

From: RCInbox
Sent: Thursday, 5 April 2018 3:23 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 05/04/2018

Applicant(s): Crail Bay Trust

Consent(s) applied for: Coastal Permit - Disturb Foreshore or Seabed

[Download](#) and review the application.

[View the application online.](#)

Application for Resource Consent

Applicant details

Application for Resource Consent

Sections 88 and 145, Resource Management Act 1991

To

Marlborough District Council

Applicant

I,

Crail Bay Trust

Private Bag 65030

Havelock 7150

unknown

Graeme Henry Clarke

Private Bag 65030

Havelock 7150

035798225

graeme.clarke@xtra.co.nz

Elizabeth Patricia Clarke

Private Bag 65030

Havelock 7150

035798225

graeme.clarke@xtra.co.nz

Apply for the following type(s) of resource consent

-

Agent

Aquaculture Direct Limited

11 Fuchsia Place
Springlands
Blenheim 7201

Bruce Cardwell

021451284

bruce@aquaculturedirect.co.nz

Project reference

8540 Clarke

Property details

Site and location details

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

Farm 8540, Crail Bay, Marlborough Sounds

Legal description

U950301

Is there locale information in regards to the site?

Yes - there is locale information in regards to the site

Locale

Bay name

Crail Bay, Marlborough Sounds

River name

-

Road name

-

Proximity to any well-known landmarks

-

Grid reference

Easting

Northing

Site description

Description of the site at which the activity is to occur

Refer to AEE

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:

Refer to AEE

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?

No - there are no permissions needed which do not relate to the Resource Management Act 1991

Are there permitted activities that are part of this application?

No - there are no permitted activities that are part of this application

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

Consent type

Coastal

Subcategory type

Disturb Foreshore or Seabed

Description of consent being applied for

as per AEE

Location of the consent

Easting

-1

Northing

1

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

Re AEE

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

Provision not relevant

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

Provision not relevant

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

Provision not relevant

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

Provision not relevant

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.

Provision not relevant

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

Provision not relevant

6.1(f cont.) any consultation undertaken,

Provision not relevant

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

Provision not relevant

6.1(f cont.) and any iwi consultation undertaken

Provision not relevant

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.

Provision not relevant

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).

Provision not relevant

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

Provision not relevant

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

Provision not relevant

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

Provision not relevant

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

Provision not relevant

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

Provision not relevant

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

Provision not relevant

Applicant's proposed conditions for this activity

refer AEE

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:

re AEE

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

Refer AEE

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

Refer AEE

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

Refer AEE

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

Refer AEE

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

Refer AEE

6.1 (g) the protection of protected customary rights.

Refer AEE

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

Provision not relevant

Other matters (Section 7 Resource Management Act 1991)

1. Assess your application against the following matters:

7.1 (a) kaitiakitanga:

Refer AEE

7.1 (aa) the ethic of stewardship:

Refer AEE

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

Refer AEE

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

Provision not relevant

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

Refer AEE

7.1 (d) intrinsic values of ecosystems:

Refer AEE

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

Refer AEE

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

Refer AEE

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

Provision not relevant

7.1 (i) the effects of climate change:

Provision not relevant

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)

Refer AEE

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 AEE

Assessment under the New Zealand Coastal Policy Statement

Refer AEE

Assessment under the Marlborough Regional Policy Statement

Refer AEE

Assessment under the Marlborough Sounds Resource Management Plan

Refer AEE

Assessment under the Proposed Marlborough Environment Plan

Refer AEE

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

U950301

The value of investment of the existing consent holder is

Refer AEE

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	-	-	-	-	8540 Locality Map.pdf (3 MB)
Site Plan	-	-	-	-	8540 Renewal Layout Plan.pdf (509 kB)
Site Plan	-	-	-	-	8540 Renewal Site Plan.pdf (737 kB)
Benthic report	-	-	-	-	8540 Benthic Crail Bay (Clark).pdf (3 MB)

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

0000K6

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

Declaration

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

Yes

Authorised by (your full name)

Bruce Raymond Cardwell

Authorising person is:

Applicant applying for Resource Consent

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 CRAIL BAY TRUST
TO RENEW EXISTING CONSENT FOR MARINE FARM SITE 8540
CRAIL BAY, CENTRAL PELORUS SOUND, MARLBOROUGH**

1.0 INTRODUCTION – THE APPLICANT

Crail Bay Trust has applied to renew the existing resource consent (U950301, MPE395), for marine farm site 8540 (total 4.0560) for the purpose of farming Greenshell mussels, (*Perna canaliculus*), using conventional structures. (Refer attached layout diagrams illustrating the site.)

U950301: 4.0560, originally granted in April 1999, expires 5 April 2019.

MPE395: Fisheries permit granted in October 1999, expires 6th April 2019.

On part of the inshore area inside of the current consent the Ministry of Fisheries established an exclusion zone where marine structures were prohibited. (refer to Layout details plan)

U950301/MPE395 is assessed as a 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. Due to the sensitive area inshore of the farm the application includes moving the site seaward however the line layout and total area remain the same.

The site lies within the boundary of the CMZ2, an area which marine farming activity is a discretionary activity in the current Marlborough Sounds Resource Management Plan.

Crail Bay Trust are a family owned mussel farming and spat catching business. The owners Graeme and Liz Clarke moved into Crail Bay to live in 1977 and have remained there since. They are pioneers of the marine farming industry and were the second full time marine farmers in the Marlborough Sounds.

They have experimented with salmon, kingfish, snapper, pacific oysters and scallops.

Their two daughters were raised in Crail Bay, attended Waitaria School, then Nelson Girls College, and University. Liz Clarke was on the Waitaria Bay School Board and is a committee member of

the Waitaria Bay library. Graeme has been on the committee of the Marine Farming Association since 1992 and has completed a term on the board of Aquaculture New Zealand. Graeme completed two terms on the Marlborough Conservation Board and was secretary of the Pelorus Sound Branch of Federated Farmers. Graeme and Liz founded Sounds Community Connect, the local community broadband network. Liz was secretary of the Hopia Sports Club for 21 years and they are both life members. Graeme was a founding member of the Kenepuru and Central Sounds Rate Payers Association and was Chairman for a number of years. Graeme has undertaken a number of terms on the local Homewood Hall board and is a current member.

The farm is well managed and complies with the Greenshell Mussel Environmental Code of Practice.

As this is a 'like for like' Application by an existing permit holder, the Application should be processed under section 165ZH.

2.0 INTRODUCTION – THE APPLICATION

2.1 Size: The site is 4.0560.

2.2 Structures: The site dimensions will be: inshore boundary 250 metres long, northern boundary 290.80 metres long, eastern boundary 150.00 and western boundary 155.45 metres long. A Ministry of Fisheries exclusion zone exists along an inshore strip of the farm (refer attached site plan). There will be a total of 8 longlines (refer attached layout diagram).

2.3 Species: It is proposed to farm and harvest Greenshell mussels, (*Perna canaliculus*) using conventional structures.

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

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 8540.

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)).

4.0 TERMS OF CONSENT

U950301: 4.0560, originally granted in April 1999, expires 5 April 2019.

MPE395: Fisheries permit granted in October 1999, expires 6th April 2019.

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

5.0 THE SITE - LOCATION

Marine farm 8540 is located in Crail Bay, in the outer Clova-Crail Bay area.

Crail Bay is part of a large bay complex in central Pelorus Sound, approximately 36 km by sea from Havelock. Crail Bay has a coastline length of approximately 26 km (from Opani-aputa Point to the western headland of Grant Bay; coastline length does not include Ouokaha Island) and covers an area of sea of approximately 1,570 ha. Crail Bay is approximately 2.9 km wide across the entrance (between Opani-aputa Point and the western headland of Grant Bay).

The farm sits alongside other farms on the eastern side of Crail Bay. The nearest marine farms to 8540 are the adjacent farms to the north 8541, 8542 and 8543

The adjacent land to the south east of the farm is Rural 1. The land to the south west is a conservation zone.

Attached is a summary of the land use 'The Historical, Natural and Landscape Attributes, and its Covenanted Status' of the adjacent land form to the south of the marine farm (with thanks to Michael and Kristen Gerard).

There are no residential houses located on the land adjacent to the site. The nearest residences are in Grant Bay, approximately 1.6km from the site.

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

6.0 THE SITE - DIMENSIONS

The site dimensions that have been described above are as per the layout plans attached. The depth of the water at each of the site corners is 30 metres (NW), 30 metres (NE), 29 metres (SE), and 20 metres (SW).

The Application includes 8 long lines, each being approximately 111-149 metres long.

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

The site layout is attached to the Application.

The warp lengths are 70 metres from each end of the backbone (see line layout diagram for individual longline lengths). The warp ratio is 2:1

The farm is identified as being partially offsite as shown on the Marlborough District Council website (smart maps). The inside line will need to be removed and placed seaward and farm repositioned seaward of the exclusion zone as previously described.

7.0 THE PRESENT ENVIRONMENT

7.1 The Marine Environment

In January 2018 Mr R J Davidson, of Davidson Environmental Ltd, undertook a biological study of the ecology of the marine area of site 8540 (Report 877, attached).

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

“5.1 Benthic habitats

Substratum and habitat distribution relative to the consent was based on 23 drop camera stations and sonar imaging of the benthos.

The consent area was located over a range of substratum types from sorted natural shell and fine sand to deep areas characterised by silt and clay (i.e. mud).

The western inshore edges of the consent have an MPI structure restriction extending to 65 m distance from MLW. This inshore edge supported habitat recognised for fish feeding. This type of substratum would likely be altered if production lines were placed overhead. The western end of the inshore mussel line on the day of the survey was located within the MPI exclusion zone (Figure 4).

