

Bea Gregory-5252

From: RCInbox
Sent: Tuesday, 13 November 2018 2:59 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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Application for Resource Consent

Applicant details

Application for Resource Consent

Sections 88 and 145, Resource Management Act 1991

To

Marlborough District Council

Applicant

I,

Goulding Trustees Limited

108 Glen Road
Glenduan
Nelson 7071

1966209

Jim Goulding

108 Glen Road
Glenduan
Nelson 7071

0274 470 077

seafarms@xtra.co.nz

Apply for the following type(s) of resource consent

-

Agent

Aquaculture Direct Limited

PO Box 213
Blenheim 7240

Bruce Cardwell

021 451 284

bruce@aquaculturedirect.co.nz

Project reference

Marine Farm 8062

Property details

Site and location details

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

MARINE FARM SITE 8062 WEST ENTRY POINT, OUTER PELORUS, MARLBOROUGH

Legal description

Marine Farm 8062

Is there locale information in regards to the site?

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

Site description

Description of the site at which the activity is to occur

The site is located on the eastern coastline of Port Ligar, to the north of West Entry Point, Pelorus Sound.

“Port Ligar is a large south-facing bay complex situated in outer Pelorus Sound. The entrance to the Port is marked by Danger Point on the west and Te Akaroa (West Entry Point) on the east. Te Akaroa is approximately 5.5 km south-west of the Pelorus Harbour limit, and some 50 km by sea from Havelock. Port Ligar has a coastline length of approximately 15 km and covers an area of sea of approximately 852 ha. The entrance to the Port is approximately 2.2 km wide and the bay measures roughly 4.3 km in length.” (Davidson Environmental Report 896)

The farm sits alongside other farms. The nearest marine farms to 8062 are the adjacent farms to the north 8063, 8064 and 8065.

The adjacent land is zone Rural 1 and the long narrow neck is sounds foreshore reserve.

There are no residences in the vicinity of the site. The nearest residences are at the head of the bay approximately 4 kilometres from the site.

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

Owners and occupiers of the application site

Applicant is the only owner and occupier?

Yes - the applicant is the only owner and occupier

Proposed activity

Description of the activity

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

Goulding Trustees Limited has applied to renew the existing resource consent U041495 for marine farm site 8062 (total 3.745ha) for the purpose of farming Greenshell mussels (*Perna canaliculus*), blue mussels (*Mytilus galloprovincialis*), scallops (*Pecten novaezelandiae*), dredge oysters (*Tiostrea lutaria*), using conventional long line methods. (Refer attached layout diagrams illustrating the site.)

The farm was originally established in 1997 (MPE301) and was renewed in March 2005.

U041495 (which replaced MPE301) – 3.745ha was granted in July 2005 and expires 21 March 2025.

The applicant seeks a 20-year term for the new consent.

The expiry date of the existing consent is March 2025, along with over 300 marine farms located in the Marlborough Sounds due in December 2024.

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.

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.

There is a Ministry of Fisheries exclusion area on the inshore area of the farm and the farm is located clear of the zone.

U041495 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. The farm has been realigned to avoid cobble habitat. (refer to structure plan and Biological report)

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

The site dimensions are as per the layout plans attached. The application includes 10 long lines, each being approximately between 131-180 metres long.

There are currently 10 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 8062 at West Entry Point is very much part of their family business.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Are there permitted activities that are part of this application?

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

Permitted activities that are part of this application:

The application is for a new consent to replace U041495 West Entry Point, Outer Pelorus Sound to seed, cultivate and harvest species Greenshell mussels (*Perna canaliculus*), blue mussels (*Mytilus galloprovincialis*), scallops (*Pecten novaezelandiae*), dredge oysters (*Tiostrea lutaria*), using conventional long line methods, including occupation of 3.745ha 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 8062.

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 8062

Consent type

Coastal

Subcategory type

Activity

Description of consent being applied for

Goulding Trustees Limited has applied to renew the existing resource consent U041495 for marine farm site 8062 (total 3.745ha) for the purpose of farming Greenshell mussels (*Perna canaliculus*), blue mussels (*Mytilus galloprovincialis*), scallops (*Pecten novaezelandiae*), dredge oysters (*Tiostrea lutaria*), using conventional long line methods. (Refer attached layout diagrams illustrating the site.)

The farm was originally established in 1997 (MPE301) and was renewed in March 2005.

U041495 (which replaced MPE301) – 3.745ha was granted in July 2005 and expires 21 March 2025.

The applicant seeks a 20-year term for the new consent.

The expiry date of the existing consent is March 2025, along with over 300 marine farms located in the Marlborough Sounds due in December 2024.

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.

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.

There is a Ministry of Fisheries exclusion area on the inshore area of the farm and the farm is located clear of the zone.

U041495 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. The farm has been realigned to avoid cobble habitat. (refer to structure plan and Biological report)

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

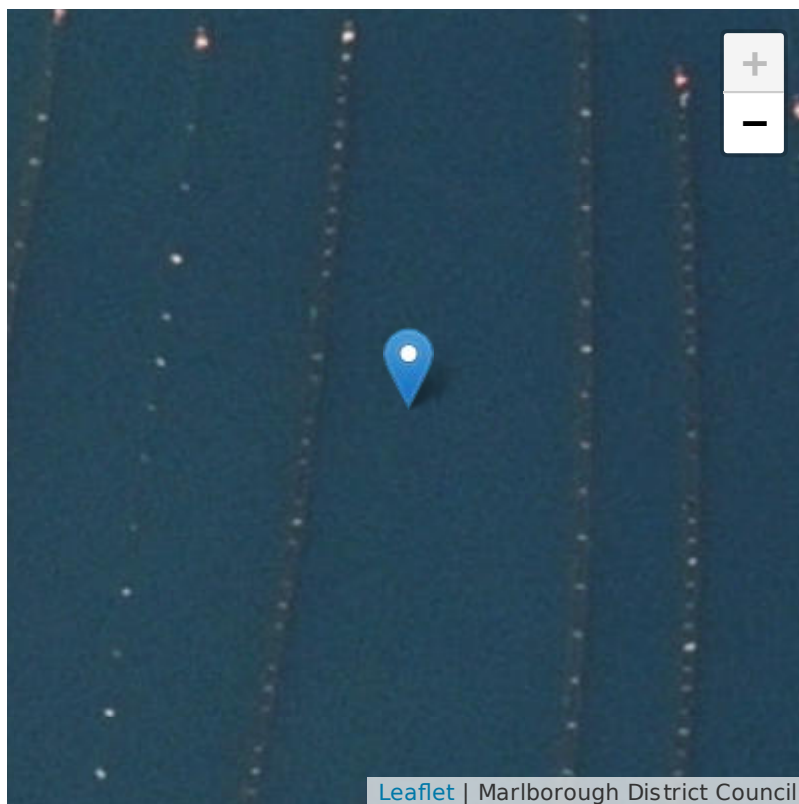
Location of the consent

Easting

1683868.066

Northing

5467008.75



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 U041495 West Entry Point, Outer Pelorus Sound to seed, cultivate and harvest species Greenshell mussels (*Perna canaliculus*), blue mussels (*Mytilus galloprovincialis*), scallops (*Pecten novaezelandiae*), dredge oysters (*Tiostrea lutaria*), using conventional long line methods, including occupation of 3.745ha 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 8062.

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

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

1. New Zealand Coastal Policy Statement 2010;
 2. Marlborough Regional Policy Statement;
 3. Marlborough Sounds Resource Management Plan; and
 4. Proposed Marlborough Environment Plan
- at Sections 23 and 24/Appendices A – C of this Assessment of Environmental Effects.

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

1. Fish farming licence
2. Aquaculture Decision

Assessment of Effects on the Environment (AEE)

Clause 6 - Information required in assessment of environmental effects

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

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

Refer to attached Assessment of Environmental Effects

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

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

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

Provision not relevant

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

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

Vessels will be required to service the farm on an irregular basis.

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

See assessment in question 6.1 (d) (i)

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

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

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

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

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

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

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

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

6.1(f cont.) any consultation undertaken,

See assessment in question 6.1 (f)

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

See assessment in question 6.1 (f)

6.1(f cont.) and any iwi consultation undertaken

See assessment in question 6.1 (f)

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

No benthic habitats or biological communities of particular interest were found during the present survey. The consent is mostly located over silt and clay substratum. This substratum is 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.

At the southern end, the consent is positioned < 50 m distance from low water. In this area and under warps are cobble substrata. It is recommended that the southern consent corners be shifted 25 m further from shore (see green polygon in Figure 6). This shift would align with existing backbones, place the farm > 50 m distance from low water and ensure most of the cobble habitat is inshore of the consent. Some cobbles would still be located under the consent, but they would be located under warps. Warps are known to have little or no impact on benthic communities (Davidson and Richards, 2014).

A least one backbone is located offshore of the existing and suggested consent boundaries. These should be removed or be encompassed within an application to extend the consent. The substratum in this area is composed of silt and clay and is therefore suitable for consideration for marine farming activities. This offshore area is presently utilized by foraging king shags suggesting this area has not been lost as a feeding habitat (see section 5.3).

No other changes to the present consent boundaries are suggested on biological grounds. Habitats and species associated with the site are typical of sheltered central and outer Pelorus Bays and as such no monitoring is suggested." (Davidson Environmental Report 896, attached)

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

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

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

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

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

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

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

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

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

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 is a headland at West Entry Point (Te Akaroa) 200m from the site. There is sufficient clearance from this point.

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 are no registered moorings in close vicinity of the site.

8.5 Indirect Effects-Servicing vessels at site

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

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

8.6 Water Ski Lanes

There are no formal water ski lanes in the vicinity.

8.7 Sub-Marine Cables

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

The visual impact of the marine farm will not change.

Access to the coast for recreationalists is maintained.

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

9.1 Land Zoned for Residential Use or Proximity to Residences

The land adjacent to the site is zone Rural 1 and sounds foreshore reserve.

There are no residences in the vicinity of the site. The nearest residences are at the head of the bay approximately 4 kilometres from 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 adjacent area has been described as an area of outstanding nature landscapes and features in the proposed Plan.

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 adjacent to an ONFL 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, and is one of a number of visible human interventions in this area. It is low profile in nature and only visible at close range (with visual effects diminishing in some conditions depending on lighting and weather), and will not interfere with significant ecological values, as addressed elsewhere in this application. 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 adjacent area has been described as having high natural character in the proposed Plan.

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

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

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

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

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

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

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

Visual Amenity

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

The area behind the farm is regenerating bush.

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

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

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

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

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

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

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

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

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

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

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

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

8.1 The Shoreline

The distance from the shoreline according to the original Cadastral mapping is inside the conventions established in the Marlborough Sounds Resource Management Plan.

8.2 Headlands

There is a headland at West Entry Point (Te Akaroa) 200m from the site. There is sufficient clearance from this point.

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 are no registered moorings in close vicinity of the site.

Applicant's proposed conditions for this activity

Goulding Trustees Limited has applied to renew the existing resource consent U041495 for marine farm site 8062 (total 3.745ha) for the purpose of farming Greenshell mussels (*Perna canaliculus*), blue mussels (*Mytilus galloprovincialis*), scallops (*Pecten novaezelandiae*), dredge oysters (*Tiostrea lutaria*), 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 adjacent area has been described as an area of outstanding nature landscapes and features in the proposed Plan. This assessment was made with the farm already in place and operational. There was no direction given in the plan that the marine farm should be removed for the area to be assessed as having outstanding nature landscapes and features.

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

The adjacent vegetation next to the farm is regenerating bush.

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

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

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

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

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

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

6.1 (g) the protection of protected customary rights.

The applicant recognises that Ngāti Apa ki te Rā Tō, Ngāti Kuia, Rangitāne o Wairau, Ngāti Kōata, Ngāti Rārua, Ngāti Tama ki Te Tau Ihu, Te Ātiawa o Te Waka-a-Māui and 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.”

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

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

The industry has developed a tsunami management plan.

Other matters (Section 7 Resource Management Act 1991)

1. Assess your application against the following matters:

7.1 (a) kaitiakitanga:

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

7.1 (aa) the ethic of stewardship:

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

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

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

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

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

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

Provision not relevant

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

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

7.1 (d) intrinsic values of ecosystems:

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

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

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

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

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

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

Provision not relevant

7.1 (i) the effects of climate change:

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

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

Provision not relevant

Treaty of Waitangi (Section 8 Resource Management Act 1991)

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

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

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

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

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

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

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

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

Statutory instruments

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

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

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

Statutes that are relevant to your proposed activity

Assessment under the Resource Management Act 1991

Refer to attached Assessment of Environmental Effects and appendices

Assessment under the New Zealand Coastal Policy Statement

Refer to attached Assessment of Environmental Effects and appendices

Assessment under the Marlborough Regional Policy Statement

Refer to attached Assessment of Environmental Effects and appendices

Assessment under the Marlborough Sounds Resource Management Plan

Refer to attached Assessment of Environmental Effects and appendices

Assessment under the Proposed Marlborough Environment Plan

Refer to attached Assessment of Environmental Effects and appendices

Additional information

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

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

Yes - this application relates to the following existing consent

Consent number

U041495

The value of investment of the existing consent holder is

As part of this Application to renew site 8062, the Applicant is seeking to re-consent the site for a period of 20 years. As a result, this is an Application to which section 165ZH(1)(c) applies and the Council must, when considering the application, have regard to the value of the investment of the existing consent holder under section 104(2A). The original existing site has been held by the applicant since 1997. From that time the applicant has expended significantly on the establishment and maintenance of the farm. The farm produces approximately 218 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 \$495,00. Approximately 95% of mussel products are exported. All lines are restocked after harvest to achieve 218 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	-	-	-	-	8062 Renewal Layout Plan.pdf (418 kB)
Site Plan	-	-	-	-	8062 Renewal Locality Map.pdf (3 MB)
-	-	-	-	-	8062 Renewal Site Plan.pdf (628 kB)
Benthic report	-	-	-	-	8062 West Entry (Goulding Trustees Ltd).pdf (3 MB)
Miscellaneous	-	-	-	-	8062 AEE Renewal October 2018.pdf (724 kB)

Affected person approvals

Have you obtained affected person(s) approvals?

