were none-low (Table 2).



Plate 5. Silt and clay, in consent under warps (photo 7, 19.5 m depth).

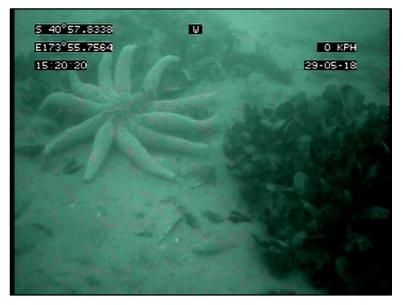


Plate 6. Silt and clay, moderate mussel shell debris under backbones (photo 8, 19.6 m depth).



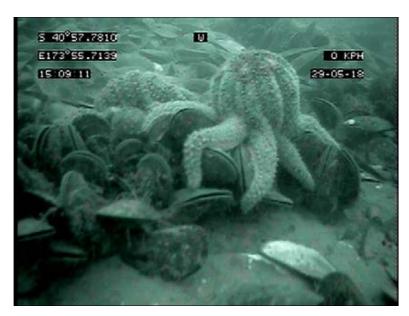


Plate 7. Silt and clay, high mussel shell debris in consent, no structures (photo 3, 17.8 m depth).



Plate 8. Silt and clay with moderate-high mussel shell debris in consent, no structures (photo 11, 20.5 m depth).

Table 2. Coordinates of drop camera stations showing location relative to the marine farm consent area (NZTM). Colours are: grey = within consent, pink = under backbones, blue = outside consent. Depth, substratum, mussel debris (% cover) are listed. Mussel shell cover: 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	Shell debris
1, 18.7m	1678280.5,5464920.9	In consent, no structures	Silt and clay, natural shell	None
2, 18.7m	1678211.9,5464926.1	In consent, no structures	Silt and clay, mussel shell	Low
3, 17.8m	1678138.4,5464930.8	In consent, no structures	Silt and clay, mussel shell	High
4, 16.8m	1678089.1,5464935.1	In consent, no structures	Silt and clay, natural shell	None
5, 9.3m	1678114.4,5464956.8	Inshore of consent, no structures	Bedrock, boulders, cobbles	None
6, 15.7m	1678116.7,5464939.0	Inshore of consent, no structures	Fine sand, silt, natural shell	None
7, 19.5m	1678100.8,5464838.9	In consent, under warps	Silt and clay	None
8, 19.6m	1678197.8,5464833.9	In consent, under backbones	Silt and clay, mussel shell	Moderate
9, 19.4m	1678252.6,5464834.6	In consent, under backbones	Silt and clay, mussel shell	Low
10, 19.7m	1678215.5,5464795.8	In consent, no structures	Silt and clay, mussel shell	Low
11, 20.5m	1678138.4,5464790.8	In consent, no structures	Silt and clay, mussel shell	Moderate-high
12, 19.4m	1678164.7,5464883.0	In consent, under backbones	Silt and clay	None
13, 19.1m	1678230.7,5464879.8	In consent, under backbones	Silt and clay, mussel shell	Low



Figure 3. Drop camera stations in and adjacent to consent area, consent renewal area (grey), surface structures (pink) and outline of previous consent. 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.

The benthos under the farm consent was dominated by silt and clay (i.e. mud). A bedrock reef was observed on the western area inshore of the consent and has previously been documented by Davidson and Richards (2011). All observed hard substrata was inshore of the consent. No species, habitats or communities of scientific, conservation or ecological importance were observed during the present study.

Mud (i.e. silt and clay) dominated the benthos under farm growing structures. Mud is the most common subtidal habitat in the sheltered Marlborough Sounds (McKnight and Grange, 1991) and has been traditionally targeted for marine farming activities. This substratum type is considered suitable for consideration for marine farming activities in the Marlborough Sounds.

Unlike mud and silt, pebble and cobble substratum are not traditionally considered suitable for marine farming activities as it usually is smothered by shell debris and likely no longer functions as a hard substratum habitat. At this site, hard substratum was observed only inshore of the consent area.

## 5.2 Mussel farming impacts

#### **5.2.1** Benthic impacts

Mussel shell debris was recorded from 7 out of 13 images and the majority of these were of low value. Two photos recorded moderate-high and high mussel shell debris inside the consent, inshore and offshore of backbones. Mussel debris around the backbone structures ranged from none to moderate values, but most values were low. No mussel shell was recorded outside of the consent area. This farming activity represents a low impact range compared to other farms in the Sounds.

The amount of mussel shell recorded during the present study was consistent with levels recorded by Davidson and Richards (2011). Davidson and Richards (2011) recorded mostly low mussel shell debris values close to and under droppers, while the present study showed mostly none-low values.