Deeper areas of the consent were dominated by silt and variable levels of natural shell. Areas offshore of the consent and occupied by farming structures were dominated by deep fine silt substratum. This substratum is the most common subtidal habitat in the sheltered Marlborough Sounds (McKnight and Grange, 1991) and has been traditionally targeted for marine farming activities as it is considered the most suitable habitat for marine farming activities in the Marlborough Sounds.

5.2 Species and communities

Occasional horse mussels were observed from photos. No scallops were observed from the consent. Blue cod were observed from boulders and cobbles located inshore of the consent. No species or communities that would likely be considered biologically significant were observed in areas of the consent located offshore of the sorted shell fine sand zone.

One king shag was observed roosting on the adjacent farm located north-east of the present site.

5.3 Significant sites

One known significant site is recognised from this part of Crail Bay (Davidson et al., 2011). Site 3.15 is a reef located on the western side of Grant Bay, some 760 m east of the present marine farm. This is well distant from the known impact zone for the present mussel farm.

5.4 Mussel farming impacts

5.4.1 Benthic impacts

Mussel shell was observed from 10 of the 19 consent photos. Mussel shell was also observed under marine farming structures located offshore of the consent. Mussel shell debris ranged from none to high cover, with most shell debris recorded under and adjacent to backbones. Overall, mussel shell levels were at high levels compared to other mussel farms in the Sounds. One area supporting live mussels was also observed. These may be due to a recent harvest and are at a depth where the mussels are unlikely to survive.

It is probable that the impact of continued shellfish farming at this site will result in the deposition of shell and fine sediment under and near droppers. It is noted, that much of this material is processed by bioturbators in the environment, while a proportion is resuspended during storm events and larger tides. Based on the literature and assuming the present level of activity remains relatively consistent, it is very unlikely that the surface sediments would become anoxic (see reviews and impact studies: Hartstein and Rowden, 2004; Keeley et al., 2009; Davidson and Richards, 2014).

5.4 Boundary adjustments, recommendations and monitoring

The benthos under inshore areas of the consent were dominated by a soft habitat recognised for fish feeding. This habitat was encompassed in an MPI structure exclusion zone.

With increasing depth and distance from shore, soft substratum graded into silt and shell. Areas offshore of the farm presently occupied by farm structures were typical of deep mud substratum in the Sounds. A small area of the western inshore backbone is located within the MPI exclusion zone. Based on these considerations, it is recommended that the inshore line be repositioned to ensure it is located offshore of the MPI exclusion zone.

Should the farm owner apply to farm the offshore areas presently occupied by farm structures and relinquish the inshore parts of the consent, no further benthic data is necessary. Drop camera and sonar data collected in the present study from the offshore area revealed uniform mud and mud with shell substratum. The photos and sonar collected from this offshore area confirm this area supports no habitats or communities that would preclude the area from consideration for marine farming activities.”

The report concludes that no monitoring is required.

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 lies in Crail Bay (Refer attached locality map.)

The adjacent land is regenerating bush.

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

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 holds with the conventions established in the Marlborough Sounds Resource Management Plan, that is the inshore boundary of the farm is beyond 50 metres from the mean low water mark. The inside line is 70 metres from the low tide mark.

8.2 Headlands

There is a headland and reef 800m to the east of the site.

8.3 Navigational Routes (Formal/Informal)

The shoreline in which the farm sits is not on a normal navigation route; however, vessels that wish to navigate within the area can go through the farm, 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 directly adjacent to the site. There are moorings to the west in Crail Bay, approximately 1.6km from the site.

The farm does not impede on access to these moorings.

8.5 Indirect Effects-Servicing vessels at site

The Applicant estimates farming and harvesting vessels will visit the site on an average of 40-43 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 110-120 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 to the south west is zoned Rural 1.

There are no residential houses located on the land adjacent to the site. The nearest residences are in Grant Bay, approximately 1.6km from the site.

9.2 Scenic Value

The adjacent land area has been identified within the Marlborough Sounds Resource Management Plan as being an area of outstanding natural landscape value. The farm is not located within this area. These assessments were made with the farms already in place and operational. There was no direction given in the plan that the marine farms should be removed for the area to be assessed as being an outstanding landscape.

The adjacent land area has been described as an area of outstanding natural landscape or features in the proposed Plan. The farm is not located within this area.

The area has been described as an area of high natural character in the proposed Plan.

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

10.0 ECOLOGICAL VALUE

There is an area of ecological value identified in the Marlborough Sounds Resource Management Plan to the east of the site 8540.

“One known significant site is recognised from this part of Crail Bay (Davidson et al., 2011). Site 3.15 is a reef located on the western side of Grant Bay, some 760 m east of the present marine farm. This is well distant from the known impact zone for the present mussel farm.” (Davidson Report 877, refer attached).

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

No sites of archaeological, historical or traditional value are known by the Applicant to be present in the area.

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.

13.0 COMMERCIAL AND RECREATIONAL FISHING

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

13.1 Commercial Fishing

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

13.2 Recreational Fishing

It is the Applicant's view that the marine farm at the site enhances opportunities for recreational fishing, as marine farms generally tend to create an ecosystem which is conducive to the presence of reef fish and other fish species.

14.0 VISUAL EFFECTS OF THE FARM

Visual effects will remain the same as they exist at the present. The farm structures presently consist of 8 long lines, each being approximately 111-149 metres in length containing black mussel buoys ranging between approximately 4 and 50 per line.

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

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

15.0 EFFECTS ON WATER QUALITY AND ECOLOGY

Water quality of the area is suitable for mussel farming. The site relies on water quality to enable the process of mussel farming to flourish. The site 8540 is a productive farm has a good capacity for mixing of water 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 877.

No specific sites of marine ecological significance, apart from reference to the 'Grant Reef', 750 metres from the structures, have been identified in the 'Ecological Significant Marine Sites in Marlborough New Zealand' published by Rob Davidson and others in 2011. There has been no impact from the farm on the reef.

16.0 EFFECTS ON PRODUCTIVITY

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

Based on these considerations it is probable the site is not subjected to high phytoplankton depletion issues. Refer to exert below from Davidson Report (Davidson Report 877, 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.

No data has been presented to show that the ecological carrying capacity of the Sounds has been reached. There is considerable evidence that shows the major environmental drivers of the Pelorus system, for example, naturally lead 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).

Observed tidal flow through the consent was low (author, pers. obs.). Broekhuizen et al. (2015) reported flows are expected to be <0.1 m/s in this area of Crail Bay. Winds are likely to be an important driver of water movement, especially during storm events.

The site is a considerable distance from the main channel of Pelorus Sound. There are numerous marine farms in the area, but none located immediately west of the present site. It is therefore likely that phytoplankton depletion will occur to some extent within the farm structures and the waters immediately adjacent to the farm.”

17.0 THE BENTHIC ENVIRONMENT

In terms of the benthic environment, the ecology of this area has been documented in Davidson Environmental Ltd Report 877 (refer to 7.1 above).

Changes are planned to the site boundaries and layout to mitigate any adverse impacts on the seabed.

18.0 ALIENATION OF PUBLIC SPACE

The general area of this part of the Pelorus Sound has been utilised by marine farmers in excess of 35 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 onshore facilities located in Crail Bay.

The mussels are transported to Havelock to supply a major processor where they provide a critical part of the production to maintain processing.

21.0 VALUE OF INVESTMENT

As part of this Application to renew site 8540, the Applicant is seeking to re-consent the site as a single unit and surrender the existing Consents, when the Application is granted for a period of 20 years. As a result, this is an Application to which section 165ZH(1)(c) applies and the Council must, when considering the application, have regard to the value of the investment of the existing consent holder under section 104(2A).

The site was applied for by the applicant and granted in 1999. The farm produces approximately 300 tonnes per annum (\$1100/ Green Weight Tonne (GWT)) and after processing the final ½ shell product would be sold on the export market at approximately \$650,000. It is estimated that 95% of mussel products are exported. All lines are restocked after harvest to achieve 300 GWT/per annum harvest.

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 adjacent land area has been identified within the Marlborough Sounds Resource Management Plan as being an area of outstanding natural landscape value. These assessments were made with the farms already in place and operational. There was no direction given in the plan that the marine farms should be removed for the area to be assessed as being an outstanding landscape.

The adjacent area has been described as an area of outstanding natural landscape or features in the proposed Plan.

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

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

The adjacent vegetation next to the farm is regenerating 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 is unaware of any new historical sites on land nearby identified since the last Application. This will be confirmed 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. The applicant is unaware of a taiāpure or mahinga mātaihai in the area of the application. 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 will discuss the proposal further with relevant Iwi representatives if this is requested.

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 Crail Bay.

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

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

23.3 Policy 8

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

- (a) including in regional policy statements and regional coastal plans provision for aquaculture activities in appropriate places in the coastal environment, recognising that relevant considerations may include:
 - i. The need for high quality water for aquaculture activities; and*
 - ii. The need for land-based facilities associated with marine farming.**
- (b) Taking account of the social and economic benefits of aquaculture, including any available assessments of national and regional economic benefits; and*
- (c) Ensuring that development in the coastal environment does not make water quality unfit for aquaculture activities in areas approved for that purpose.*

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

23.4 Policy 11

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

The farm is 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 adjacent land area has been identified within the Marlborough Sounds Resource Management Plan as being an area of outstanding natural landscape value.

The area has been described as an area of high natural character in the proposed Plan.

23.6 Policy 15

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

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

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

23.7 Policy 18

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

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

There are no registered moorings in the direct vicinity of the site, and no formal water ski lanes.