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

Iwi

Have you obtained approvals from iwi?

No - I have not obtained approvals from iwi

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

Is public notification of the application requested by the applicant?

No - public notification of application is not requested

Lodgement fee

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

Payment ID Code

0009LQ

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)

Authorising person is:

Person authorised to sign on behalf of the applicant

Note to applicant

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

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

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

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

Privacy information

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

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

**APPLICATION BY GOULDING TRUSTEES LIMITED
TO RENEW EXISTING CONSENT FOR MARINE FARM SITE 8062
WEST ENTRY POINT, OUTER PELORUS, MARLBOROUGH**

1.0 INTRODUCTION – OVERVIEW OF APPLICATION

Goulding Trustees Limited has applied to renew the existing resource consent U041495 for marine farm site 8062 (total 3.745ha) for the purpose of farming Greenshell mussels (*Perna canaliculus*), blue mussels (*Mytilus galloprovincialis*), scallops (*Pecten novaezelandiae*), dredge oysters (*Tiostrea lutaria*), using conventional long line methods. (Refer attached layout diagrams illustrating the site.)

The farm was originally established in 1997 (MPE301) and was renewed in March 2005.

U041495 (which replaced MPE301) – 3.745ha was granted in July 2005 and expires 21 March 2025.

The applicant seeks a 20-year term for the new consent.

The expiry date of the existing consent is March 2025, along with over 300 marine farms located in the Marlborough Sounds due in December 2024.

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.

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.

There is a Ministry of Fisheries exclusion area on the inshore area of the farm and the farm is located clear of the zone.

U041495 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. The farm has been realigned to avoid cobble habitat. (refer to structure plan and Biological report)

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

The site dimensions are as per the layout plans attached. The application includes 10 long lines, each being approximately between 131-180 metres long.

There are currently 10 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 8062 at West Entry Point 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 3.745ha.

2.2 Structures: The site dimensions will be: inshore boundary 249 metres long, outer boundary 249 metres, southern boundary 150 metres long and north boundary 150 metres long (refer attached site plan).

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

2.3 Species: It is proposed to farm and harvest Greenshell mussels (*Perna canaliculus*), blue mussels (*Mytilus galloprovincialis*), scallops (*Pecten novaezelandiae*), dredge oysters (*Tiostrea lutaria*), 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 U041495 West Entry Point, Outer Pelorus Sound to seed, cultivate and harvest species Greenshell mussels (*Perna canaliculus*), blue mussels (*Mytilus galloprovincialis*), scallops (*Pecten novaezelandiae*), dredge oysters (*Tiostrea lutaria*), using conventional long line methods, including occupation of 3.745ha 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 8062.

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

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

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

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

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

1. Fish farming licence
2. Aquaculture Decision

4.0 TERMS OF CONSENT

U041495 expires 21 March 2025.

The Applicant seeks a 20-year term. 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.

5.0 THE SITE - LOCATION

The site is located on the eastern coastline of Port Ligar, to the north of West Entry Point, Pelorus Sound.

“Port Ligar is a large south-facing bay complex situated in outer Pelorus Sound. The entrance to the Port is marked by Danger Point on the west and Te Akaroa (West Entry Point) on the east. Te Akaroa is approximately 5.5 km south-west of the Pelorus Harbour limit, and some 50 km by sea from Havelock. Port Ligar has a coastline length of approximately 15 km and covers an area of sea of approximately 852 ha. The entrance to the Port is approximately 2.2 km wide and the bay measures roughly 4.3 km in length.” (Davidson Environmental Report 896)

The farm sits alongside other farms. The nearest marine farms to 8062 are the adjacent farms to the north 8063, 8064 and 8065.

The adjacent land is zone Rural 1 and the long narrow neck is sounds foreshore reserve.

There are no residences in the vicinity of the site. The nearest residences are at the head of the bay approximately 4 kilometres from the site.

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

6.0 THE SITE - DIMENSIONS

The site dimensions have been described above are as per the layout plans attached. The depth of the water at each of the site corners is 38 metres (NW), 27 metres (NE), 43 metres (SW) and 22 metres (SE).

The application includes 10 long lines, each being approximately between 139-180 metres long.

There are currently 10 lines installed and operating at the site that grow Greenshell mussels.

The site layout is attached to the application.

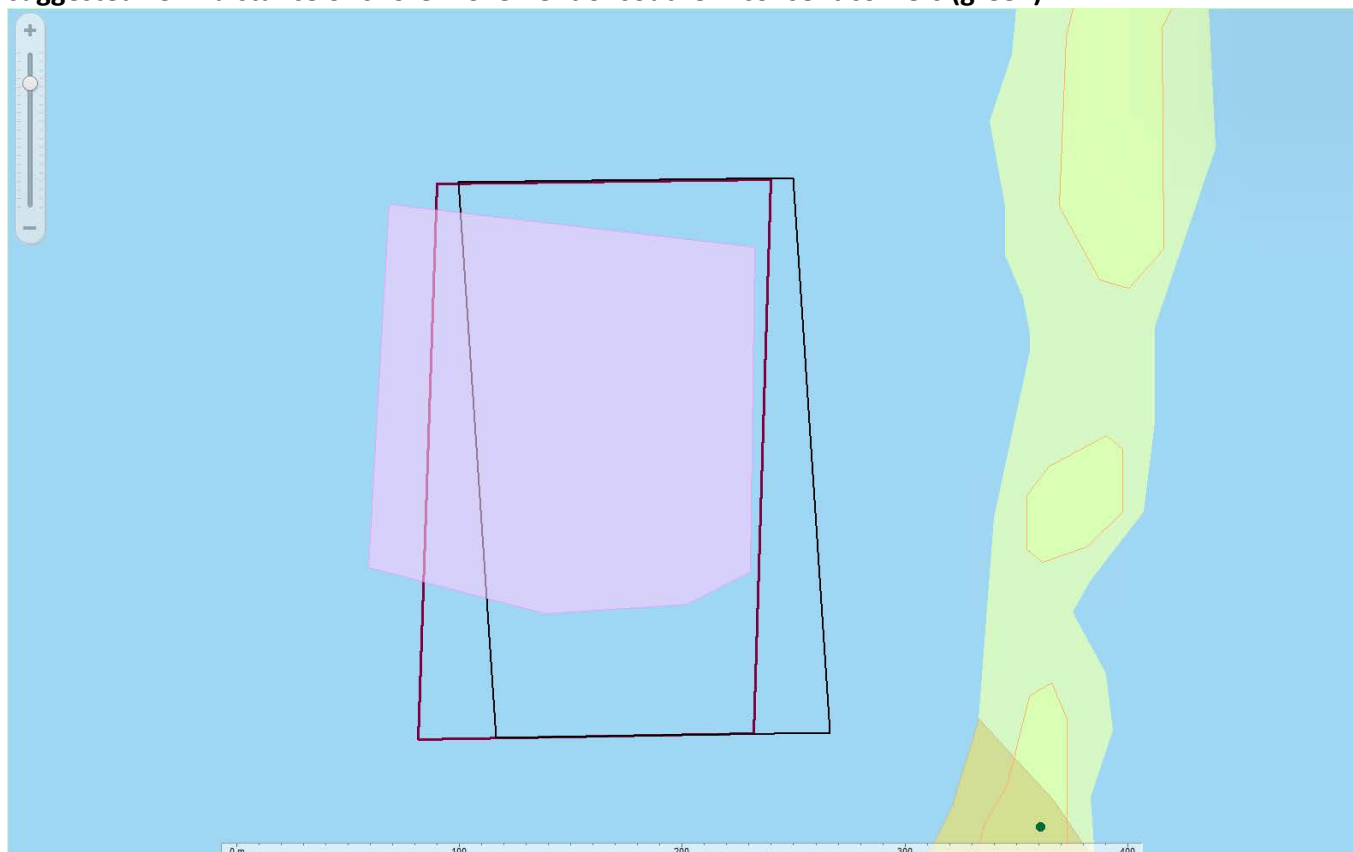
The warp lengths are between 32-59 metres from each end of the backbone (see line layout diagram for individual longline lengths). The warp ratio is approximately 1.7:1.

The farm has been identified in the Davidson report as being partially off site. The south inshore end of the original consent was approximately 30 metre from the low water mark. This is as a

result of inaccurate mapping and the consent should have been located at least 50 metres from the shoreline. There are many examples of incorrect cadastral mapping in the Marlborough Sounds locating farms too close to the shore.

When the farm was installed in 1997 it was professionally surveyed on site and screw anchors installed in accordance with the ground survey. The total cost of the surveying and anchor installation was significant, and the applicant had made their best endeavours to ensure the farm was located onsite. The surveyors probably identified that the consent was too close to the shore and located the farm to be outside the 50 metre line and avoid the MPI exclusion zone. During the survey undertaken by Davidson, using new GPS systems that were not available during the original installation, he identified the outside line was seaward of the boundary but noted high current flow which could move line 10 metres either way. The actual installation of the southern anchors to seaward refer Davidson report (Fig 4, page 19) allows for the 50 metres distance from the low tide mark. Surrendering the inshore area and relocating onto the seaward side will incorporate the existing farm as it has been located since installation. The outside lines will be repositioned after harvest to ensure the farm is located inside the area applied for.

Figure 6 – Davidson Environmental Report 896 - Existing consent (black), backbones (pink) and suggested 25 m distance offshore movement of southern consent corners (green).



The farm is identified as being onsite as shown on the Marlborough District Council website (smart maps) however the seaward line is partly off offsite.

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 8062 (Report 896, 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.

Most of the consent area was located over a relatively flat benthos dominated by silt and clay substratum with or without a very small component of natural shell. Mud (i.e. silt and clay) 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, rocky substratum is 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. Rocky substrata in the form of cobbles was observed in the southern inshore corner of the consent.

At least one mussel backbone line was located offshore of the consent. The offshore out of consent backbone/s were positioned over flat silt and clay substrata. This offshore substratum has been impacted by mussel shell debris.

5.2 Species and communities

Species abundance and diversity from most of the consent was low compared to high current locations in the Sounds. Benthic observations within mud dominated areas of the consent confirmed the area supported species typical of silt substratum (e.g. cushion seastars, sea cucumbers). Spotty and blue cod were observed under the consent, particularly along inshore edges of the farm (Photo 1 in Appendix 1).

No scallops or horse mussels were observed during the present survey suggesting they are not abundant. Occasional large grey sponges were observed on cobble substrata. No species, habitats or communities regarded as ecologically significant (see Davidson et al., 2011) were observed during the present study.

5.3 King shag

One king shag was observed swimming, diving, feeding and roosting in this farm during the present survey. The shag was first observed swimming over the northern warps zone near the offshore third of the consent. The bird swam towards and then between backbones. The shag then initiated a dive for a period of between 1 and 2 minutes before surfacing further south between the same backbones. The shag appeared to have a prey item. This attracted the attention of three gulls that

hovered above the shag before the prey was swallowed. The king shag then climbed onto a float for a period of 3-4 minutes before re-entering the water and a second dive. The shag then appeared further south near the edge of backbones. After a short period, a third dive was initiated, and the bird was seen to surface further offshore of the farm. Approximately 10 minutes later a king shag flew into the farm and assumed a roost on a mussel float approximately 12 m away from the survey vessel. It is unknown if the roosting bird was the same individual, however, it flew into the mussel farm from a southerly direction.

5.4 Mussel farming impacts

5.4.1 Benthic impacts

Mussel shell debris was recorded from 11 of the 20 consent area photos. Mussel debris was most abundant under backbones and was usually 60-100% cover. Mussel shell debris was recorded under warps close to the southern backbones perhaps due to intermittent strong tidal flows carrying shell in this direction. Mussel debris was also recorded in association with backbones located offshore of the consent.

Shell debris impact levels were within the range known for mussel farms in the Marlborough Sounds. This farm impact at this site is at the high end of the impact range compared to other farms in the Sounds.

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, however, the redox layer is likely shallower compared to sites away from the farm (Hartstein and Rowden, 2004; Keeley et al., 2009;).

If the offshore out of consent backbones are removed it is expected that recovery will take approximately 5-7 years as shell is often smothered in deeper offshore areas thereby reducing recovery times compared to inshore coarser substratum areas (Davidson and Richards, 2014).

5.4 Boundary adjustments, line adjustments and monitoring

No benthic habitats or biological communities of particular interest were found during the present survey. The consent is mostly located over silt and clay substratum. This substratum is 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.

At the southern end, the consent is positioned < 50 m distance from low water. In this area and under warps are cobble substrata. It is recommended that the southern consent corners be shifted 25 m further from shore (see green polygon in Figure 6). This shift would align with existing backbones, place the farm > 50 m distance from low water and ensure most of the cobble habitat is inshore of the consent. Some cobbles would still be located under the consent, but they would be located under warps. Warps are known to have little or no impact on benthic communities (Davidson and Richards, 2014).