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).

### 5.2.2 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 aspect has not been well studies in the Sounds. 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).

Previous species observations suggest tidal currents remain predominantly light at this site (Davidson, 1999). However, the location is relatively close to the main reach, so water turnover times are likely to be relatively short compared to bays distant to the main reach (e.g. Hallam Cove).

Based on these considerations, it is probable the site is unlikely to cause significant phytoplankton depletion outside the boundaries of the consent. As the present proposal is to reconsent the farm, there will be little or no change to activities that presently occur, therefore consumption of phytoplankton will remain consistent.

Davidson Environmental Ltd.



## 5.3 Boundary adjustments, recommendations and monitoring

No adjustments to the proposed reconsenting farm, 8095 are recommended. No change to the consented number of backbones is suggested.

The substratum under the consent is dominated by mud, the most common and widespread habitat type in sheltered shores of the Marlborough Sounds. The impacts associated with mussel farming on muddy habitats characterised by silt and clay are low compared to farm impacts in shallow, habitats dominated by rocky or biogenic communities.

Based on the substratum located under structures and the low impact levels of the existing activity, no monitoring is suggested.



### 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. 1995. Description of the subtidal macrobenthic community from a proposed marine farm east of Camp Bay, Waitata Bay, Marlborough Sounds. Survey and Monitoring Report No. 91. Prepared by Davidson Environmental for Goulding & Brennan.
- Davidson, R.J. 1999. Biological report on a proposed marine farm extension located in Camp Bay, Waitata Bay, Pelorus Sound. Survey and Monitoring Report No. 296. Prepared by Davidson Environmental Limited for Goulding and Brennan.
- Davidson, R.J.; Richards, L.A. 2005. Biological investigation of an extension (U991631) to an existing mussel marine farm located at Camp Bay, Waitata Bay, Pelorus Sound. Prepared by Davidson Environmental Ltd for Goulding and Brennan. Survey and Monitoring Report No. 503.
- Davidson, R.J. & Richards, L.A. 2011. Ecological report for the proposed renewal of marine farm site 8095 located in Camp Bay, Waitata Bay, Pelorus Sound. Prepared by Davidson Environmental Ltd. for Goulding Trustees Ltd. Survey and monitoring report no. 682.
- Davidson, R.J.; Richards L.A. 2014. Recovery of a mussel farm in Otanerau Bay, East Bay, Marlborough Sounds: 2002-2013. Prepared by Davidson Environmental Limited for Marlborough District Council. Survey and Monitoring Report No. 788.
- Hartstein, N.D.; Rowden, A.A. 2004. Effect of biodeposits from mussel culture on macrobenthic assemblages at sites of different hydrodynamic regime. Marine Environmental Research, 57, 339-357.
- 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-finfish species. Prepared for the Ministry of Fisheries. Cawthron Report No. 1476. 150 p. plus appendices.
- 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 and clay, natural shell

Photo site 2 Silt & clay, mussel shell

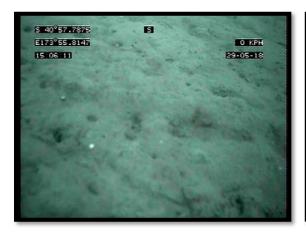
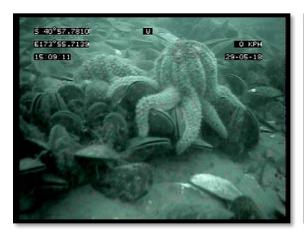