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

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 email and letter has been sent to all Iwi listed below identifying the site prior to the application being submitted.

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	Taiao@ngatiapakiterato.iwi.nz	
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

26.0 CONCLUSION

The Applicant considers that the renewal of site 8540 is appropriate, thereby allowing the continued farming of Greenshell mussels and other species at the site.

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

Appendix A: Marlborough Regional Policy Statement – Policy Analysis

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

Appendix B: Marlborough Sounds Resource Management Plan – Policy Analysis

Objective	Policy	Assessment
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: <ul style="list-style-type: none"> a) Coastal and freshwater landforms; b) Indigenous flora and fauna, and their habitats; c) Water and water quality; d) Scenic or landscape values; e) Cultural heritage values, including historic places, sites of early settlement and sites of significance to iwi; and f) Habitat of trout. 	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 9.2.1, 9.3.2 and 9.4.1 in recognition of the components of natural character.	The application will not have any additional impact on the components of these policies which impact natural character values.

	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.
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	<p>In preparing this application, the applicant has had regard to the Statutory Acknowledgments and has reviewed the statements of association for each iwi. An initial letter has been sent to all Iwi identifying the site prior to the application being submitted</p> <p>The applicant understands there are no known wahi tapu, taiapure, mataitai or other areas of significance to Maori in the vicinity of the application.</p>

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 located in the direct vicinity of the farm. The farm does not impede the navigation to any moorings.
	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 8540 is consented for marine farming, there are other marine farms consented in the bay.
	Policy 1.13: Enable the renewal as controlled activities of marine farms authorised by applications made prior to 1 August 1996 as controlled activities, apart from exceptions in Appendix D2 in the Plan.	NA

Ch 9, 9.3.2, Obj 1: Management of the effects of activities so that water quality in the coastal marine area is at a level which enables the gathering or cultivating of shellfish for human consumption (Class SG).	Policies 1.1 to 1.11	This application is not anticipated to have any impact on shellfish quality.
Ch 9, 9.4.1, Obj 1:	Policy 1.1: Avoid, remedy or mitigate the adverse effects of activities that disturb or alter the foreshore and/or seabed on any of the following: [criteria specified in Plan].	There will be no additional disturbances of the seabed.
Ch 9, 9.4A.1, Obj 1:	n/a	These policies are no longer relevant due to abolition of AMAs through legislation.
Ch 19, 19.3, Obj 1: Safe, efficient and sustainably managed water transport systems in a manner that avoids, remedies and mitigates adverse effects.	Policy 1.1: Avoid, remedy or mitigate the adverse effects of activities and structures on navigation and safety, within the coastal marine area.	There have been no reported navigational incidences in the bay. There will 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 farm. A servicing vessel is estimated to spend approximately 110-120 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> <ul style="list-style-type: none"> (a) takes into account the principles of the Treaty of Waitangi/Te Tiriti o Waitangi, including kāwanatanga, rangatiratanga, partnership, active protection of natural resources and spiritual recognition. (b) recognises that the way in which the principles of the Treaty of Waitangi/Te Tiriti o Waitangi will be applied will continue to evolve; (c) promotes awareness and understanding of the Marlborough District Council’s obligations under the Resource Management Act 1991 regarding the principles of the Treaty of Waitangi/Te Tiriti o Waitangi among Council decision makers, staff and the community; (d) recognises that tangata whenua have rights protected by the Treaty of Waitangi/Te Tiriti o Waitangi and that consequently the Resource Management Act 1991 accords iwi a status distinct from that of interest groups and members of the public; and 	<p>See above.</p>

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

MEP Provision	Evaluation
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.</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]	The site is identified in the MEP as having high 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 is classified as having high natural character in the MEP. There will be no change in the degree of the biological components of natural character.</p>
<p>Policy 6.2.4 – Where resource consent is required to undertake an activity within coastal or freshwater environments with high, very high or outstanding natural character, regard will be had to the potential adverse effects of the proposal on the elements, patterns, processes and experiential qualities that contribute to natural character. [RPS, R, C, D]</p>	<p>See above and AEE sections 9 and 22.3.</p>
<p>Policy 6.2.5 – Recognise that development in parts of the coastal environment and in those rivers and lakes and their margins that have already been modified by past and present resource use activities is less likely to result in adverse effects on natural character. [RPS, R, C, D]</p>	<p>The proposal is less likely to have an adverse effect on natural character, given existing development in the area.</p>
<p>Policy 6.2.6 – In assessing the appropriateness of subdivision, use or development in coastal or freshwater environments, regard shall be given to the potential to enhance natural character in the area subject to the proposal. [RPS, R, C, D]</p>	<p>The effects are not of a scale to justify an enhancement programme.</p>
<p>Policy 6.2.7 – In assessing the cumulative effects of activities on the natural character of the coastal environment, or in or near lakes or rivers, consideration shall be given to: (a) the effect of allowing more of the same or similar activity; (b) the result of allowing more of a particular effect, whether from the same activity or from other activities causing the same or similar effect; and (c) the combined effects from all activities in the coastal or freshwater environment in the locality. [RPS, R, C, D]</p>	<p>There are existing aquaculture activities in the area and the farm has been operating for a number of years. There are unlikely to be cumulative effects issues.</p>
<p>Objective 7.2 – Protect outstanding natural features and landscapes from inappropriate subdivision, use and development and maintain and enhance landscapes with high amenity value.</p>	<p>The adjacent land 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>Grant Reef, approx.750metres from the site structures is mapped as an area 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), Port Underwood, Pelorus Sound, 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 a 20year resource consent. The AEE suggests that this term is appropriate in these circumstances.</p>

Appendix 1

Oaheka Peninsula, Hopai, Pelorus Sound

The Historical, Natural and Landscape Attributes, and its Covenanted Status

This paper has been prepared by the landowners as a statement of intent regarding the peninsula, and to inform the Marlborough District Council and the Sounds community of what we are protecting and why.

Background

Oaheka Peninsula, Pelorus Sound, is the prominent headland that reaches out towards Ouokaha Island and encompasses the northern-most end of Hopai Bay.

It has high historical and scenic values.

Originally modified by Māori habitation, it was later grazed as part of the early Hopai Run, but has been retired from farming operations and allowed to regenerate for the past 40 years.

Conservation Status

The Peninsula was covenanted by the current landowners Michael and Kristen Gerard, with the Department of Conservation, in two parts –

1. the western-most narrow peninsula portion of 6.75 ha in 1999,
2. and the eastern-most portion of 22.55 ha which adjoins the farmland, in 2003.

These Covenants under Section 77 of the Reserves Act 1977 are a legal agreement to protect an important piece of land in perpetuity. Covenants are registered on the title and bind all future owners to the terms of the Covenant –

- Protecting and enhancing the natural character of the land.
- Protecting the land as an area representative of the Ecological District.
- Maintaining the landscape amenity values of the land.

In conjunction with the rest of the Hopai and Elie Bay farm, the Peninsula was also assessed as a significant ecological site by Ecologist Geoff Walls for the MDC Significant Natural Areas Programme in 2005.

Natural Features of the Peninsula

The north-western side of the peninsula is very exposed to winds from those directions, and consists of steep hillsides culminating in bluffs dropping onto rocky beaches; whereas the southern side of the peninsula is damper and shadier, with one very beautiful beach that is extremely popular with holidaymakers in the summer.

The northern-most point of the covenanted area of the Peninsula adjoins Ika-huia reef (also known as Grants Bay Reef) which is recognised as an Ecologically Significant Marine Site in the Marlborough Environment Plan.

The vegetation throughout the peninsula, though windswept on the outer portion, is surprisingly dense, and after 40 years or so of retirement from farm grazing animals, is revegetating well.

Wilding pine control work was initiated on the peninsula in 2002 and continues today; the one small area of plantation forest will be harvested in conjunction with others in the area.

Throughout the peninsula area, gorse and broom are rapidly decreasing as the native species take over – tahinu, flax, manuka, kanuka, griselinia, kamahi, olearia, various cyathodes, akeake, hebe, rangiora, whiteywood, cordyline, pseudopanax, pennantia, aristotelia, macropiper, ngaio, karaka, nothofagus, nikau, clematis paniculata, and many other types of ferns, orchids and small shrubs. The Peninsula itself also lays along a line that divides inner and outer Sounds coastal vegetation – hence the presence of some more typically outer Sounds species like rengarenga and Hebe stenophyllum.

Other rarer species of note discovered on the peninsula are:

Carmichaelia arborea;

Dracophyllum urvilleanum (or neinei which is listed as nationally threatened);

and *Genistoma rupestre*.

Small rimu, tawa, kohekohe, totara and pukatea trees have also been found.

The Peninsula is also included in the farm's Indigenous Carbon Credit Scheme, and a measurement plot in its northern sector is recording the vegetation changes every 5 years.

There are freshwater seepages along the foreshore in various places around the peninsula which no doubt assist all the native bird species that inhabit the peninsula.

Historical Features

Maori and European folklore tell of the importance of Hopai (Kopai) to the Ngati kuia and Ngati apa iwi. There was a main pa site in the bay, and Ouokaha Island was used as a burial ground, and then as a prison during Te Rauparaha's raids. There are pits and depressions along the ridgelines of both the Island and the Peninsula which must be protected so they remain undisturbed for the future, and as a remembrance of the past.

We consider that the naming of the Grants Bay Reef – Ika-huia (fish and bird) to be a good indication that this area was one of the important food gathering places for local iwi many years ago.

Landscape Issues and the Future

Recognising the importance of the Peninsula to the wider Sounds land and seascape, community and environment, our family proudly took the major step to Covenant this area of the farm. We are committed to continue actively protecting and enhancing the scenic and natural values of Oaheka Peninsula.