A least one backbone is located offshore of the existing and suggested consent boundaries. These should be removed or be encompassed within an application to extend the consent. The substratum in this area is composed of silt and clay and is therefore suitable for consideration for marine

farming activities. This offshore area is presently utilized by foraging king shags suggesting this area has not been lost as a feeding habitat (see section 5.3).

No other changes to the present consent boundaries are suggested on biological grounds. Habitats and species associated with the site are typical of sheltered central and outer Pelorus Bays and as such no monitoring is suggested.” (Davidson Environmental Report 896, attached)

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

7.2 The Land Environment

The site is located on the eastern coastline of Port Ligar, to the north of West Entry Point, Pelorus Sound.

The adjacent land is zoned Rural 1 and sounds foreshore reserve.

The coastline adjacent consists of a long narrow neck with regenerating bush

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 is a headland at West Entry Point (Te Akaroa) 200m from the site. There is sufficient clearance from this point.

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 are no registered moorings in close vicinity of the site.

8.5 Indirect Effects-Servicing vessels at site

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

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

8.6 Water Ski Lanes

There are no formal water ski lanes in the vicinity.

8.7 Sub-Marine Cables

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

9.0 AESTHETIC

9.1 Land Zoned for Residential Use or Proximity to Residences

The land adjacent to the site is zone Rural 1 and sounds foreshore reserve.

There are no residences in the vicinity of the site. The nearest residences are at the head of the bay approximately 4 kilometres from 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 adjacent area has been described as an area of outstanding nature landscapes and features in the proposed Plan.

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).¹ 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.² 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 adjacent to an ONFL in the MEP.

In assessing whether the proposal³ is appropriate in the context, we must understand what is sought to be protected, namely the values of the area.⁴ 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, and is one of a number of visible human interventions in this area. It is low profile in nature and only visible at close range (with visual effects diminishing in some conditions depending on lighting and weather), and will not interfere with significant ecological values, as addressed elsewhere in this application. 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.⁵

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 adjacent area has been described as having high natural character in the proposed Plan.

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

Areas of natural character are not mapped in the MSRMP, although the overall natural character of the Marlborough Sounds and the natural character of identified marine and land areas are outlined in Appendix 2. The MEP contains Coastal Natural Character overlay maps, showing areas of outstanding, very high and high natural character.⁶ These overlay maps are the subject of a large number of submissions.

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

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

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

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

character in all other areas of the coastal environment are avoided, consistent with NZCPS policy 13(1)(b).

Visual Amenity

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

The area behind the farm is regenerating bush.

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

10.0 ECOLOGICAL VALUE

There is ecological value identified in the Marlborough Sounds Resource Management Plan for Site 8062(1/11) off shore king shags.

The site is 1/11 (map 68 and is recorded in Appendix B of the Plan as 'King shag feeding habitat'). A level of significance of 2 is ascribed to this site which reflects a site of national significance.

The assessments of these areas for King shag feeding areas were made with the farm already in place and operational. There was no direction given in the plan that the marine farms should be removed from the area to remain as a King shag feeding habitat.

Davidson Environmental noted in their Report the following in regards to a King shags presence on the site at the time of their survey.

"5.3 King shag

One king shag was observed swimming, diving, feeding and roosting in this farm during the present survey. The shag was first observed swimming over the northern warps zone near the offshore third of the consent. The bird swam towards and then between backbones. The shag then initiated a dive for a period of between 1 and 2 minutes before surfacing further south between the same backbones. The shag appeared to have a prey item. This attracted the attention of three gulls that hovered above the shag before the prey was swallowed. The king shag then climbed onto a float for a period of 3-4 minutes before re-entering the water and a second dive. The shag then appeared further south near the edge of backbones. After a short period, a third dive was initiated, and the bird was seen to surface further offshore of the farm. Approximately 10 minutes later a king shag flew into the farm and assumed a roost on a mussel float approximately 12 m away from the survey vessel. It is unknown if the roosting bird was the same individual, however, it flew into the mussel farm from a southerly direction." (Davidson Environmental Report 896).

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:⁷

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

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

The application site is within a king shag feeding habitat, being an Area of Ecological Value identified in the Marlborough Sounds Resource Management Plan. The Council's 2011 Significant Marine Sites Report identifies significant marine sites in Marlborough, including sites of significance to seabirds.⁸ 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 Sound⁹ 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.

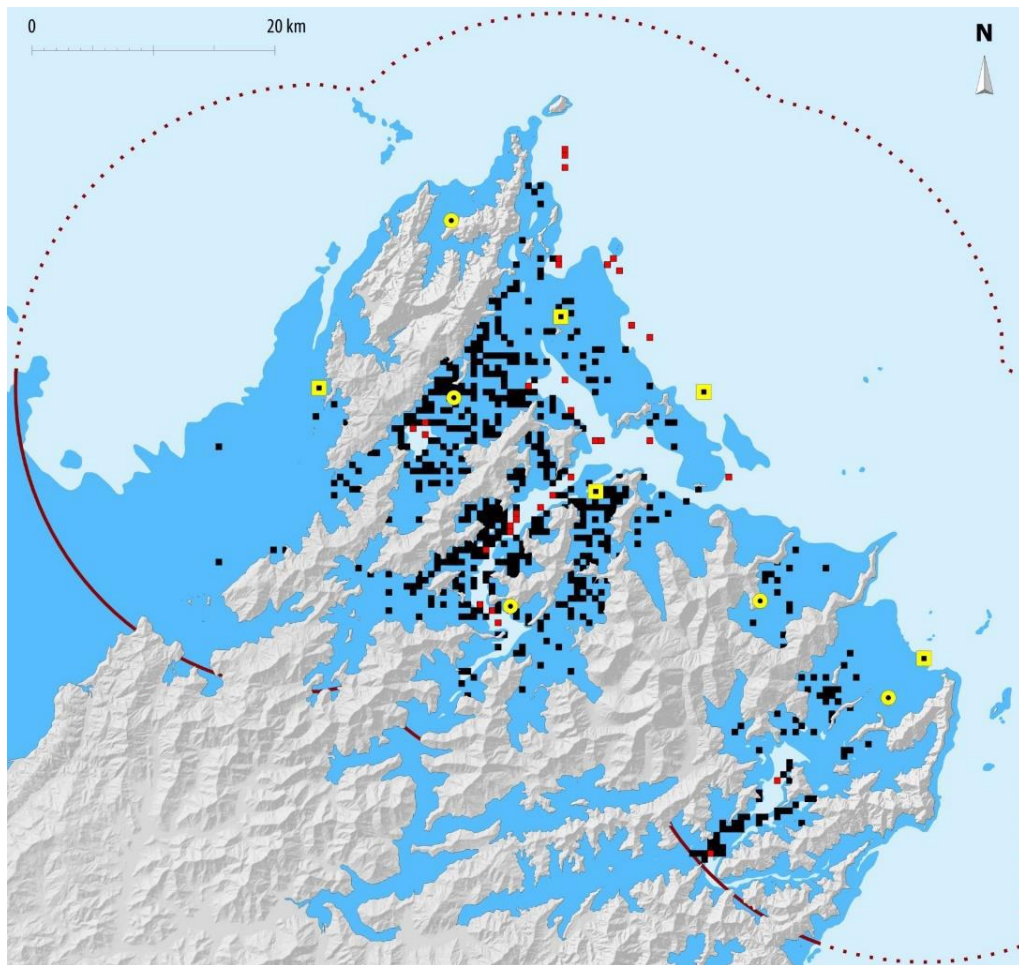


Figure 1. Distribution of foraging NZ king shags in the Marlborough Sounds

(Source: Schuckard 2017, unpublished)¹⁰

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.¹¹ 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.¹² It is unclear whether marine farms have an adverse, positive¹³ or neutral effect for King shag foraging, or on King shag prey.¹⁴ Observations suggest that the mere physical presence of marine farm structures does not preclude foraging.¹⁵

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.¹⁶ 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.¹⁷ 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.¹⁸
- 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 Procedures¹⁹ includes provisions to maintain farms in good condition and to minimise debris. This reduces entanglement risk.
- The MFA Noise Code of Practice²⁰ 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' Activities²¹ 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 mussels²² (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.²³"

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 at West Entry Point but may occur offshore. The farm will not interfere with commercial fishing operations. No artificial feed or attractants are added.

13.2 Recreational Fishing

Marine farms enhance 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 10 long lines and the farm structures presently consist of 10 long lines each being approximately between 139-180 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 8062 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 896.

No specific sites of marine ecological significance have been identified at West Entry Point 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 West Entry Point. The continuing activity itself is unlikely to create any significant detrimental effects on water quality. Exert from Davidson Report (Benthic Report 896, refer attached).

"5.4.2 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 topic is not well researched. There is considerable evidence showing the major drivers of the Pelorus system, for example, naturally leads to large within and between year variability. Relative to this, the impact of mussel farms appears to be material but relatively small compared to major environmental drivers (Broekhuizen et al., 2015).

Tidal flows in southern Port Ligar are strongest on farms closest to the main reach (i.e. south-eastern and south-western Ligar Bay). This site has moderate tidal flows (author pers. obs.). Winds may also be a significant driver of water movement in this area, especially during the predominant north-westerly winds in summer. The proximity of the farm to the main reach means water turnover times are likely to be short compared to bays well distant to main reach (e.g. Hallam Cove).

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

17.0 THE BENTHIC ENVIRONMENT

In terms of the benthic environment, the ecology of this area has been documented in Davidson Environmental Ltd Report 896 (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;²⁴
- (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.²⁵ 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.²⁶

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.²⁷ Mussels remove nutrients derived from land-use practices.

The applicant agrees with other stakeholders who are calling for a strategic assessment of cumulative effects.²⁸ 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 the Outer 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 8062, the Applicant is seeking to re-consent the site for a period of 20 years. As a result, this is an Application to which section 165ZH(1)(c) applies and the Council must, when considering the application, have regard to the value of the investment of the existing consent holder under section 104(2A).

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

The farm produces approximately 218 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 \$495,00. Approximately 95% of mussel products are exported. All lines are restocked after harvest to achieve 218 GWT/per annum harvests.

The mussels are processed in Nelson where they provide a critical part of the production to maintain processing to the factory which employs 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 adjacent area has been described as an area of outstanding nature landscapes and features in the proposed Plan. This assessment was made with the farm already in place and operational. There was no direction given in the plan that the marine farm should be removed for the area to be assessed as having outstanding nature landscapes and features.

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

The adjacent vegetation next to the farm is regenerating bush.

- 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.²⁹"

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 West Entry Point, Port Ligar.

Consultation will outline if there are areas of indigenous biodiversity or historic heritage value 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 adjacent area has been described as having high natural character in the proposed Plan.

This assessment was made with the farm already in place and operational. There was no direction given in the plan that the marine farm should be removed for the adjacent area to be assessed as having high natural character.

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

23.6 Policy 15

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

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

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

23.7 Policy 18

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

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

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

There are no formal water ski lanes.

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

23.8 Policy 22

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

23.9 Policy 23

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

Conclusion

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

24.0 REGIONAL POLICY STATEMENT/MARLBOROUGH SOUNDS RESOURCE MANAGEMENT PLAN

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

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

Conclusion

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

25.0 CONSULTATION

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

Name	Address	Phone
Ngati Koata Trust	PO Box 1659, Nelson 7040	(03) 548 1639
Te Runanga a Rangitane o Wairau	PO Box 883, Blenheim 7240	(03) 578 6180
Te Runanga O Ngati Kuia	PO Box 1046, Blenheim 7240	(03) 579 4328

Ngāti Apa ki te Rā Tō	PO Box 708, Blenheim 7240	(03) 578 9695
Te Atiawa Manawhenua Ki Te Tau Ihu Trust	PO Box 340, Picton 7250	(03) 573 5170
Ngati Toarangatira Manawhenua Ki Te Tau Ihu Trust	PO Box 5061, Blenheim 7240	(03) 577 8801
Ngati Rarua Trust	PO Box 1026, Blenheim 7240	(03) 577 8468

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

26.0 CONCLUSION

The Applicant considers that the renewal of site 8062 is appropriate, thereby allowing the continued farming of Greenshell mussels at the site.

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

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

Appendix B: Marlborough Sounds Resource Management Plan – Policy Analysis

Objective	Policy	Assessment
Ch 2, 2.2, Obj 1: The preservation of the natural character of the coastal environment, wetlands, lakes, and rivers and their margins and the protection of them from inappropriate subdivision, use and development.	Policy 1.1: Avoid the adverse effects of subdivision, use or development within those areas of the coastal environment and freshwater bodies which are predominantly in their natural state and have natural character which has not been compromised.	This application is set in an area which is regenerating bush. The marine farm is within a bay with other marine farms.
	Policy 1.2: Appropriate use and development will be encouraged in areas where the natural character of the coastal environment has already been compromised, and where the adverse effects of such activities can be avoided, remedied or mitigated.	Refer above.
	Policy 1.3: To consider the effects on those qualities, elements and features which contribute to natural character, including: a) Coastal and freshwater landforms; b) Indigenous flora and fauna, and their habitats; c) Water and water quality; d) Scenic or landscape values; e) Cultural heritage values, including historic places, sites of early settlement and sites of significance to iwi; and f) Habitat of trout.	These matters have been considered in the assessment of environmental effects.
	Policy 1.4: In assessing the actual or potential effects of subdivision, use or development on natural character of the coastal and freshwater environments, particular regard shall be had to the policies in Chapters, 3, 4, 5, 6, 12, 13 and Sections	The application will not have any additional impact on the components of these policies which impact natural character values.