Photo site 3 Silt & clay, mussel shell

Photo site 4 Silt & clay, natural shell



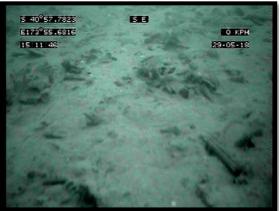


Photo site 5 Bedrock, boulders, cobbles

Photo site 6 Fine sand, silt, natural shell





Photo site 8 Silt & clay, mussel shell



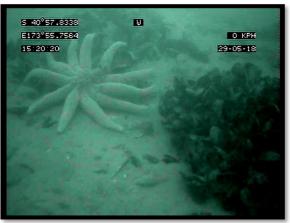


Photo site 9 Silt & clay, mussel shell

Photo site 10 Silt & clay, mussel shell





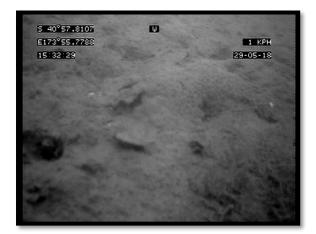
Photo site 11 Silt & clay, mussel shell

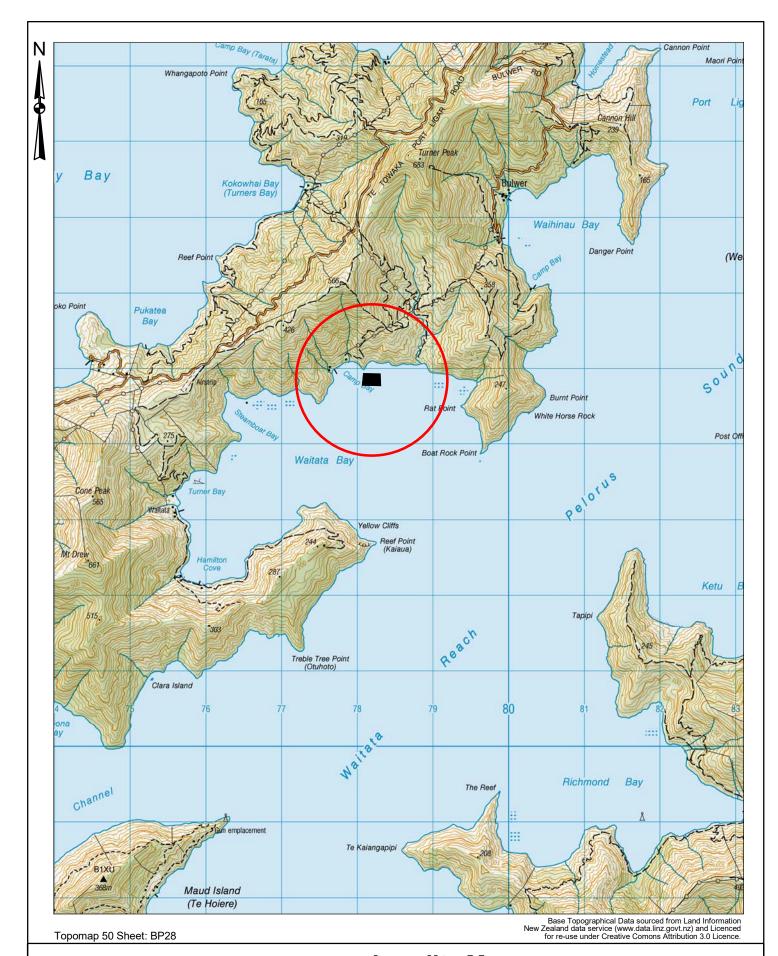
Photo site 12 Silt & clay





## Photo site 13 Silt & clay, mussel shell





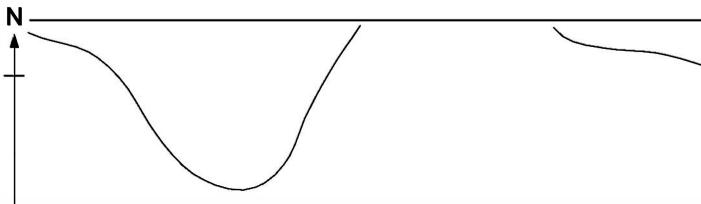


Prepared: 26 July 2018

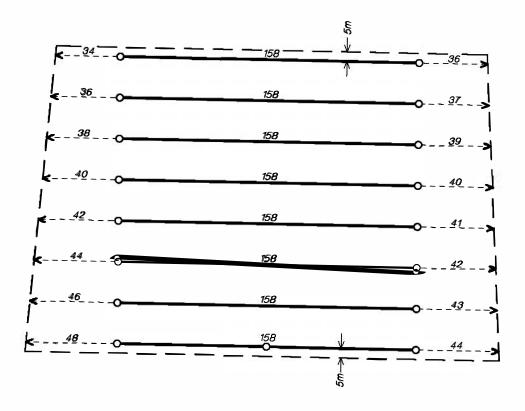
# **Locality Map**

Renewal of Marine Farm 8095 Camp Bay, Waitata Bay - Pelorus Sound

MF\_2572



# Camp Bay



# Waitata Bay

#### **NOTES**

- Total Longlines = 6
- Longline Spacing = 21.67m
- Anchor warp surface loss = as shown
- Backbone Length = 156m
- Total Backbone Length = 1264m

#### REFERENCE

Anchor

Orange Float Backbone

--- Anchor Warp



26 July 2018 MF\_2572

# Structure Layout Marine Farm Site 8095 Camp Bay, Waitata Bay

**SCALE 1:2,000** 100 25 0 25 125 150 metres