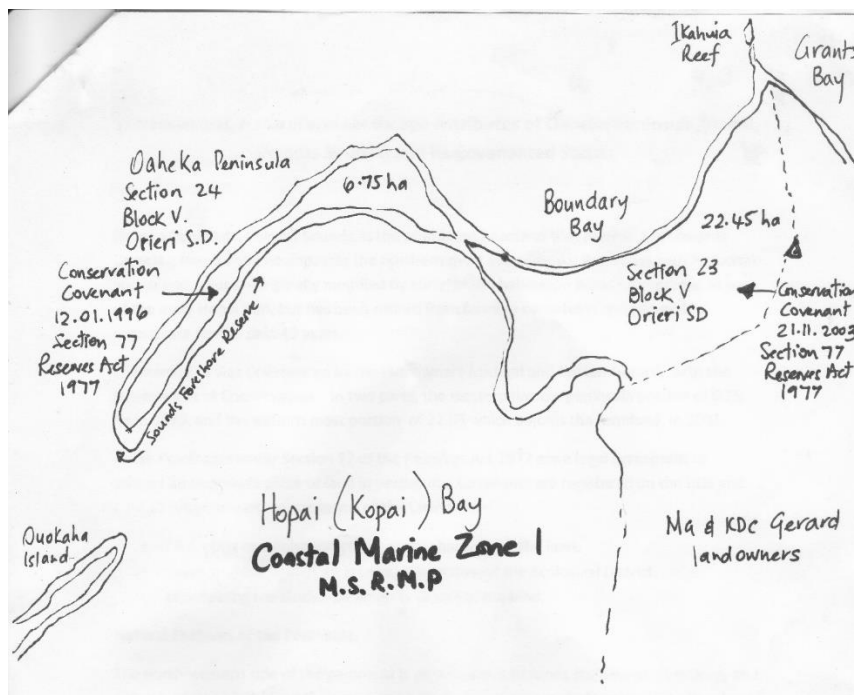
In the new Marlborough Environment Plan the peninsula and island are zoned as High Coastal Natural Character, and Outstanding Natural Feature and Landscape – zonings which we fully support.

We are also determined to vigorously defend the status of the Coastal Marine Zone 1 area within the inner Hopai Bay area (i.e. prohibited for aquaculture) in the MSEMP, and consider that any increases to marine farming around the outer portion of the Peninsula adjacent to our Covenanted Reserve areas would be detrimental and degrading to our efforts on the land.

November 2017

Michael Gerard

Kristen Gerard





Davidson Environmental Limited

Biological report for the reconsenting of marine farm 8540, Crail Bay

Research, survey and monitoring report number 877

*A report prepared for:
Crail Bay Aquaculture
C/o Aquaculture Direct
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January 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 including substratum and habitat data in relation to the consenting of marine farm 8540. The 4.056 ha production mussel farm is in outer Crail Bay (Figure 1, Plate 1).

The report was commissioned by Aquaculture Direct Limited for the farm owner, Crail Bay Aquaculture.

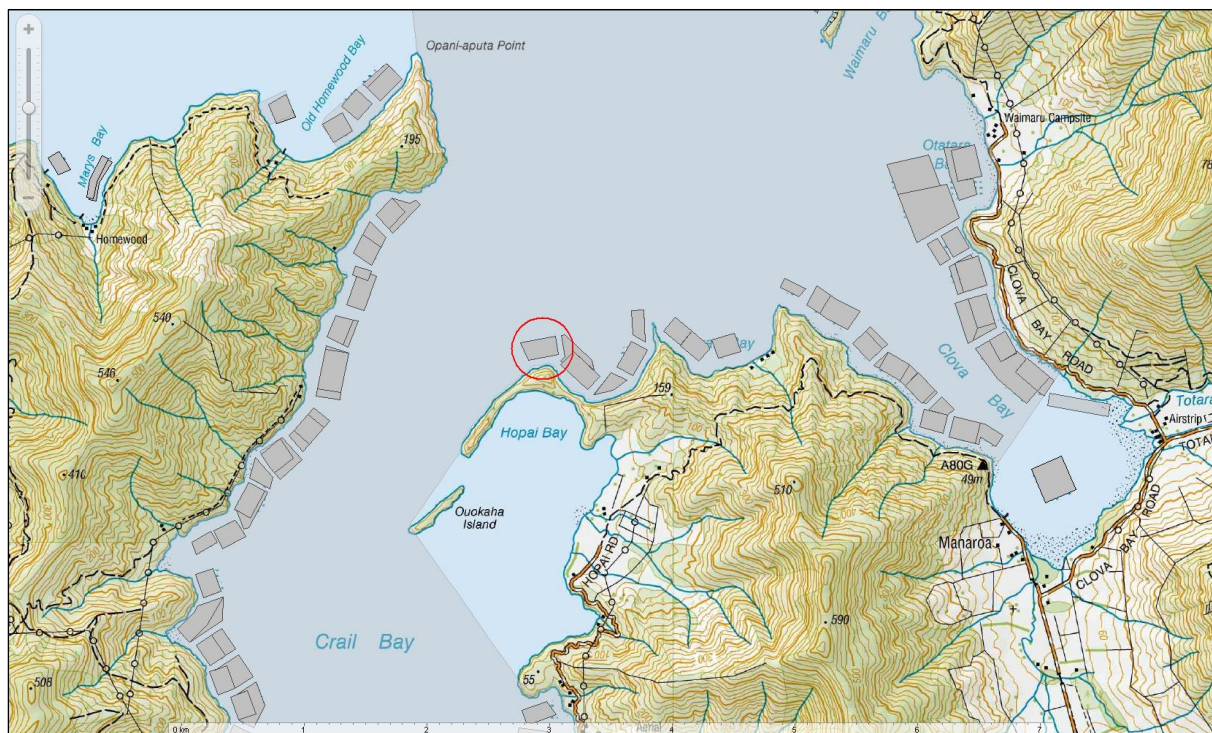


Figure 1. Location of marine farm 8540, in outer Crail Bay (red circle). Light grey areas = CMZ2 zone, dark grey = other consented farms.



Plate 1. Looking east towards the backbone lines of farm 8540. Photo taken from a position immediately west of the marine farm.

2.0 Background information

2.1 Study area

Crail Bay is part of a large bay complex in central Pelorus Sound, approximately 36 km by sea from Havelock. Crail Bay has a coastline length of approximately 26 km (from Opani-aputa Point to the western headland of Grant Bay; coastline length does not include Ouokaha Island) and covers an area of sea of approximately 1570 ha. Crail Bay is approximately 2.9 km wide across the entrance (between Opani-aputa Point and the western headland of Grant Bay).

2.2 Historical reports

One historical biological report was produced for the parent farm and also the coast located further west (U950301) (Davidson, 1995).

The author collected data from diver-sampled transects and a scooter run. The author reported:

“The subtidal shore profile was initially an extension of the intertidal shore being dominated by either a bedrock or cobble substrata with occasional small boulders. This hard shore zone formed a steep subtidal shore which ended relatively abruptly in depths of 11 to 16 m depending on the location of the transect (Figure 3, 4). A silty broken shell substratum started at approximately 11 to 16 m depth and at a distance of 35 to 50 m horizontal distance from the low tide mark (Figure 3, 4). At depths of 28 to 30 m, the shore gradient started to level and the benthos was dominated by silts and dead whole shell material (Figure 3, 4).

From the transect and scooter run, a total of 25 conspicuous species of invertebrate, 6 algae, 2 ascidians, 5 species of bony fish and a skate egg case were recorded. A list of species observed from combined transects and scooter run are presented in Table 1, while the profiles are plotted in Figure 3, 4.

Tube worms *Galeolaria hystrix* were recorded on rubble substrata in the present study. No tube worm mounds were observed in the present study. Five species of fish were recorded

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from the transects and scooter run. Spotty (*Notolabrus celidotus*), blue cod (*Parapercis colias*) and (variable triplefin (*F. varium*) were numerically the most abundant. Blue cod were dominated by small (<300 mm length) individuals observed mostly in the rubble substrata. Brachiopods (*Magasella sanguinea*, *Waltonia inconspicua*) were recorded in low numbers from the study area, mostly in depths of 23 to 30 m.

Scallops (*P. novaezelandiae*) were recorded from soft substrata in the present study. Scallops appeared to be restricted to the silty shell zone immediately below the rubble zone. Densities were not collected but densities of scallops within the proposed marine farm area were estimated as extremely low.”

The author concluded:

“The substrata under most of the proposed marine farm was dominated by soft substrata in the form of silty broken and dead whole shell material with a narrow fringe of silty broken shell on the inshore boundary. The associated flora and fauna from these soft bottom shores was represented by a relatively low diversity of marine biota. This soft bottom habitat and its associated species are widespread in Pelorus Sound, and also in many of the sheltered parts of the Marlborough Sounds. This habitat has a relatively low diversity of species compared to many rich and diverse habitats and communities recorded from particular parts of the Sounds. The establishment of a marine farm over this benthos would probably mean the ultimate modification of this soft bottom benthos and its associated community. This impact would, however, represent a small fraction of this habitat type in the sheltered parts of the Marlborough Sounds.”

3.0 Methods (present survey)

During the present study, the area was investigated on January 4th 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 externally mounted Lowrance Point 1 high sensitivity GPS, allowing real-time plotting of the corners of marine farm surface structures and to pinpoint drop camera stations in the field. This GPS system has a maximum error of +/- 5 m.

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

3.1 Sonar imaging

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

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

A total of 23 drop camera photographs were collected from the farm, areas offshore and inshore 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

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collected where the frame landed. On occasion, the camera was left to drift after the photograph was collected to observe the wide benthos.