	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/e-mail has been sent to all Iwi identifying the site prior to the application being submitted and a meeting planned with relevant iwi.

Ch 8, 8.3, Obj 1: That public access <i>to and along</i> 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 avoidance is not practicable, the adverse effects should be mitigated and provision made for remedying those effects, to the extent practicable.	There are no additional adverse effects on public access caused by the marine farm.
	Policy 1.3: To prevent the erection of structures and marine farms that restrict public access in the coastal marine area where it is subjected to high public usage.	There are no additional adverse effects on public access caused by the marine farm.
	Policy 1.8: Public access to and along the coastal marine area should be maintained and enhanced except where it is necessary to [circumstances do not apply].	There are no additional adverse effects on public access caused by the marine farm.
Ch 9, 9.2.1, Obj 1: The accommodation of appropriate activities in the coastal marine area whilst avoiding, remedying or mitigating the adverse effects of those activities.	<p>Policy 1.1: Avoid, remedy and mitigate the adverse effects of use and development of resources in the coastal marine area on any of the following:</p> <ul style="list-style-type: none"> a) Conservation and ecological values; b) Cultural and iwi values; c) Heritage and amenity values; d) Landscape, seascape and aesthetic values; e) Marine habitats and sustainability; f) Natural character of the coastal environment; g) Navigational safety; h) Other activities, including those on land; i) Public access to and along the coast; j) Public health and safety; k) Recreation values; and l) Water quality. 	The way in which adverse effects on the stated values will be avoided, remedied and mitigated is addressed elsewhere in the assessment of environmental effects. Overall, the proposal is consistent with this policy.

	Policy 1.2: Adverse effects of subdivision, use or development in the coastal environment should as far as practicable be avoided. Where complete avoidance is not practicable, the adverse effects should be mitigated and provision made for remedying those effects to the extent practicable.	The marine farm is within a bay with other marine farms. There are no additional adverse effects on the coastal environment from this farm. The navigational lighting requirements will not change from the existing consent.
	Policy 1.3: Exclusive occupation of the coastal marine area or occupation which effectively excludes the public will only be allowed to the extent reasonably necessary to carry out the activity.	Consistent with other marine farms in the Marlborough Sounds, exclusive occupation of the consent area is not sought, other than for the area physically occupied by the lines and anchoring devices.
	Policy 1.6: Ensure recreational interests retain a dominant status over commercial activities that require occupation of coastal space and which preclude recreational use in Queen Charlotte Sound, including Tory Channel, but excluding Port and Marina Zones.	Not applicable
	Policy 1.7: Avoid adverse effects from the occupation of coastal space in or around recognised casual mooring areas.	Exclusive occupation of the consent area is not sought. There are no moorings in the direct vicinity of the site.
	Policy 1.12: To enable a range of activities in appropriate places in the waters of the Sounds including marine farming, tourism and recreation.	Policy 1.12 enables marine farming in appropriate places. Site 8062 is consented for marine farming, there are other marine farms consented in the adjacent bay.
	Policy 1.13: Enable the renewal as controlled activities of marine farms authorised by applications made prior to 1 August 1996 as controlled activities, apart from exceptions in Appendix D2 in the Plan.	NA
Ch 9, 9.3.2, Obj 1: Management of the effects of activities so that water quality in the coastal marine area is at a level which enables the	Policies 1.1 to 1.11	This application is not anticipated to have any impact on shellfish quality.

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.	Policy 1.1: Avoid, remedy or mitigate the adverse effects of activities and structures on navigation and safety, within the coastal marine area.	There have been no reported navigational incidences in the bay. There will be no changes to the existing consent conditions regarding the navigational aids placed on the farm.
Ch 22, 22.3, Obj 1: To avoid, remedy and mitigate the adverse effects of unreasonable noise, while allowing for reasonable noise associated with port activities.	Policy 1.1: Avoid, remedy and mitigate community disturbance, disruption or interference by noise within coastal, rural, and urban areas.	There are no residents in the direct vicinity of the site. A servicing vessel is estimated to spend approximately 120-130 hours per annum maintaining and harvesting the lines per year. The applicant complies with the 'Code of Practice to avoid, remedy or mitigate noise from marine farming activities in the Marlborough Sounds, Golden Bay and Tasman Bay on other users and residents'

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

MEP Provision	Evaluation
<p>Objective 3.2 – Natural and physical resources are managed in a manner that takes into account the spiritual and cultural values of Marlborough’s tangata whenua iwi and respects and accommodates tikanga Māori. [RPS]</p>	<p>The applicant has prepared the application in a manner that takes into account the spiritual and cultural values of Marlborough’s tangata whenua iwi.</p> <p>Recognition is given to Māori culture and traditions and confirmation from Iwi is sought to ensure the proposal does not affect these values.</p>
<p>Objective 3.3 – The cultural and traditional relationship of Marlborough’s tangata whenua iwi with their ancestral lands, water, air, coastal environment, waahi tapu and other sites and taonga are recognised and provided for. [RPS]</p>	<p>See sections 12 and 22 AEE.</p>
<p>Objective 3.5 – Resource management decision making processes that give particular consideration to the cultural and spiritual values of Marlborough’s tangata whenua iwi. [RPS]</p>	<p>The applicant has given particular consideration to the matters in objective 3.5, as discussed, the AEE at sections 12 and 22, in order to assist decision makers.</p>
<p>Policy 3.1.1 – Management of natural and physical resources in Marlborough will be carried out in a manner that:</p> <p>(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.</p> <p>(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;</p> <p>(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;</p>	<p>See above.</p>

MEP Provision	Evaluation
<p>(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</p> <p>(e) recognises the right of each iwi to define their own preferences for the sustainable management of natural and physical resources, where this is not inconsistent with the Resource Management Act 1991. [RPS]</p>	
<p>Policy 3.1.2 – An applicant will be expected to consult early in the development of a proposal (for resource consent or plan change) so that cultural values of Marlborough’s tangata whenua iwi can be taken into account. [RPS]</p>	See above.
<p>Policy 3.1.3 – Where an application for resource consent or plan change is likely to affect the relationship of Marlborough’s tangata whenua iwi and their culture and traditions, decision makers shall ensure:</p> <p>(a) the ability for tangata whenua to exercise kaitiakitanga is maintained;</p> <p>(b) mauri is maintained or improved where degraded, particularly in relation to fresh and coastal waters, land and air;</p> <p>(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;</p> <p>(d) for waterbodies, the elements of physical health to be assessed are:</p> <ul style="list-style-type: none"> i. aesthetic and sensory qualities, e.g. clarity, colour, natural character, smell and sustenance for indigenous flora and fauna; ii. life-supporting capacity, ecosystem robustness and habitat richness; iii. depth and velocity of flow (reflecting the life force of the river through its changing character, flows and fluctuations); iv. continuity of flow from the sources of a river to its mouth at the sea; v. wilderness and natural character; vi. productive capacity; and vii. fitness to support human use, including cultural uses. <p>(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]</p>	The applicant has had regard to the matters in Policy 3.1.3, as set out above, and in the AEE. Ecological effects have been assessed by Davidson Environmental in the report annexed to this application.

MEP Provision	Evaluation
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]	<p>The ecological character of the site will be maintained (see Davidson Environmental report). The application site is located over a habitat of sandy mud, typical of similar areas in the Sounds. The effects of low intensity farming are not likely to be significant. The relatively strong currents at the site are sufficient to prevent the accumulation of organic deposition.</p> <p>The existing character of the area is a working landscape. It is well-suited to the proposed activity due to the existing level of modification from farming and aquaculture. The proposed renewal is unlikely to adversely affect the existing values of the area.</p>

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

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

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

MEP Provision	Evaluation
<p>Policy 8.3.5 – In the context of Policy 8.3.1 and Policy 8.3.2, adverse effects to be avoided or otherwise remedied or mitigated may include: [(a) – (t)]</p>	<p>See AEE and Davidson Environmental report.</p>
<p>Policy 8.3.8 – With the exception of areas with significant indigenous biodiversity value, where indigenous biodiversity values will be adversely affected through land use or other activities, a biodiversity offset can be considered to mitigate residual adverse effects. Where a biodiversity offset is proposed, the following criteria will apply:</p> <ul style="list-style-type: none"> (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. 	<p>Biodiversity offsetting is not justified in this case.</p>
<p>Objective 9.1 – The public are able to enjoy the amenity and recreational opportunities of Marlborough’s coastal environment, rivers, lakes, high country and areas of historic interest. [RPS, R, C, D]</p>	<p>See sections 8, 9, 11, 13, 14 and 18 of the AEE.</p>
<p>Policy 9.1.1 – The following areas are identified as having a high degree of importance for public access and the Marlborough District Council will as a priority focus on enhancing access to and within these areas:</p> <ul style="list-style-type: none"> (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), Outer Pelorus,, Outer Pelorus, Mahau Sound, Mahikipawa Arm and Croiselles Harbour, Rarangi to the Wairau River mouth, Wairau Lagoons, Marfells Beach and Ward Beach... 	<p>N/A</p>

MEP Provision	Evaluation
[RPS]	
<p>Policy 9.1.2 – In addition to the specified areas in Policy 9.1.1, the need for public access to be enhanced to and along the coastal marine area, lakes and rivers will be considered at the time of subdivision or development, in accordance with the following criteria:</p> <ul style="list-style-type: none"> (a) there is existing public recreational use of the area in question, or improving access would promote outdoor recreation; (b) connections between existing public areas would be provided; (c) physical access for people with disabilities would be desirable; and (d) providing access to areas or sites of cultural or historic significance is important. <p>[RPS, C, D]</p>	See above. The farm will not prevent access to areas or sites of cultural and historic significance in the area.
<p>Policy 9.1.5 – Acknowledge the importance New Zealander’s place on the ability to have free and generally unrestricted access to the coast.</p> <p>[RPS, C, D]</p>	The applicant acknowledges the importance to New Zealanders of having unrestricted access to the coast. The site design ensures that the public will continue to have access through the site and along the shore.
<p>Policy 9.1.7 – Recognise there is an existing network of marinas at Picton, Waikawa and Havelock, publicly owned community jetties, landing areas and launching ramps that make a significant contribution in providing access for the public to Marlborough’s coastal areas.</p> <p>[RPS, C]</p>	The proposed farm will be able to be accessed from the existing facilities of a contractor or lessee.
<p>Policy 9.1.8 – Enable public use of jetties for the purposes of access to the Sounds Foreshore Reserve and legal road along the coast.</p> <p>[RPS, C]</p>	There are no jetties in the vicinity of the site.
<p>Policy 9.1.13 – When considering resource consent applications for activities, subdivision or structures in or adjacent to the coastal marine area, lakes or rivers, the impact on public access shall be assessed against the following:</p> <ul style="list-style-type: none"> (a) whether the application is in an area identified as having a high degree of importance for public access, as set out in Policy 9.1.1; 	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
<p>(b) the need for the activity/structure to be located in the coastal marine area and why it cannot be located elsewhere; ...</p> <p>(d) the extent to which the activity/subdivision/structure would benefit or adversely affect public access, customary access and recreational use, irrespective of its intended purpose;</p> <p>(e) in the coastal marine area, whether exclusive rights of occupation are being sought as part of the application;</p> <p>(f) for the Marlborough Sounds, whether there is practical road access to the site of the application;</p> <p>(g) how public access around or over any structure sought as part of an application is to be provided for;</p> <p>(h) whether the impact on public access is temporary or permanent and whether there is any alternative public access available; and</p> <p>(i) whether public access is able to be restricted in accordance with Policies 9.2.1 and 9.2.2.</p> <p>[C, D]</p>	<p>mussels, in line with policy 9.2.1. The effects on public access will be no more than minor, in accordance with policy 9.2.2.</p>
<p>Policy 9.3.2 – Seek diversity in the type and size of open spaces and recreational facilities to meet local, district, regional and nationwide needs, by: ... (d) recognising and protecting the value of open space in the coastal marine area, high country environments and river beds.</p> <p>[RPS, C, D]</p>	<p>The applicant recognises the value of open space and has designed the site layout with this in mind.</p>
<p>Objective 10.1 – Retain and protect heritage resources that contribute to the character of Marlborough.</p> <p>[RPS]</p>	<p>See section 12 AEE.</p>
<p>Policy 10.1.3 – Identify and provide appropriate protection to Marlborough’s heritage resources, including:</p> <p>(a) historic buildings (or parts of buildings), places and sites;</p> <p>(b) heritage trees;</p> <p>(c) places of significance to Marlborough’s tangata whenua iwi;</p> <p>(d) archaeological sites; and</p> <p>(e) monuments and plaques.</p> <p>[RPS, C, D]</p>	<p>See above</p>

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

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

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

Footnotes

¹ These areas are identified in accordance with the specific criteria set out in Appendix 1, Volume 1 of the MSRMP.

² Boffa Miskell/Marlborough District Council *Marlborough Landscape Study* (August 2015).

³

⁴ *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].

⁵ 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.

⁶ These maps are informed by: Marlborough District Council *Natural Character of the Marlborough Coast* (June 2014).

⁷ Dr Rachel McClellan, *King Shag Advice – Effects of Renewal of Outer Admiralty Bay Mussel Farm* (Wildland Consultants, December 2017) at p 4.

⁸ 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).

⁹ A new breeding colony at Tawhitinui Reach means that inner Pelorus Sound and the Kenepuru entrance are now within the king shag foraging range: Davidson, R.J.; Richards, L.A.; Rayes, C. 2017. Significant marine site survey and monitoring programme (survey 3): Summary report 2016-2017. Prepared by Davidson Environmental Limited for Marlborough District Council. Survey and monitoring report number 859.