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

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

Low tide was determined at two locations inshore of the consent. The survey vessel was positioned over the low water mark and the position recorded using the mapping software. Low tide was visually determined by using the transition between intertidal and subtidal species combined with the known tidal height at the time of position fixing.

4.0 Results

4.1 Consent corners, surface structures and tides

The tide was high at 11.01 am (3.04 m) and low at 3.56 pm (0.28 m). During the survey, the tide was outgoing.

The inshore corner depths of the consent ranged from 14.6 m to 26.5 m, while offshore boundary depths ranged from 29.2 m to 30.2 m (Table 1, Figure 2).

At the time of the survey, existing surface structures were organised into one block of backbones occupying an area of 2.14 ha or 52.8% of the consent area (Plate 2, Figure 2). On the day of the survey, the offshore backbone was located in a position offshore of the consent.

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The distance between low tide and the consent boundary was measured at two positions along the adjacent shoreline. The distance from the inshore boundary to low tide position 1 was 52 m and 50 m at position 2 (Figure 2, Plate 2). The distance between low water and the inshore backbone line was 75 m at position 1 and 62 m at position 2.

4.2 Sonar imaging

The sonar run along the inshore and offshore area of the consent revealed rocky substrata inshore of the farm boundary (Plate 3). Hard substrata comprised boulder and cobble material and was recorded extending variable distances from shore. A small area of outcropping rock was recorded west of the consented farm.

No rocky substrata were observed from the sonar run within the consent area.

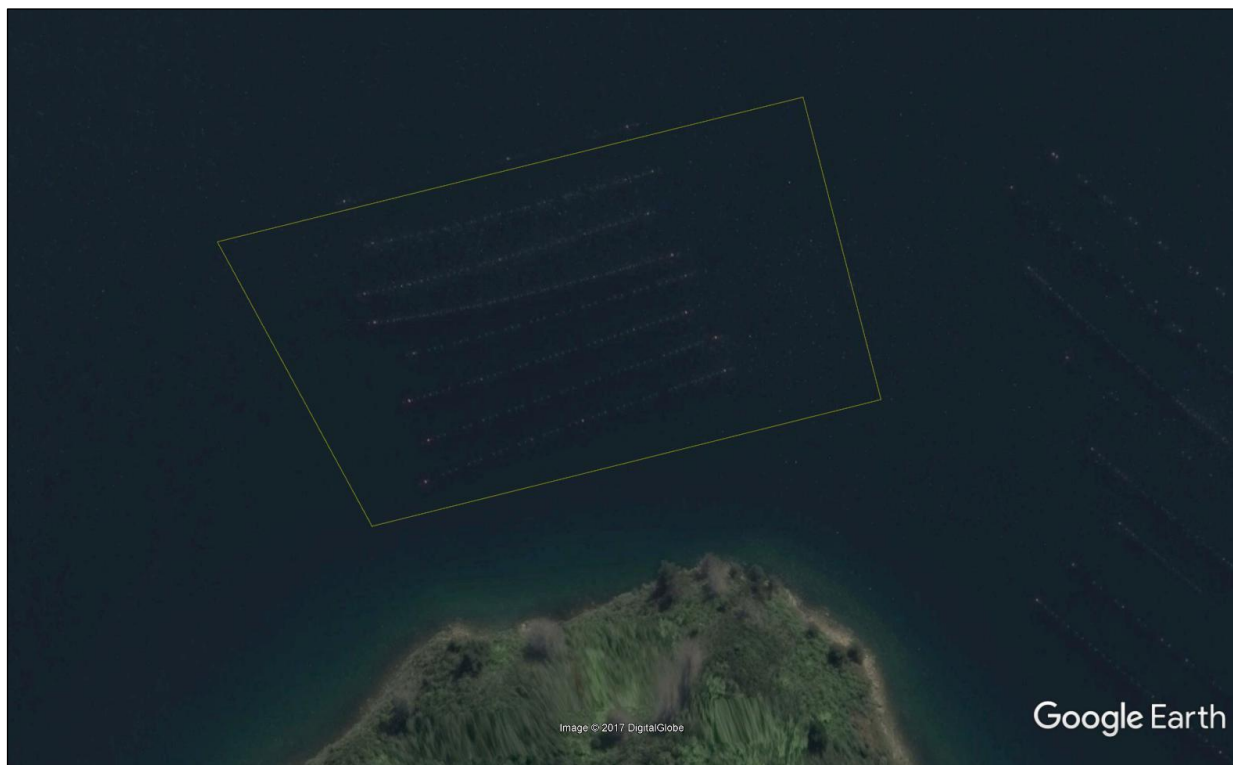


Plate 2. Farm 8540 (yellow polygon) relative to the shoreline in Crail Bay.

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

Type	No. & Depth (m)	Coordinates
Consent corner	1, 26.5m	1683062.0,5449804.0
Consent corner	2, 29.2m	1683035.9,5449951.8
Consent corner	3, 30.2m	1682749.7,5449901.8
Consent corner	4, 14.6m	1682815.6,5449760.9
Structure corner	A, 30m	1682951.0,5449949.7
Structure corner	B, 30.5m	1682811.2,5449922.3
Structure corner	C, 16.5m	1682844.8,5449775.7
Structure corner	D, 26m	1682995.6,5449821.8
Low tide	Low tide 1	1682978.2,5449736.2
Low tide	Low tide 2	1682876.1,5449719.8

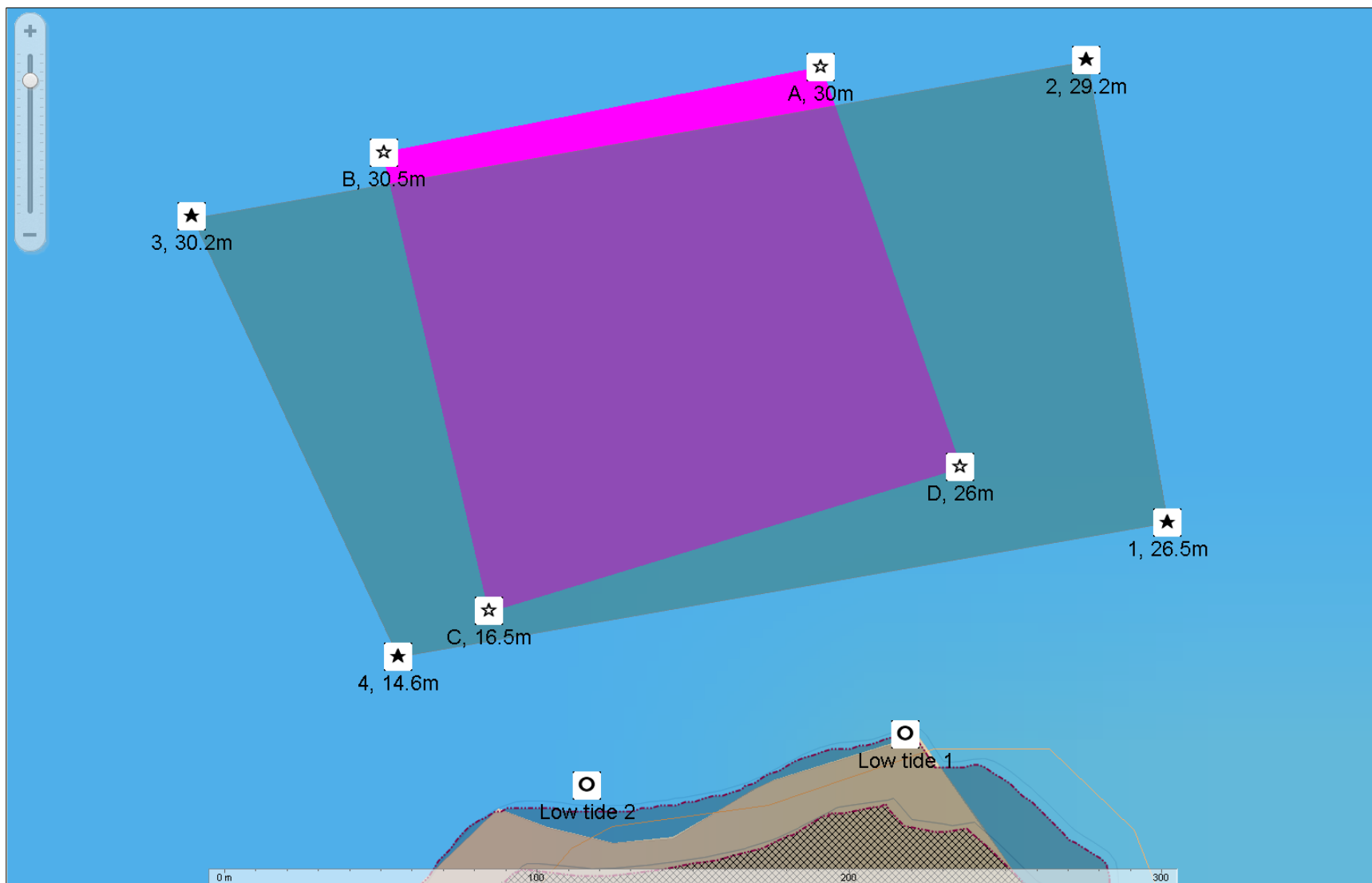


Figure 2. Location of the consent area in Crail Bay (teal), corner depths, and area occupied by surface structures (pink). Adjacent low tide positions are plotted (open circles).

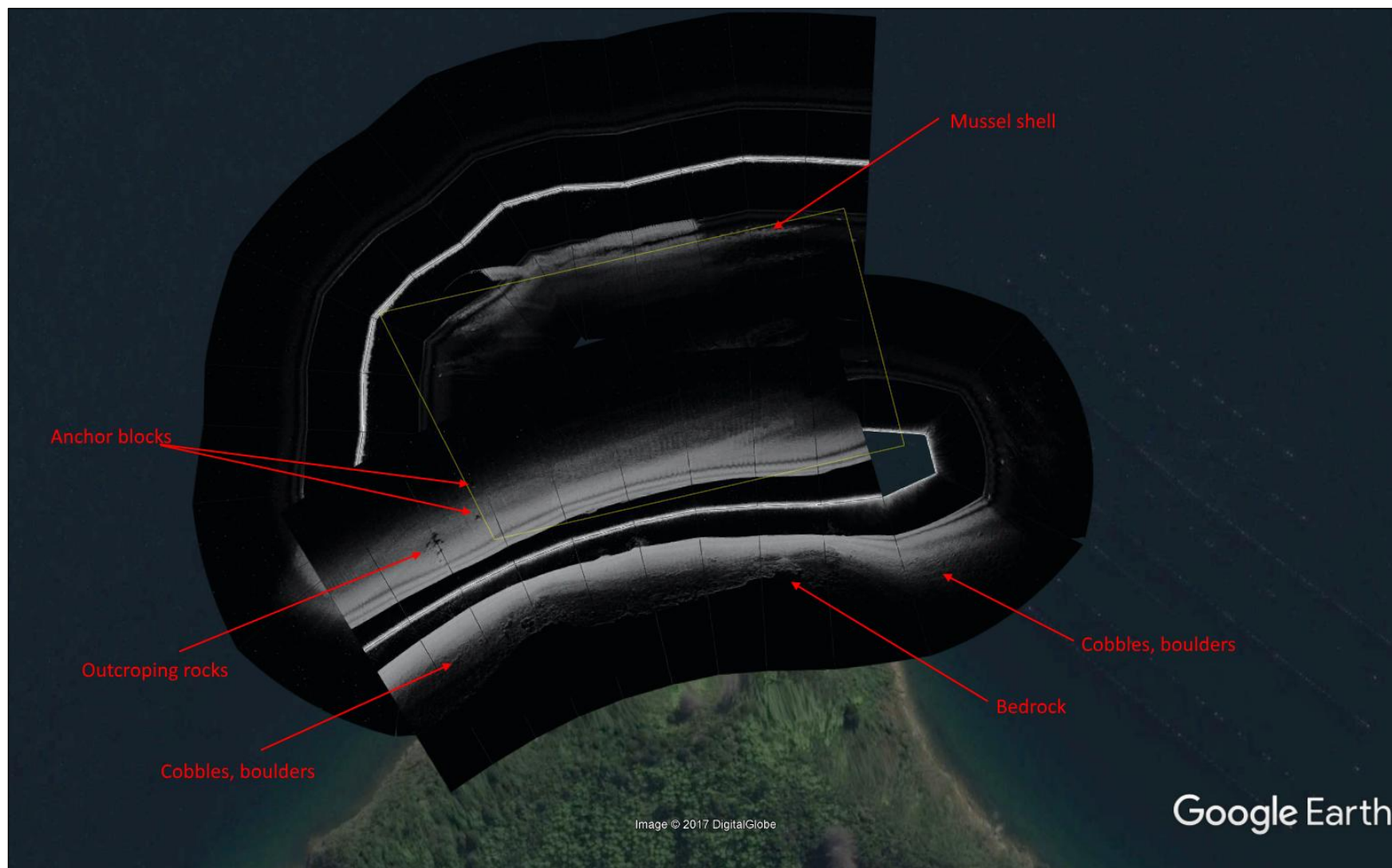


Plate 3. Sonar transects at farm 8540. Yellow polygon = consent boundary, white line = sonar track.

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4.3 Drop camera images

Drop camera photographs were taken within the consent, areas offshore and inshore of the consent, and around and under marine farm structures (Table 2, Figure 3, Appendix 1).

Inside the Consent

Most of the consent was greater than 27 m depth and characterised by silt and clay substrata (Plate 4, Table 2). Inshore western areas of the consent supported shallower depths and were characterised by two types of coarser soft substratum. Around 17 to 20 m depth, the benthos was characterised by silt, natural shell and a component of fine sand (Plate 5). This substratum was absent from the inshore eastern area that was deeper and instead dominated by fine sediments (Figure 3).

Plate 4. Silt and clay located inside the consent (Photo 9, 29.5 m depth).



Plate 5. Fine sand, silt and natural shell located inside the consent (Photo 14, 18.2 depth). Filamentous algae present in small clumps.



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The inshore edge of the consent between 14 to 17 m depth supported sorted natural shell (broken and whole) with numerous burrows (holes) presumably occupied by snapping or ghost shrimps.

Plate 6. Sorted natural shell, fine sand and silt located along the inshore edges of the consent (Photo 20, 17.2 m depth).



Offshore and inshore of the Consent

Areas offshore of the consent were characterised by silt and clay with a very small component of natural shell (Table 2, Appendix 1). Cobble and boulder fields were located inshore of the consent (Plate 7). This substratum did not extend into or near the consent.

Plate 7. Cobbles, boulders, fine sand and natural inshore of the consent (Photo 23, 8 m depth). Note: three blue cod.



Benthic mussels and mussel shell

Mussel shell was observed from 10 of the 19 consent photos (Table 2). Mussel shell debris ranged from none to high cover, with shell debris most often recorded under and adjacent to backbones (Plate 8). Overall, mussel shell levels were at the high end of the range compared to other mussel farms in the Sounds. One area supporting live mussels was also observed (Plate 9). Large 11 arm sea stars were observed feeding on mussels in this area.

Plate 8. Mussel shell (high level) under backbones (Photo 15, 21.2 m depth).



Plate 9. Live mussels under backbones (Photo 11, 29 m depth). Note: predatory 11 arm sea stars.

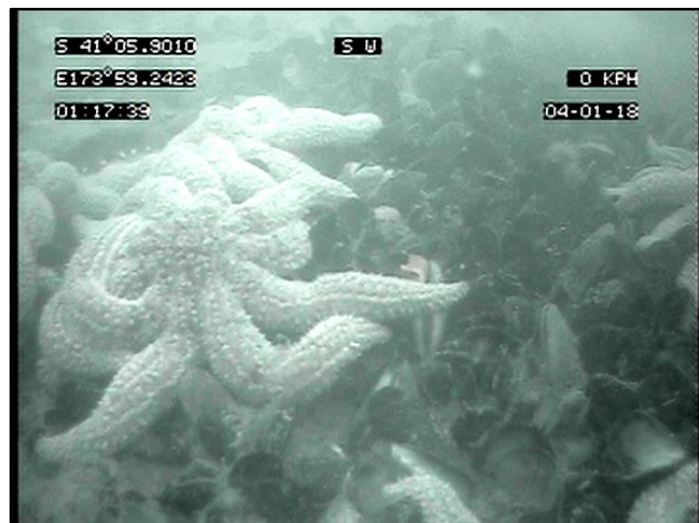


Table 2. Coordinates of drop camera stations showing location relative to the marine farm relicensing consent area (NZTM). Colours are: teal = within consent, red = under backbones, blue = outside consent. Depth, substratum, and mussel debris data are also listed.

No. & Depth (m)	Coordinates	Location	Substratum	Shell debris
1, 29.7m	1682933.3,5449959.1	Offshore of consent, near backbones	Silt and clay, whole natural shell	Low
2, 30m	1682875.9,5449944.4	Offshore of consent, near backbones	Silt and clay, mussel shell	
3, 30.3m	1682812.8,5449929.5	Offshore of consent, near backbones	Silt and clay	
4, 30.3m	1682799.2,5449884.3	In consent, under warps	Silt and clay, mussel shell	Low
5, 30m	1682839.0,5449898.3	In consent, under backbones	Silt and clay, mussel shell	High
6, 29.8m	1682890.7,5449901.8	In consent, under backbones	Silt and clay, mussel shell	High
7, 29.5m	1682949.3,5449915.6	In consent, under backbones	Silt and clay, mussel shell	High
8, 29.7m	1682994.4,5449920.9	In consent, under warps	Silt and clay, whole natural shell	High
9, 29.5m	1682998.1,5449868.7	In consent, under warps	Silt and clay, whole natural shell	
10, 29.2m	1682962.0,5449855.2	In consent, under backbones	Silt and clay, mussel shell	
11, 29m	1682917.9,5449856.2	In consent, under backbones	Silt and clay, mussel shell, live mussels	High
12, 27.8m	1682844.2,5449829.9	In consent, under backbones	Silt and clay, mussel shell	High
13, 28.8m	1682801.2,5449823.1	In consent, under warps	Silt and clay, whole natural shell	High
14, 18.2m	1682819.5,5449775.4	In consent, under warps	Silt, fine sand, whole and broken natural shell, filamentous algae	
15, 21.2m	1682857.5,5449795.8	In consent, under backbones	Silt, mussel shell	
16, 22.3m	1682919.2,5449807.6	In consent, under backbones	Silt, fine sand, mussel and natural shell	Moderate to high
17, 27.4m	1682979.9,5449828.2	In consent, under backbones	Silt, mussel shell	High
18, 29.8m	1683029.3,5449833.9	In consent, under warps	Silt and clay	High
19, 20.2m	1682981.1,5449796.2	In consent, no structures	Silt, fine sand, whole and broken natural shell, filamentous algae	
20, 17.2m	1682935.1,5449783.9	In consent, no structures	Fine sand, silt, sorted natural shell hash, filamentous algae	
21, 15.4m	1682885.7,5449774.3	In consent, no structures	Fine sand, silt, sorted natural shell hash, filamentous algae	High
22, 15.6m	1682824.7,5449762.7	In consent, no structures	Fine sand, silt, sorted natural shell hash, filamentous algae	
23, 8m	1682833.0,5449742.9	Inshore of consent, no structures	Cobbles, boulders, shell, fine sand	