¹⁰ 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).

¹¹ *Clearwater Mussels Limited v Marlborough District Council* [2018] NZEnvC 88 at [85].

¹² 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].

¹³ Such as providing a safe resting place, or causing changes in benthic communities which may be beneficial for king shag prey species.

¹⁴ *Clearwater Mussels* at [86(a) and (c)].

¹⁵ *Ibid* at [86(c)(iii)].

¹⁶ 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).

¹⁷ 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.

¹⁸ 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.

¹⁹ A copy is available here: <http://www.marinefarming.co.nz/media/1518/mfa-mussel-standard-operating-procedures-current.pdf>.

²⁰ A copy is available here: <http://www.marinefarming.co.nz/media/1303/code-of-practice-noise-2016-current.pdf>.

²¹ A copy is available here: <http://www.marinefarming.co.nz/media/1070/industry-cop-reducing-pollution-on-water.pdf>.

²² A copy is available here: <https://static1.squarespace.com/static/55d2b0eee4b0649ae7068665/t/55f7d6afe4b05cc86891dd9f/1442305711334/Greenshell+Mussel+SMF+July+2015+10-9-15.pdf>

²³ Raymond Smith – Ngai Kuia

²⁴ Handley, S. et al. 2017. A 1,000-year history of seabed change in Pelorus Sound/Te Hoiere, Marlborough. Prepared for Marlborough District Council, Ministry of Primary Industries and the Marine Farming Association. 136 p. NIWA Client Report No: 2016119NE. A copy is available here: https://www.marlborough.govt.nz/repository/libraries/id:1w1mps0ir17q9sgxanf9/hierarchy/Documents/Environment/Coastal/Scientific%20Investigations%20List/A_1000_year_history_of_seabed_change_in_Pelorus_Sound_Te_Hoiere.pdf

²⁵ 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 Hoiere), Marlborough. Prepared by NIWA for Marlborough District Council. NIWA client report NEL2015-001, NIWA project ELF15202: <https://www.marlborough.govt.nz/repository/libraries/id:1w1mps0ir17q9sgxanf9/hierarchy/Documents/Environment/Coastal/Scientific%20Investigations%20List/HistorySeabedChangePelorusSound.pdf>.

²⁶ MacDiarmid, A.; McKenzie, A.; Sturman, J.; Beaumont, J.; Mikaloff-Fletcher, S.; Dunne, J. (2012). Assessment of Anthropogenic Threats to New Zealand Marine Habitats, New Zealand Aquatic Environment and Biodiversity Report No. 93, 2012; and Ministry for the Environment & Statistics New Zealand (2016) *New Zealand's Environmental Reporting Series: Our marine environment 2016* at 24. A copy is available here: <http://www.mfe.govt.nz/sites/default/files/media/Environmental%20reporting/our-marine-environment.pdf>

²⁷ Handley et al 2017 *History of seabed change* at p 25.

²⁸ 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.

²⁹ Raymond Smith – Ngai Kuia



Davidson Environmental Limited

Biological report for the reconsenting of marine farm 8062 at West Entry Point, Port Ligar, Pelorus Sound

Research, survey and monitoring report number 896

*A report prepared for:
Goulding Trustees Ltd
c/- Bruce Cardwell,
Aquaculture Direct
Blenheim*

July 2018

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July 2018



Specialists in research, survey and monitoring

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1.0 Introduction

The aim of the present study was to provide biological information for the proposed consenting of marine farm 8062 at West Entry Point, Port Ligar, Pelorus Sound. The 3.745 ha consent area is located immediately north of West Entry Point, outer Port Ligar (Figure 1, Plate 1). This study describes the benthic substrata and habitats associated with the existing mussel farm consent.

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

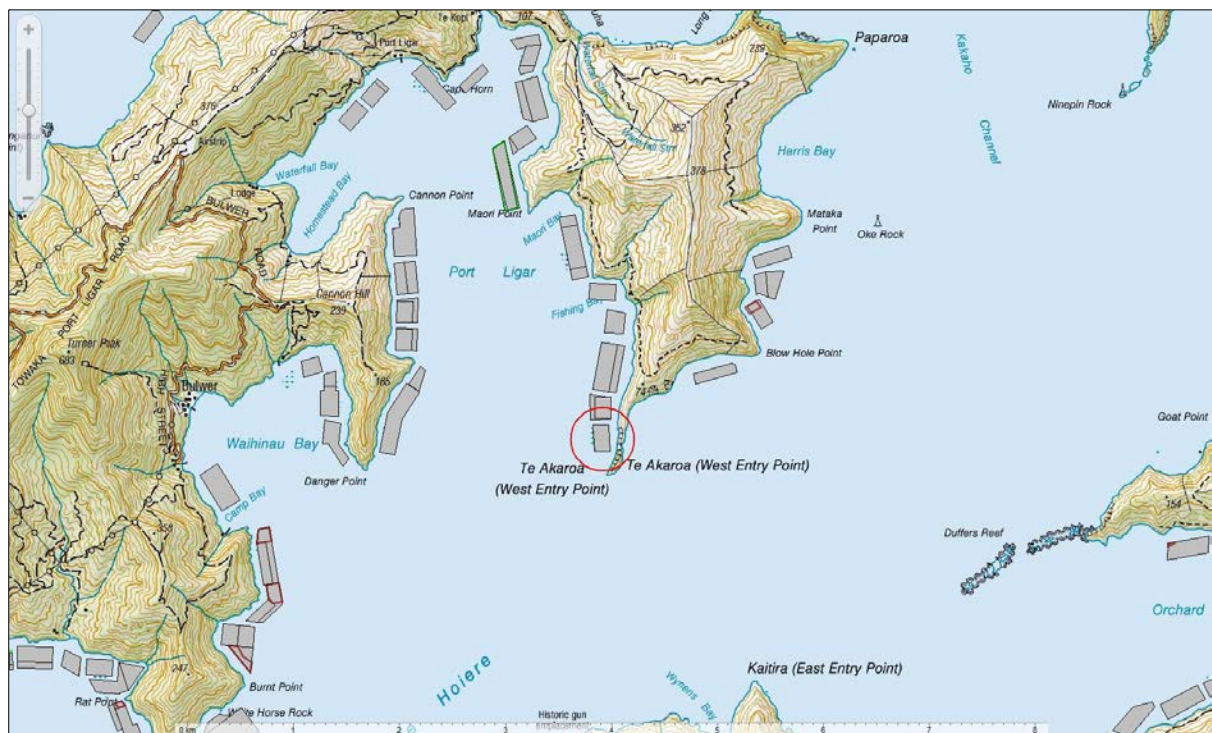


Figure 1. Location of marine farm 8062 (red circle) and other farms in Pelorus Sound.



Plate 1. Looking southwards through the existing backbone lines of farm 8062 in Port Ligar. Photo taken near the inshore, northern inshore consent corner.

2.0 Background information

2.1 Study area

The marine farm site is along the eastern coastline of Port Ligar, immediately north of West Entry Point, Pelorus Sound. (Figure 1, Plate 1).

Port Ligar is a large south-facing bay complex situated in outer Pelorus Sound. The entrance to the Port is marked by Danger Point on the west and Te Akaroa (West Entry Point) on the east. Te Akaroa is approximately 5.5 km south-west of the Pelorus Harbour limit, and some 50 km by sea from Havelock. Port Ligar has a coastline length of approximately 15 km and covers an area of sea of approximately 852 ha. The entrance to the Port is approximately 2.2 km wide and the bay measures roughly 4.3 km in length.

2.2 Historical reports

Two historical biological reports were found in relation to marine farm 8062.

A report was produced for the initial application (Davidson, 1996). The author stated:

“Results from depth soundings and the scooter run across random parts of the proposed farm area suggested that:

- 1) substrata present were cobbles, pebbles, small boulders and various combinations of fine sand, medium sand, broken shell and dead whole shell, shell debris and silt;
- 2) no reef structures or shallow abnormalities extending offshore were observed during the scooter run or detected by soundings along the proposed farm and immediate adjacent coast;
- 3) no outcropping rock, bedrock, or boulder substrata were recorded within the boundaries of the proposed marine farm, but were a low percentage cover of small cobbles was recorded from inshore parts of the present application area;

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4) tube worm mounds (*Galeolaria hystrix*) were observed within the boundaries of the proposed marine farm;

5) all areas offshore of 70 m distance from shore were dominated by soft bottoms with a small proportion of cobbles to 100 m to 140 m distance from shore;

6) no large brown algae were observed along the shore adjacent to the proposed marine farm; and.

7) a reef structure was located extending offshore in a south-west direction from West Entry Point.”

“Water currents were estimated from both transects and the reef at West Entry Point. Tidal water currents were detected at all stations sampled. Within the proposed marine farm area, light water currents were observed traveling in a south bound, along shore direction above 28 m depth. Below 28 m depth, currents were light, traveling in a north bound direction. At the reef at West Entry Point, currents were strong in a south bound direction.

Subtidal shore profiles were initially dominated by hard substrata. At both transects, rubble and small boulder material with various proportions of shell and fine sand extended to approximately 50 m to 70 m distance from shore. The benthos beyond these hard shores was dominated by soft bottom substrata of fine sand/shell and silt with a low and declining with depth and distance from shore, proportion of small cobbles. By 80 m distance from shore, the small cobble fraction had declined to <5 % cover. With increasing depth, the soft shores graded from sands through to silt and clay at approximately 35 m depth.”

The authors concluded:

“Considering ecological data collected during the present study north of West Entry Point, it is suggested that the inshore boundary be shifted to a minimum of 80 m distance from shore in order that the inshore hard shores zones be avoided and a 10 m to 20 m buffer zone would be established.”

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Davidson and Richards (2005) produced a report for the renewal of the site. The authors collected drop camera and dive shell debris quadrats and stated:

“Hard substratum (i.e. cobbles) was recorded along most of the mussel debris transects originating at the inshore backbone. This inshore hard substratum was also recorded in drop camera photographs (photos 1, 3, 4, 5, 7, 8, 9 10). This habitat was characterised by varying proportions of silt, sand, natural shell, and cobble. From photographs and diver observations the cobble proportion close to the growing structures and within the consent represented a small fraction (<5% cover). Based on drop camera photographs, all farm growing structure areas apart from the inshore line were characterised by soft substratum. Soft substratum at most drop camera stations was dominated by silt and clay with little or no natural shell material (e.g. photos 11, 12, 16, 21-24). The proportion of natural shell material increased at areas immediately offshore of the inshore hard substratum.

Davidson (1996) recorded cobbles present in areas inshore of 80 m distance, with <5% cover beyond 80 m distance. Currently, the position of the inshore consent boundary lies between approximately 80 to 100 m distance from shore with the inshore backbone positioned approximately 100 to 125 m from shore. Presumably, the consent was granted at this distance to protect the inshore cobble habitat first noted by Davidson (1996). In the present site investigation, shell and fine sand habitat supporting sparse cobbles were observed within the consent area and from one location 6 m distance offshore from the inshore growing line (photo 10) (i.e. under the growing structures).”

3.0 Methods (present survey)

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

The corners of the existing marine farm surface structures were surveyed by positioning the survey vessel immediately adjacent to the corner floats and the position plotted. It is noted

that surface structures can move due to environmental variables such as tidal current and wind. The plot of surface structures is variable from day to day and over the duration of tidal cycles. These data should not therefore be regarded as a precise measurement of the position of surface structures, but rather an approximate position.

3.1 Sonar imaging

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

Prior to the collection of underwater photographs, the boundaries of both the consent area and the marine farm surface structure area were investigated using the sonar. Any bottom abnormalities such as reefs, hard substrata or abrupt changes in depth were noted for inspection using the drop camera (see section 3.2).

3.2 Drop camera stations, mussel debris and low tide

A total of 26 drop camera photographs were collected from the farm (including alongside droppers and warps) and adjacent areas inside and offshore of the consent. At each drop camera station, a Sea Viewer underwater splash camera fixed to an aluminium frame was lowered to the benthos and an oblique still photograph was collected where the frame landed.

The cover of benthic mussel shell from drop camera photographs were ranked as: None = no mussel shell, Low = 1-30%, Moderate = 31-50%, Moderate to High = 51-75%, and High = 76-100% cover. Percentage cover of mussel shell was also estimated by a trained observer viewing drop camera photographs. These assessments are displayed in Table 2 of the present report.

The location of photograph stations was selected to obtain a representative range of habitats and depths within the consent. Additional photographs were taken when any features of

interest (e.g. mussel shell, reef structures, cobbles) were observed on the remote monitor on-board the survey vessel. All photographs collected during the survey have been included in Appendix 1.

Low tide was determined at three 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 9.24 am (2.5 m) and low at 3.09 pm (0.7 m). During fieldwork, the tide was outgoing. In general, mean water currents in this part of Port Ligar are approximately 0.11 m/sec (Broekhuizen *et al.*, 2015). The tidal current at this marine farm is expected to be greatest on the larger tides. This part of Port Ligar is immediately adjacent to the main Pelorus Reach. During the present study a moderate tidal flow traveling in a southward and alongshore direction was observed during field work.

4.1 Consent corners and surface structures

The inshore corner depths of the consent area ranged from 7 m to 22.5 m. Offshore boundaries of the consent area ranged from 33.4 m to 43.2 m (Table 1, Figure 2). Existing surface structures consisted of one block of backbones covering a total area of approximately 2.8 ha. At least two lines were located offshore and outside of the consent. It is noted that backbones appear bowed in historical aerial photos likely due to tidal current and wind at this location (Plate 2).

The distance between low tide and the consent boundary was measured at three positions along the adjacent shoreline. The distance to the inshore boundary at the position of low tide 1 was 42 m, at low tide 2 was 75 m, and at low tide 3 was 71m (Plate 2, Figure 2).

4.2 Sonar imaging

Sonar runs collected along the inshore boundary of the consent revealed rocky substrata inshore and extending into the southern inshore consent (Figure 3). The remainder of the scanned consent was characterised by low feature terrain.

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

Type	No. & Depth (m)	Coordinates
Consent corner	1, 7m	1683948.7,5466831.0
Consent corner	2, 43.2m	1683798.4,5466828.9
Consent corner	3, 33.4m	1683781.8,5467078.6
Consent corner	4, 22.5m	1683932.1,5467080.1
Structure corner	A, 23m	1683913.0,5466903.8
Structure corner	B, 27.1m	1683915.1,5467049.5
Structure corner	C, 30.2m	1683884.4,5466888.9
Structure corner	D, 40m	1683820.3,5466884.7
Structure corner	E, 35.5m	1683741.5,5466905.5
Structure corner	F, 32m	1683750.6,5467068.3
Low tide	Low tide 1	1683990.6,5466835.5
Low tide	Low tide 2	1684016.0,5466950.0
Low tide	Low tide 3	1684003.2,5467083.6



Plate 2. Aerial view of three low tide GPS locations relative to the inshore farm boundary (grey polygon).

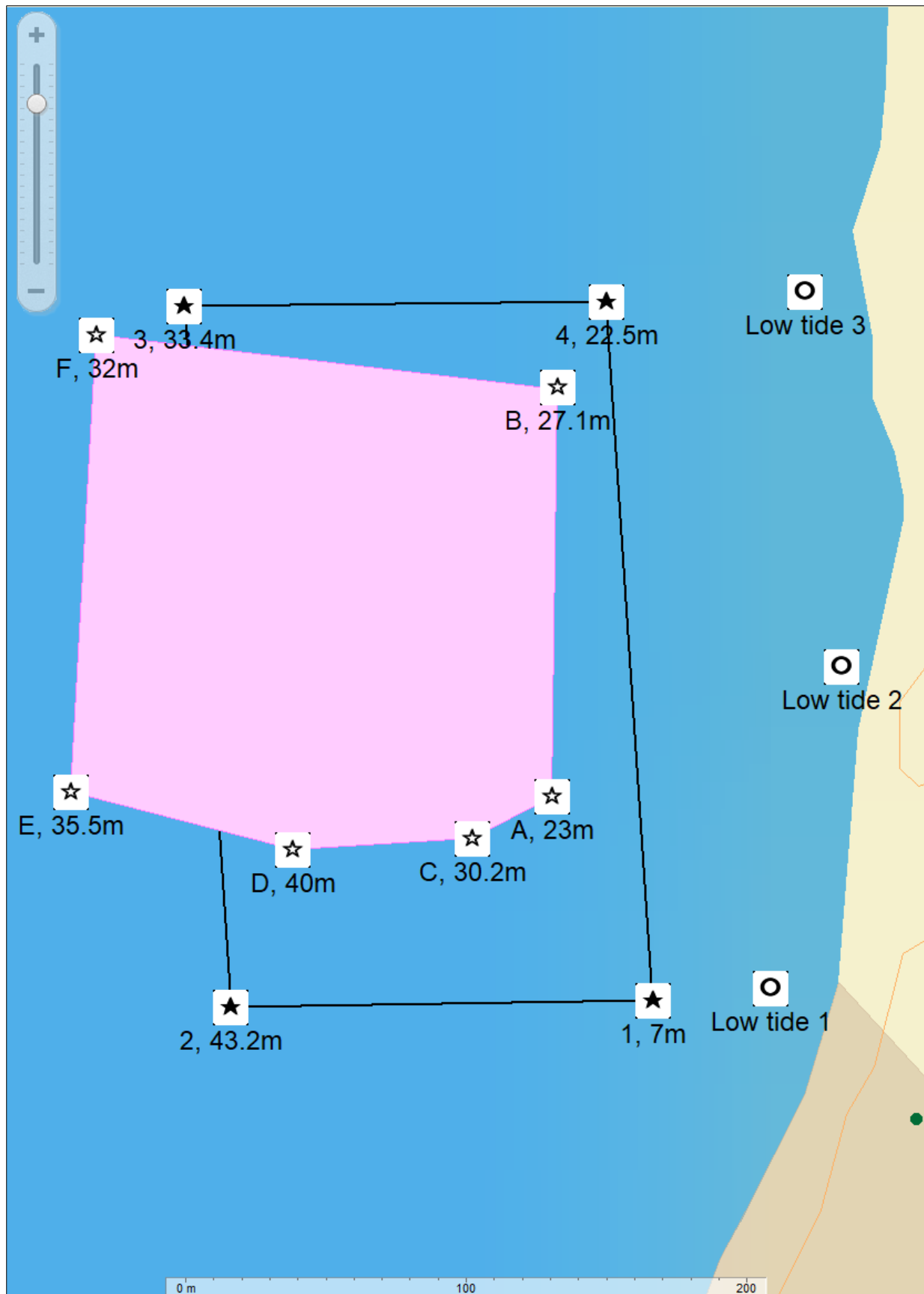


Figure 2. Depths of the proposed re consent area (grey) and existing marine farm surface structures (pink). Four low tide locations are also plotted (circles).

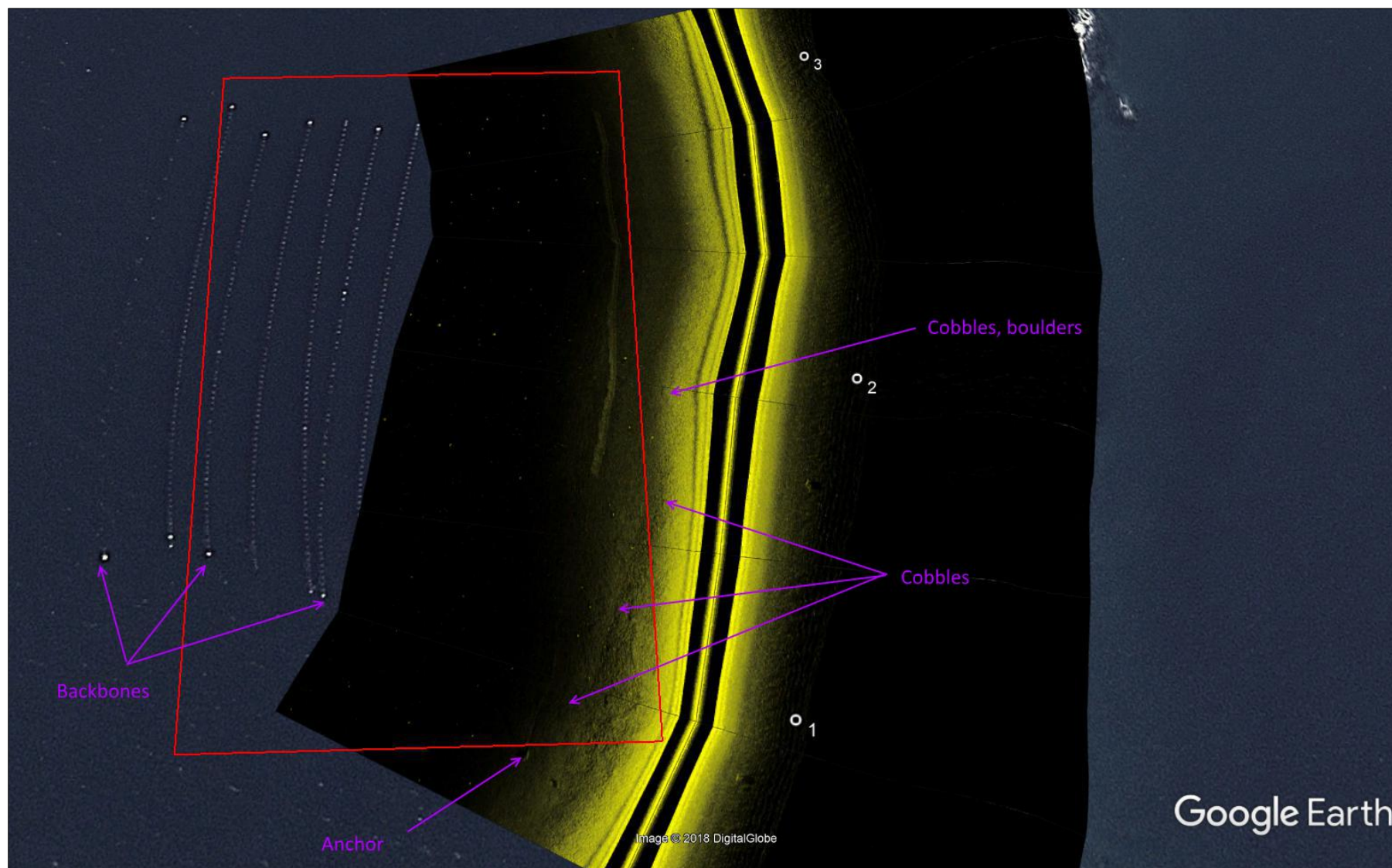


Figure 3. Inshore sonar run at farm site 8062. Red polygon = consent boundary, yellow line = sonar track.

4.3 Drop camera images

Drop camera photographs were taken throughout the existing consent, offshore and inshore of the consent (Table 2, Figure 4, Appendix 1). Photographs were used to describe the benthic substratum, mussel shell debris cover and presence of biological characteristics.

Inshore of the consent

Both benthic photographs taken inshore of the consent supported both soft and rocky substrata (Figure 4, Table 2). Sonar also documented the presence of rocky substrata inshore of the consent (Figure 3). Substratum inshore of the consent was characterised by combinations of sand, silt and natural whole and broken shell (Plates 3 & 4).



Plate 3. Sand, natural whole and broken shell and cobbles inshore of the consent (photo 1, 19.2 m depth)



Plate 4. Cobbles, natural shell and fine sand inshore of the consent (photo 2, 20.5 m depth).

Within the consent

Most of the benthos within the offshore deep areas of the consent were characterised by silt and clay (mud) (Plate 5). Areas closer to the inshore boundary supported a component of natural shell (Plate 6), however the first backbone was well offshore of the inshore consent boundary and away from coarse soft substratum. The inshore strip of the consent and a larger area in the south supported a component of cobble substratum (Figure 4, Table 2, Plate 7). The proportion of cobbles present declined with increasing depth and distance from shore. Backbones were offshore of cobble substratum.



Plate 5. Silt and clay inside the consent (photo 20, 38.2 m depth).



Plate 6. Silt and clay with natural shell from the inshore edges of the consent (photo 12, 26.6 m depth).



Plate 7. Sand, natural shell and cobbles in the southern area of the consent (photo 17, 16.9 m depth).

Mussel shell

Mussel shell debris was observed from 11 of the 20 consent photos. In the consent, mussel shell debris ranged from 0 to 100% cover under the backbones but when present was usually between 60-100% (Plates 8 and 9). Benthic mussel shell was also observed near backbones located offshore of the consent (Table 2).

Mussel shell debris under warp structures was either zero or high (Figure 5). High values were usually recorded close to backbones in the southern inshore part of the consent (Table 2, Figure 5).



Plate 8. Silt and clay with a high level of mussel shell debris under backbones located in the consent (photo 14, 23.8 m depth).

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Plate 9. Silt and a under warps (photo 20, 38.2 m depth).

Offshore of the consent

The benthos offshore of the consent area was characterised by silt and clay. Mussel shell was recorded in offshore areas around and offshore of backbones (Plates 10 and 11, Table 2).



Plate 10. Silt and clay with a high level of mussel shell debris offshore of the consent (photo 25, 33 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, level of mussel shell debris are listed.