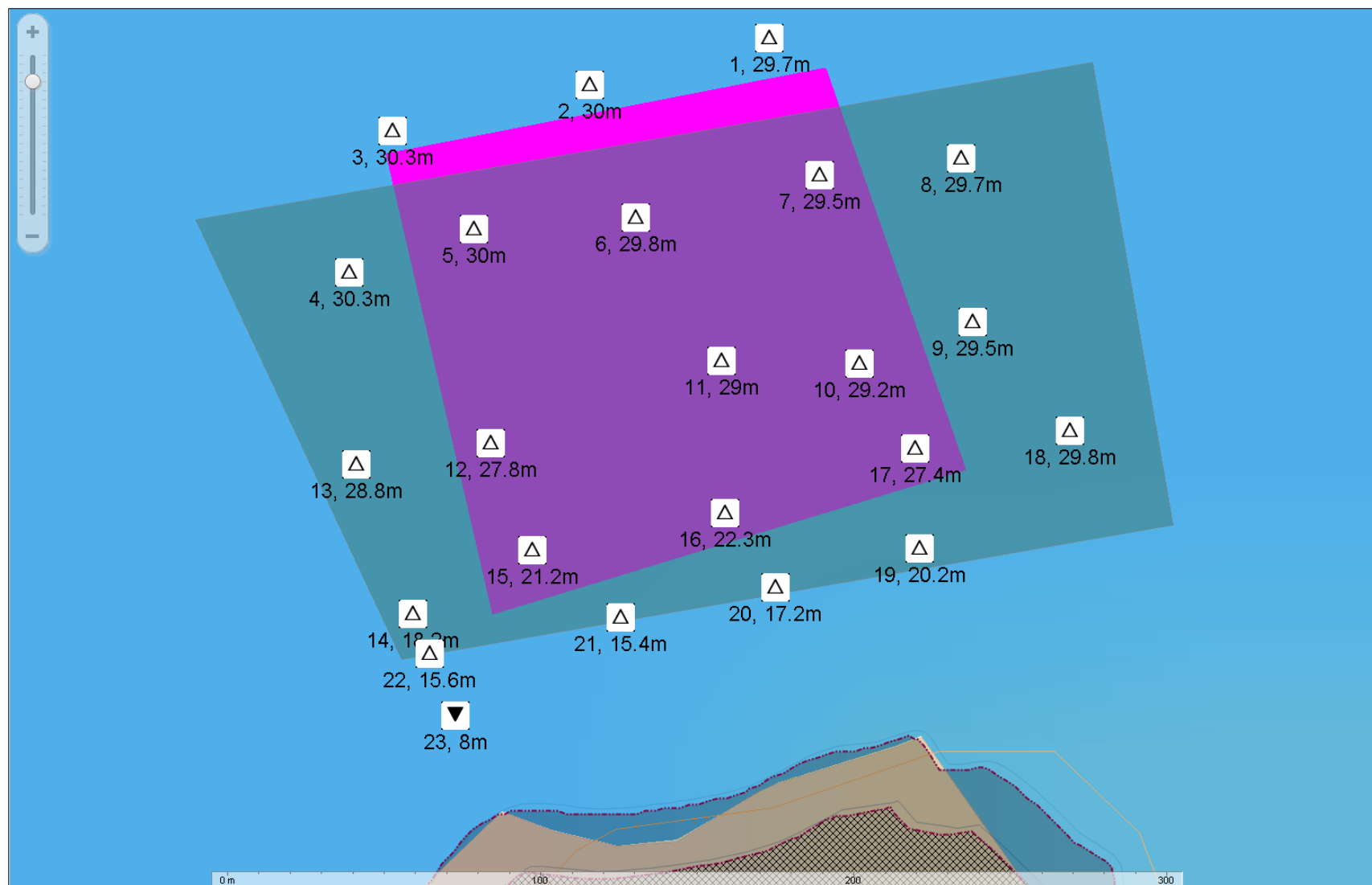


Figure 3. Consent area (teal overlay), area of surface structures (pink), and drop camera stations with depth (m). Solid triangle = rocky substrata present.

4.4 Flora and fauna

Based on photographs, areas inshore of the consent supported the highest variety of surface dwelling species compared to deep offshore silt dominated areas. Cobbles, boulders and coarse substratum located inshore of the consent supported a variety of species including blue cod, spire shells, hermit crabs, cats-eye, tubeworms, anemones, cushion sea stars and 11 arm sea stars. Offshore deep areas supported relatively few surface dwelling species (e.g. cushion sea star, sea cucumber).

The western inshore strip of the consent characterised by a coarse soft substratum supported numerous holes likely to be snapping or ghost shrimps. Fish feeding holes were not observed, but this habitat is often targeted by rays, skates and snapper.

Patches of filamentous algae were observed from the inshore areas of the farm. Like most areas in the Sounds where this occurs, filamentous algae are likely to be seasonal.

Occasional horse mussels were observed under backbones and in the consent. No scallops were recorded from photographs.

5.0 Conclusions

5.1 Benthic habitats

Substratum and habitat distribution relative to the consent was based on 23 drop camera stations and sonar imaging of the benthos.

The consent area was located over a range of substratum types from sorted natural shell and fine sand to deep areas characterised by silt and clay (i.e. mud).

The western inshore edges of the consent have an MPI structure restriction extending to 65 m distance from MLW. This inshore edge supported habitat recognised for fish feeding. This type of substratum would likely be altered if production lines were placed overhead. The western end of the inshore mussel line on the day of the survey was located within the MPI exclusion zone (Figure 4).

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Deeper areas of the consent were dominated by silt and variable levels of natural shell. Areas offshore of the consent and occupied by farming structures were dominated by deep fine silt substratum. This substratum is the most common subtidal habitat in the sheltered Marlborough Sounds (McKnight and Grange, 1991) and has been traditionally targeted for marine farming activities as it is considered the most suitable habitat for marine farming activities in the Marlborough Sounds.

5.2 Species and communities

Occasional horse mussels were observed from photos. No scallops were observed from the consent. Blue cod were observed from boulders and cobbles located inshore of the consent. No species or communities that would likely be considered biologically significant were observed in areas of the consent located offshore of the sorted shell fine sand zone.

One king shag was observed roosting on the adjacent farm located north-east of the present site.

5.3 Significant sites

One known significant site is recognised from this part of Crail Bay (Davidson *et al.*, 2011). Site 3.15 is a reef located on the western side of Grant Bay, some 760 m east of the present marine farm. This is well distant from the known impact zone for the present mussel farm.

5.4 Mussel farming impacts

5.4.1 Benthic impacts

Mussel shell was observed from 10 of the 19 consent photos. Mussel shell was also observed under marine farming structures located offshore of the consent. Mussel shell debris ranged from none to high cover, with most shell debris recorded under and adjacent to backbones. Overall, mussel shell levels were at high levels compared to other mussel farms in the Sounds. One area supporting live mussels was also observed. These may be due to a recent harvest and are at a depth where the mussels are unlikely to survive.

It is probable that the impact of continued shellfish farming at this site will result in the deposition of shell and fine sediment under and near droppers. It is noted, that much of this

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material is processed by bioturbators in the environment, while a proportion is resuspended during storm events and larger tides. Based on the literature and assuming the present level of activity remains relatively consistent, it is very unlikely that the surface sediments would become anoxic (see reviews and impact studies: Hartstein and Rowden, 2004; Keeley *et al.*, 2009; 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.

No data has been presented to show that the ecological carrying capacity of the Sounds has been reached. There is considerable evidence that shows the major environmental drivers of the Pelorus system, for example, naturally lead 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).

Observed tidal flow through the consent was low (author, pers. obs.). Broekhuizen *et al.* (2015) reported flows are expected to be <0.1 m/s in this area of Crail Bay. Winds are likely to be an important driver of water movement, especially during storm events.

The site is a considerable distance from the main channel of Pelorus Sound. There are numerous marine farms in the area, but none located immediately west of the present site. It is therefore likely that phytoplankton depletion will occur to some extent within the farm structures and the waters immediately adjacent to the farm.

5.4 Boundary adjustments, recommendations and monitoring

The benthos under inshore areas of the consent were dominated by a soft habitat recognised for fish feeding. This habitat was encompassed in an MPI structure exclusion zone.

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With increasing depth and distance from shore, soft substratum graded into silt and shell. Areas offshore of the farm presently occupied by farm structures were typical of deep mud substratum in the Sounds. A small area of the western inshore backbone is located within the MPI exclusion zone.

Based on these considerations, it is recommended that the inshore line be repositioned to ensure it is located offshore of the MPI exclusion zone.

Should the farm owner apply to farm the offshore areas presently occupied by farm structures and relinquish the inshore parts of the consent, no further benthic data is necessary. Drop camera and sonar data collected in the present study from the offshore area revealed uniform mud and mud with shell substratum. The photos and sonar collected from this offshore area confirm this area supports no habitats or communities that would preclude the area from consideration for marine farming activities.

No monitoring is suggested.