No. & Depth (m)	Coordinates	Location	Position	Substratum	Shell debris
1, 19.2m	1683941.7,5467062.2	Inshore of consent, no structures	Fine sand, natural shell, cobbles	None	0
2, 20.5m	1683943.2,5467003.7	Inshore of consent, no structures	Fine sand, natural shell, cobbles	None	0
3, 18.7m	1683933.0,5466933.8	In consent, no structures	Fine sand, natural shell, occasional cobbles	None	0
4, 13.5m	1683934.3,5466857.8	In consent, no structures	Cobbles, sand, natural shell	None	0
5, 20.8m	1683903.5,5466847.0	In consent, no structures	Cobbles, sand, natural shell	None	0
6, 26.8m	1683873.0,5466837.8	In consent, under warps	Sand, natural shell, cobbles	None	0
7, 29.6m	1683875.9,5466885.9	In consent, under warps	Silt, mussel shell	High	100
8, 33.1m	1683876.0,5466963.3	In consent, under backbones	Silt, mussel shell	High	80
9, 38m	1683873.6,5467051.4	In consent, under backbones	Silt, mussel shell	High	80
10, 24.2m	1683928.7,5467039.8	In consent, under backbones	Silt, sand, natural shell, occasional cobbles	None	0
11, 26.8m	1683911.9,5467050.6	In consent, under warps	Silt, natural shell, mussel shell	Moderate-high	60
12, 26.6m	1683907.4,5467073.8	In consent, under backbones	Silt, natural shell	None	0
13, 26.4m	1683909.3,5466992.8	In consent, under backbones	Silt, mussel shell	High	100
14, 23.8m	1683913.3,5466937.5	In consent, under backbones	Silt, mussel shell	High	100
15, 26.9m	1683892.7,5466877.5	In consent, under warps	Silt, mussel shell	High	100
16, 22.8m	1683915.4,5466896.7	In consent, under warps	Silt, mussel shell	High	95
17, 16.9m	1683937.4,5466893.0	In consent, no structures	Sand, natural shell, cobbles	None	0
18, 19.2m	1683930.1,5466907.2	In consent, under warps	Sand, natural shell, cobbles	None	0
19, 21m	1683910.4,5466872.6	In consent, under warps	Sand, natural & mussel shell, occasional cobbles	Moderate	40
20, 38.2m	1683810.6,5467072.2	In consent, under warps	Silt and clay	None	0
21, 37.5m	1683808.3,5466994.6	In consent, under backbones	Silt and clay, mussel shell	High	95
22, 40.2m	1683799.7,5466912.0	In consent, under backbones	Silt and clay, mussel shell	High	80
23, 42.8m	1683793.1,5466848.4	Offshore of consent, under warps	Silt and clay, mussel shell	Moderate	50
24, 31.3m	1683735.9,5467050.2	Offshore of consent, no structures	Silt and clay	None	0
25, 33m	1683753.0,5466979.0	Offshore of consent, under backbones	Silt and clay, mussel shell	High	90
26, 33.4m	1683729.8,5466911.6	Offshore of consent, no structures	Silt and clay, mussel shell	Moderate-high	70

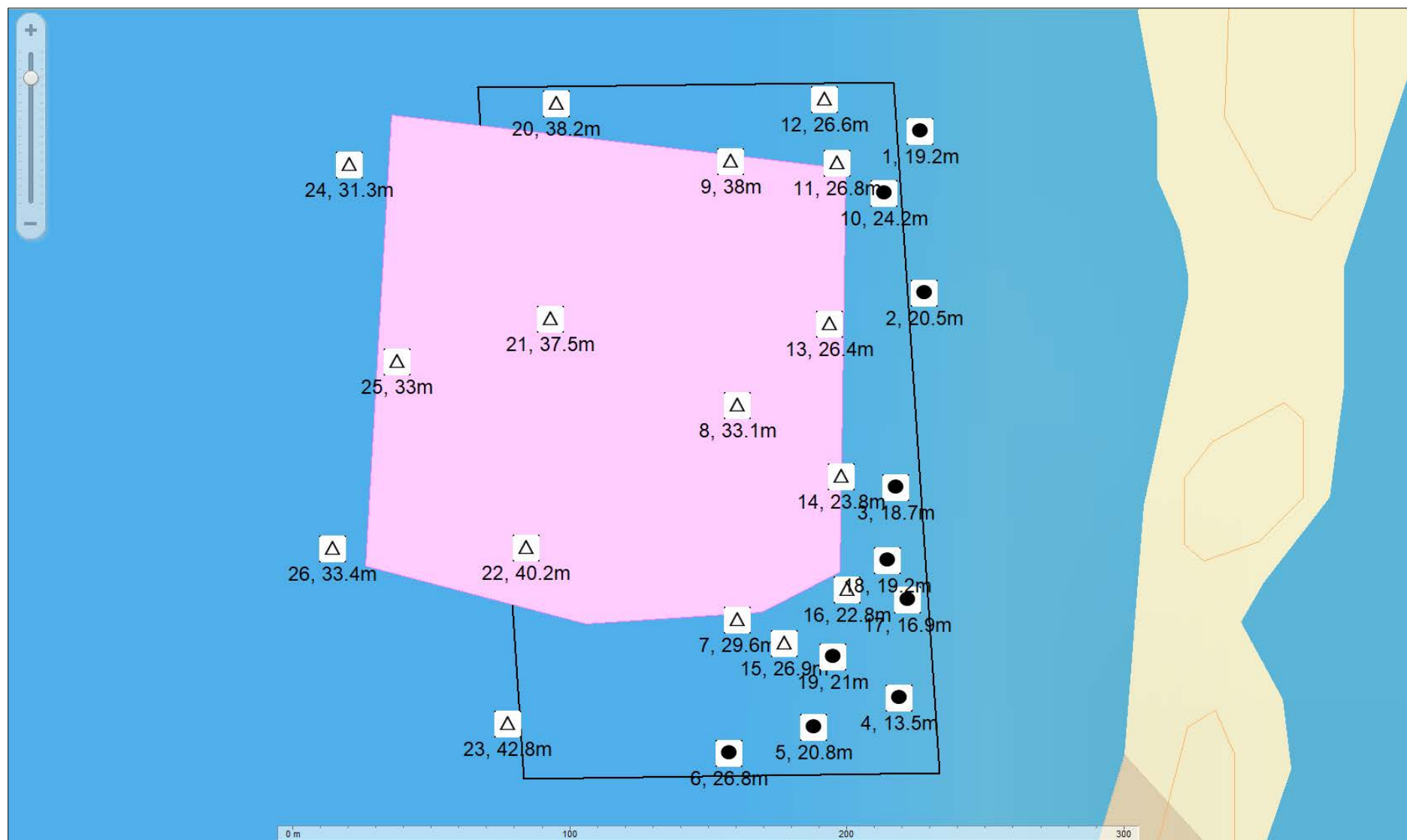


Figure 4. Drop camera stations of the reconsent area (open triangles = soft substrata, dark circles = rocky), consent renewal area (grey) and surface structures (pink). Numbers are the photo number and water depth (m).

5.0 Conclusions

5.1 Benthic habitats and substratum

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

Most of the consent area was located over a relatively flat benthos dominated by silt and clay substratum with or without a very small component of natural shell. Mud (i.e. silt and clay) 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, rocky substratum is 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. Rocky substrata in the form of cobbles was observed in the southern inshore corner of the consent.

At least one mussel backbone line was located offshore of the consent. The offshore out of consent backbone/s were positioned over flat silt and clay substrata. This offshore substratum has been impacted by mussel shell debris.

5.2 Species and communities

Species abundance and diversity from most of the consent was low compared to high current locations in the Sounds. Benthic observations within mud dominated areas of the consent confirmed the area supported species typical of silt substratum (e.g. cushion seastars, sea cucumbers). Spotty and blue cod were observed under the consent, particularly along inshore edges of the farm (Photo 1 in Appendix 1).

No scallops or horse mussels were observed during the present survey suggesting they are not abundant. Occasional large grey sponges were observed on cobble substrata. No species, habitats or communities regarded as ecologically significant (see Davidson *et al.*, 2011) were observed during the present study.

5.3 King shag

One king shag was observed swimming, diving, feeding and roosting in this farm during the present survey. The shag was first observed swimming over the northern warps zone near

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the offshore third of the consent. The bird swam towards and then between backbones. The shag then initiated a dive for a period of between 1 and 2 minutes before surfacing further south between the same backbones. The shag appeared to have a prey item. This attracted the attention of three gulls that hovered above the shag before the prey was swallowed. The king shag then climbed onto a float for a period of 3-4 minutes before re-entering the water and a second dive. The shag then appeared further south near the edge of backbones. After a short period, a third dive was initiated, and the bird was seen to surface further offshore of the farm. Approximately 10 minutes later a king shag flew into the farm and assumed a roost on a mussel float approximately 12 m away from the survey vessel. It is unknown if the roosting bird was the same individual, however, it flew into the mussel farm from a southerly direction.

5.4 Mussel farming impacts

5.4.1 Benthic impacts

Mussel shell debris was recorded from 11 of the 20 consent area photos. Mussel debris was most abundant under backbones and was usually 60-100% cover. Mussel shell debris was recorded under warps close to the southern backbones perhaps due to intermittent strong tidal flows carrying shell in this direction. Mussel debris was also recorded in association with backbones located offshore of the consent.

Shell debris impact levels were within the range known for mussel farms in the Marlborough Sounds. This farm impact at this site is at the high end of the impact range compared to other farms in the Sounds.

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, however, the redox layer is likely shallower compared to sites away from the farm (Hartstein and Rowden, 2004; Keeley *et al.*, 2009;).

If the offshore out of consent backbones are removed it is expected that recovery will take approximately 5-7 years as shell is often smothered in deeper offshore areas thereby reducing recovery times compared to inshore coarser substratum areas (Davidson and Richards, 2014).

5.4.2 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 topic is not well researched. There is considerable evidence showing the major drivers of the Pelorus system, for example, naturally leads to large within and between year variability. Relative to this, the impact of mussel farms appears to be material but relatively small compared to major environmental drivers (Broekhuizen *et al.*, 2015).

Tidal flows in southern Port Ligar are strongest on farms closest to the main reach (i.e. south-eastern and south-western Ligar Bay). This site has moderate tidal flows (author pers. obs.). Winds may also be a significant driver of water movement in this area, especially during the predominant north-westerly winds in summer. The proximity of the farm to the main reach means water turnover times are likely to be short compared to bays well distant to main reach (e.g. Hallam Cove). Based on these considerations and the existing literature, it is probable the site is unlikely to cause significant phytoplankton depletion outside the boundaries of the consent.

5.4 Boundary adjustments, line adjustments and monitoring

No benthic habitats or biological communities of particular scientific or conservation interest were found during the present survey. The consent is mostly located over silt and clay substratum. This substratum is 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.

At the southern end, the consent is positioned < 50 m distance from low water. In this area and under warps are cobble substrata. It is recommended that the be shifted approximately

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34 m west at its southern inshore end and 10 m west at its northern end (see red polygon in Figure 6). This shift would align with existing backbones, place the farm > 50 m distance from low water and ensure most of the cobble habitat is inshore of the consent and where it occurs in the consent it is located under warps. Warps are known to have little or no impact on benthic communities (Davidson and Richards, 2014). No change to the consented number of backbones is suggested.

Once the consent has been adjusted, one backbone will be located offshore of the boundary. It is possible this line moves due to tide and wind; therefore, the issue may be resolved by shortening warps and or the backbone to reduce line movement inshore and offshore. Alternatively, an extension in an offshore direction could be considered. The substratum in this area is composed of silt and clay and is therefore suitable for consideration for marine farming activities. This offshore area is utilized by foraging king shags in the presence of existing backbones (see section 5.3). No other changes to the present consent boundaries are suggested on biological grounds. Habitats and species associated with the site are typical of sheltered central and outer Pelorus Bays and as such no monitoring is suggested.

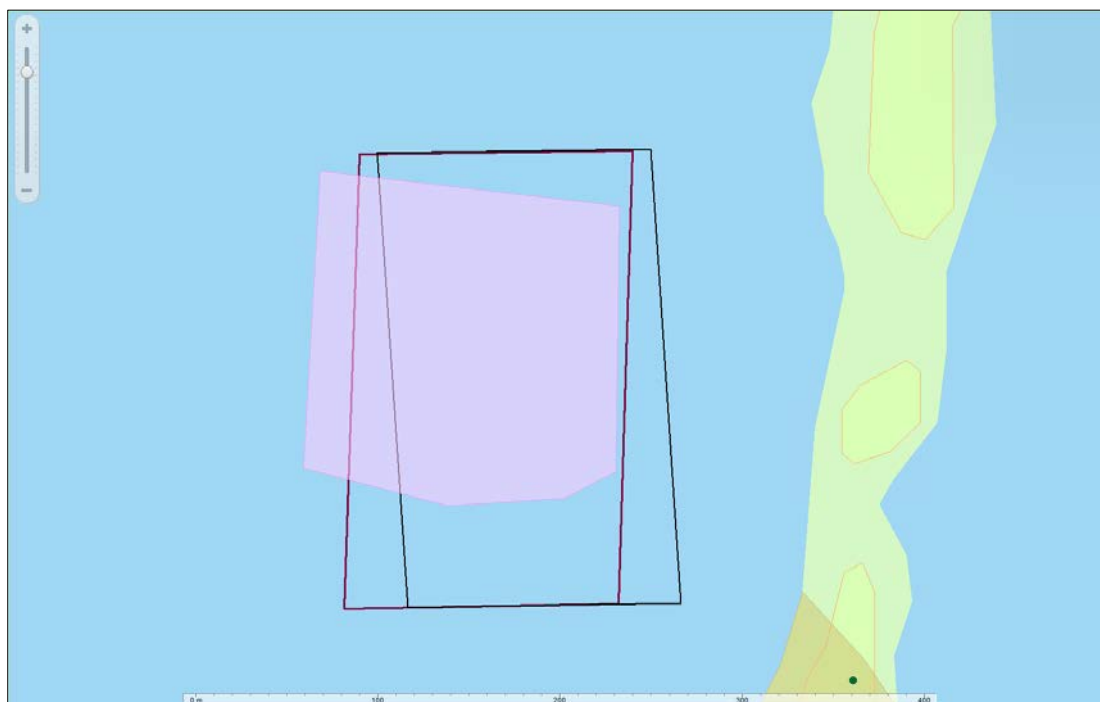


Figure 6. Existing consent (black), backbones (pink) and suggested 25 m distance offshore movement of southern consent corners (green).

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Appendix 1. Drop camera photographs

Photo 1 Fine sand, natural shell, cobbles



Photo site 2 Fine sand, natural shell, cobbles



Photo 3 Fine sand, natural shell, occ cobbles



Photo site 4 Cobbles, sand, natural shell



Photo site 5 Cobbles, sand, natural shell



Photo site 6 Sand, natural shell, cobbles

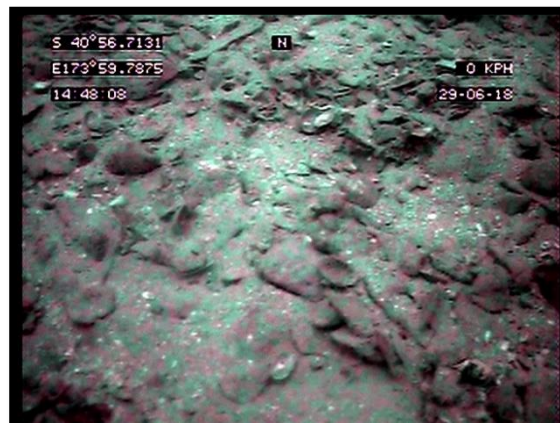


Photo 7 Silt, mussel shell



Photo 8 Silt, mussel shell



Photo site 9 Silt and clay, mussel shell



Photo site 10 Silt, sand, natural shell, occ cobbles

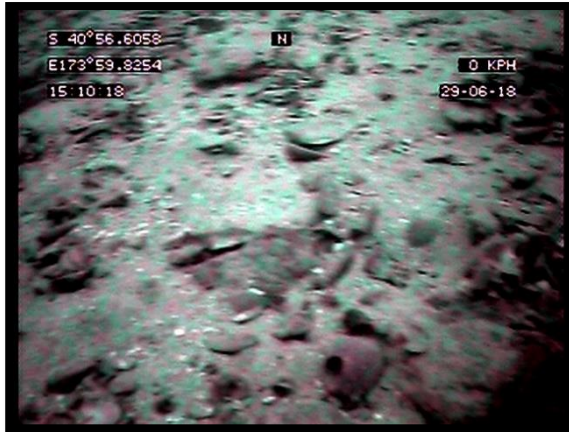


Photo site 11 Silt, natural shell, mussel shell



Photo 12 Silt, natural shell



Photo site 13 Silt, mussel shell



Photo site 14 Silt, mussel shell



Photo site 15 Silt, natural shell



Photo site 16 Silt, natural shell

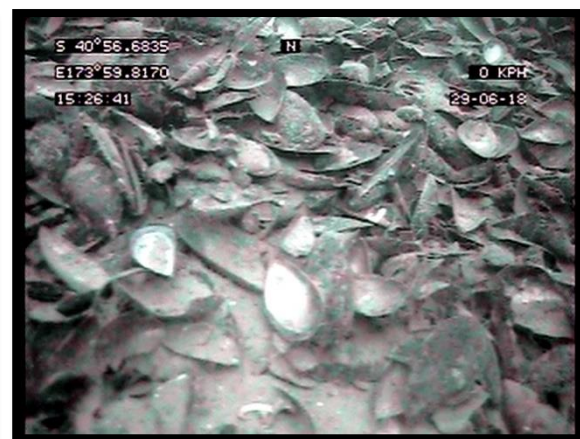


Photo site 17 Sand, natural shell, cobbles



Photo site 18 Sand, natural shell, cobbles



Photo 19 Sand, natural & mussel shell, occ cobbles Photo 20 Silt and clay

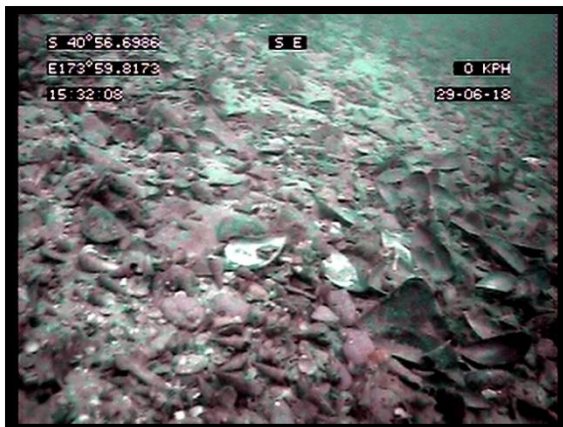


Photo 21 Silt, natural shell, mussel shell

Photo site 22 Silt, natural shell



Photo 23 Silt & clay, mussel shell

Photo 24 Silt & clay

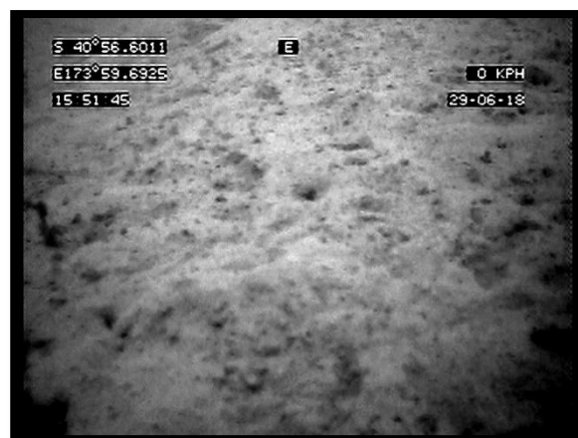


Photo 25 Silt and clay, mussel shell

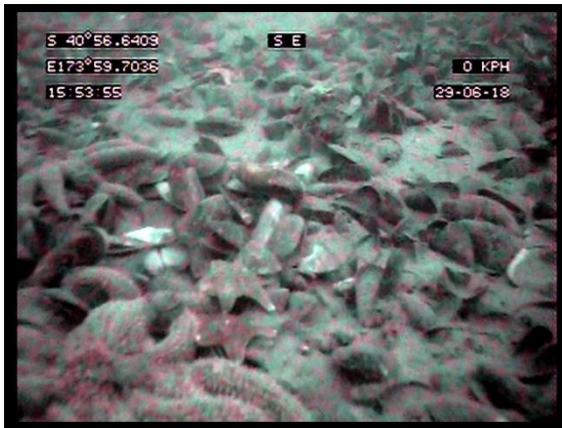
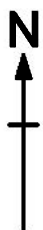
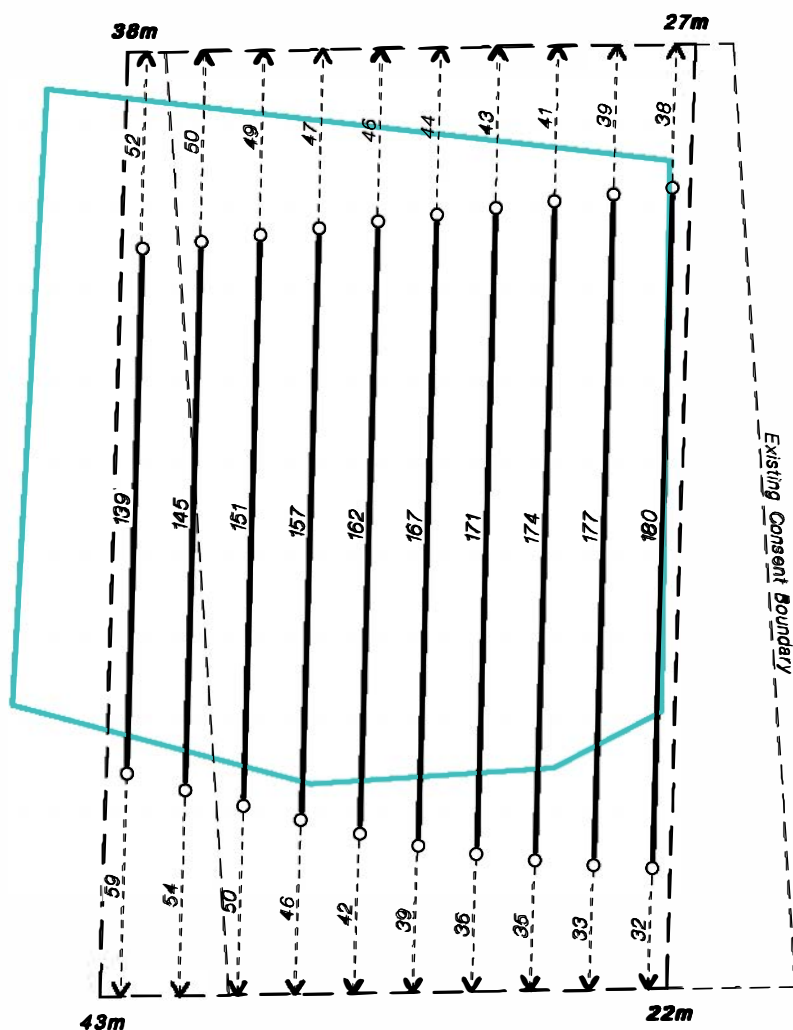


Photo 26 Silt and clay, mussel shell





Port Ligar



NOTES:

Backbone Length = as shown
 Total Backbone Length = 1623m
 Total Longlines = 10
 Longline Spacing = 15.54m
 Warp Surface Loss = as shown
 Warp Ratio = 1.7:1 approx

REFERENCE

- Orange Float
- < Anchor
- Anchor Warp
- Backbone
- Backbone Fix - R Davidson



Structure Layout

Renewal of

Marine Farm Site 8062

SCALE 1:2000
 50 0 50 100

23 August 2018

MF_2579



Topomap 50 Sheet: BP28/BP29

Base Topographical Data sourced from Land Information
New Zealand data service (www.data.linz.govt.nz) and Licenced
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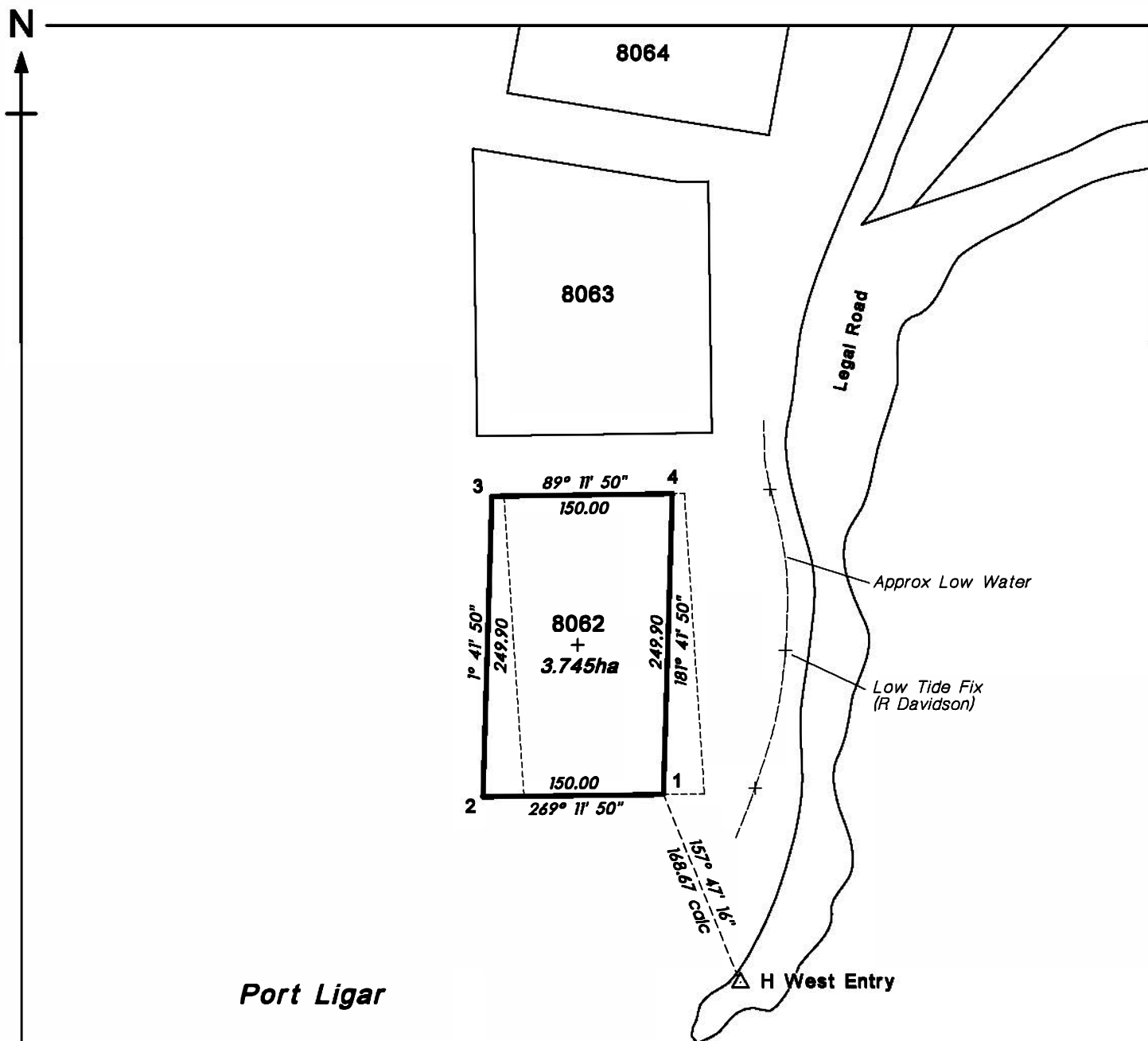


Prepared
23 August 2018

Locality Map

Renewal of Marine Farm 8062
Port Ligar, Pelorus Sound

Scale 1:50,000
500 0 500 1000 1500 2000 2500 3000 3500 Meters



SCHEDULE OF COORDINATES

DATUM: NZTM2000

Point	East	North
1	1883914.59	5466830.50
2	1883764.60	5466828.40
3	1883772.00	5467078.19
4	1883921.99	5467080.29
Centroid A	1883843.30	5466954.35
H West Entry	1883978.35	5466874.35

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



Renewal of Marine Farm 8062

Port Ligar, Pelorus Sound

SCALE 1:5,000

23 August 2018
MF_2579

50 0 100 200 300 400 metres