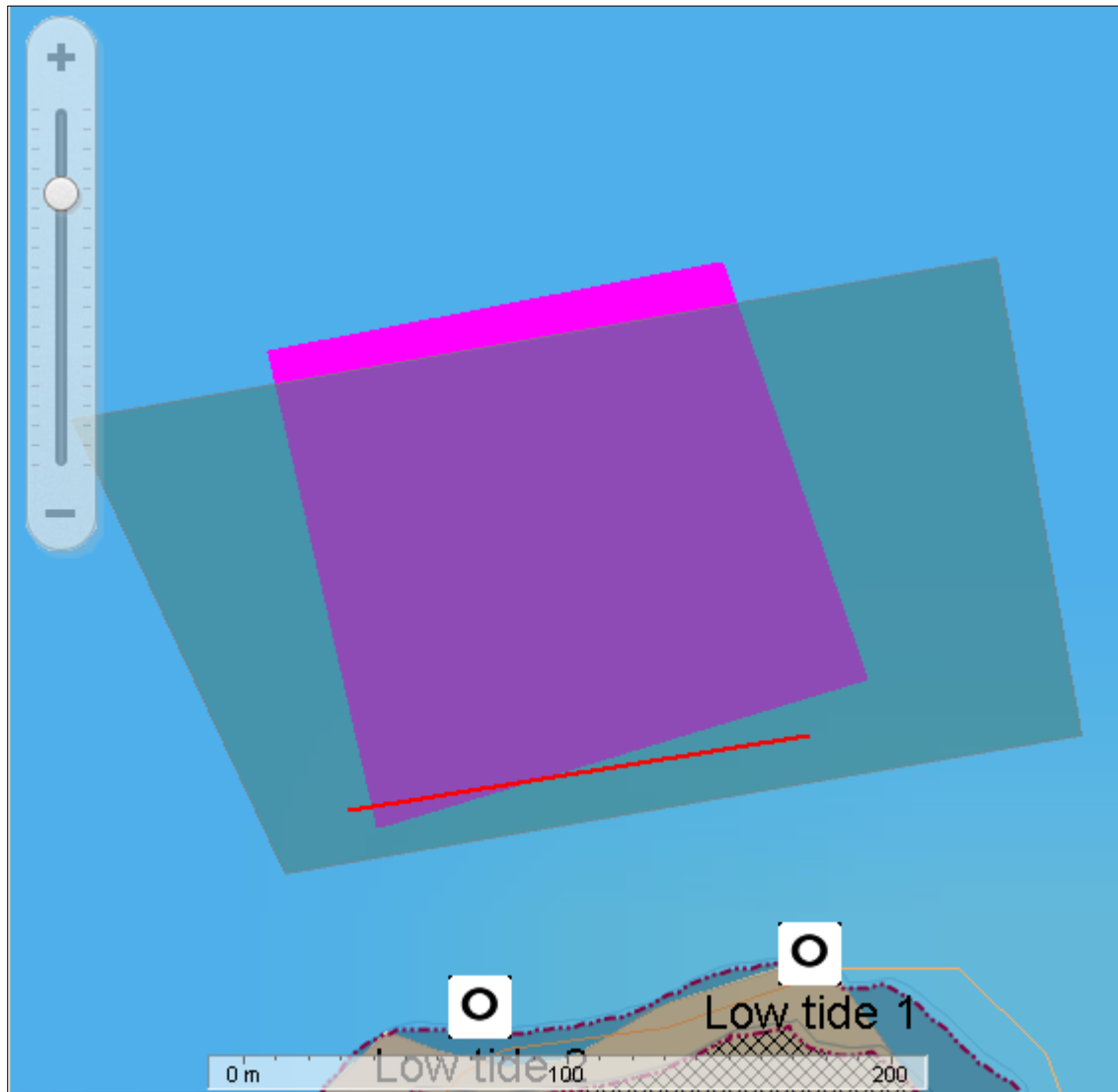


Figure 4. *Consent (teal), surface structures (pink), and MPI structure restricted line (red).*

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Appendix 1. Drop camera photographs

Photo site 1, silt and clay, natural shell



Photo site 2, silt and clay, mussel shell



Photo 3, silt and clay



Photo 4, silt and clay, mussel shell



Photo 5, silt and clay, mussel shell



Photo 6, silt and clay, mussel shell

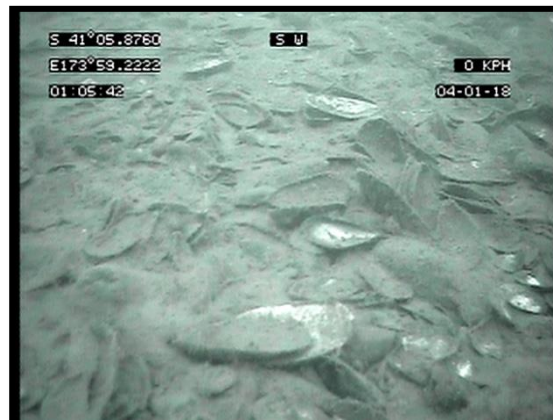


Photo 7, silt and clay, mussel shell



Photo 8, silt and clay, natural shell



Photo site 9, cobbles, silt, natural shell



Photo 10, silt and clay, mussel shell



Photo site 11, silt and clay, mussel shell

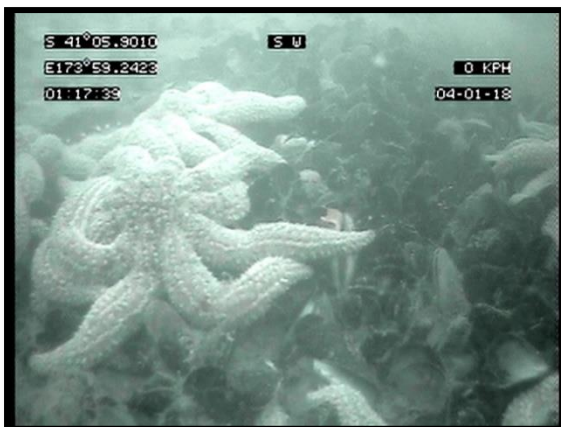


Photo site 12, silt and clay, mussel shell



Photo site 13, silt and clay natural shell



Photo 14, fine sand, natural shell, silt, filamentous algae



Photo 15, silt and clay, mussel shell



Photo 16, silt, fine sand, mussel shell



Photo 17, silt and clay, mussel shell



Photo 18, silt and clay



Photo 19, fine sand, silt natural shell, f. algae Photo 20, sorted shell, fine sand, f. algae



Photo 21, sorted shell, fine sand

Photo 22, sorted shell, fine sand



Photo site 23, cobbles, boulders, natural shell





Topomap 50 Sheet: BP28

Base Topographical Data sourced from Land Information Data Service and licenced for re-use under Creative Commons Attribution 3.0 New Zealand Licence. (www.data.linz.govt.nz). Copyright Reserved.



Prepared: 22 March 2018

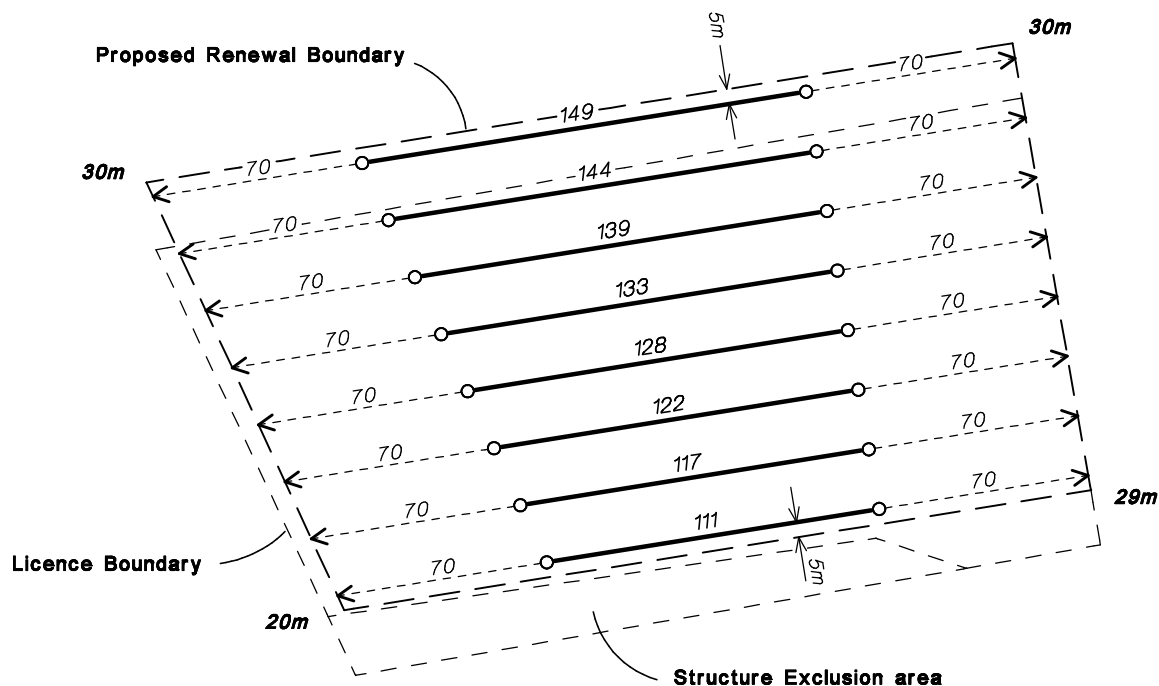
Locality Map

Renewal of Marine Farm 8540
Crail Bay

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



Crail Bay



REFERENCE

- Orange Float
- < Anchors
- Anchor Warp
- Backbone

NOTE: Longline Spacing = 20m
Total Longlines = 8
Backbone Length = as shown
Total Backbone Length = 1043m
Warp Surface Loss = 70m

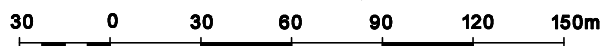


MF_2558
13 March 2018

Layout Details Proposed Renewal of 8540

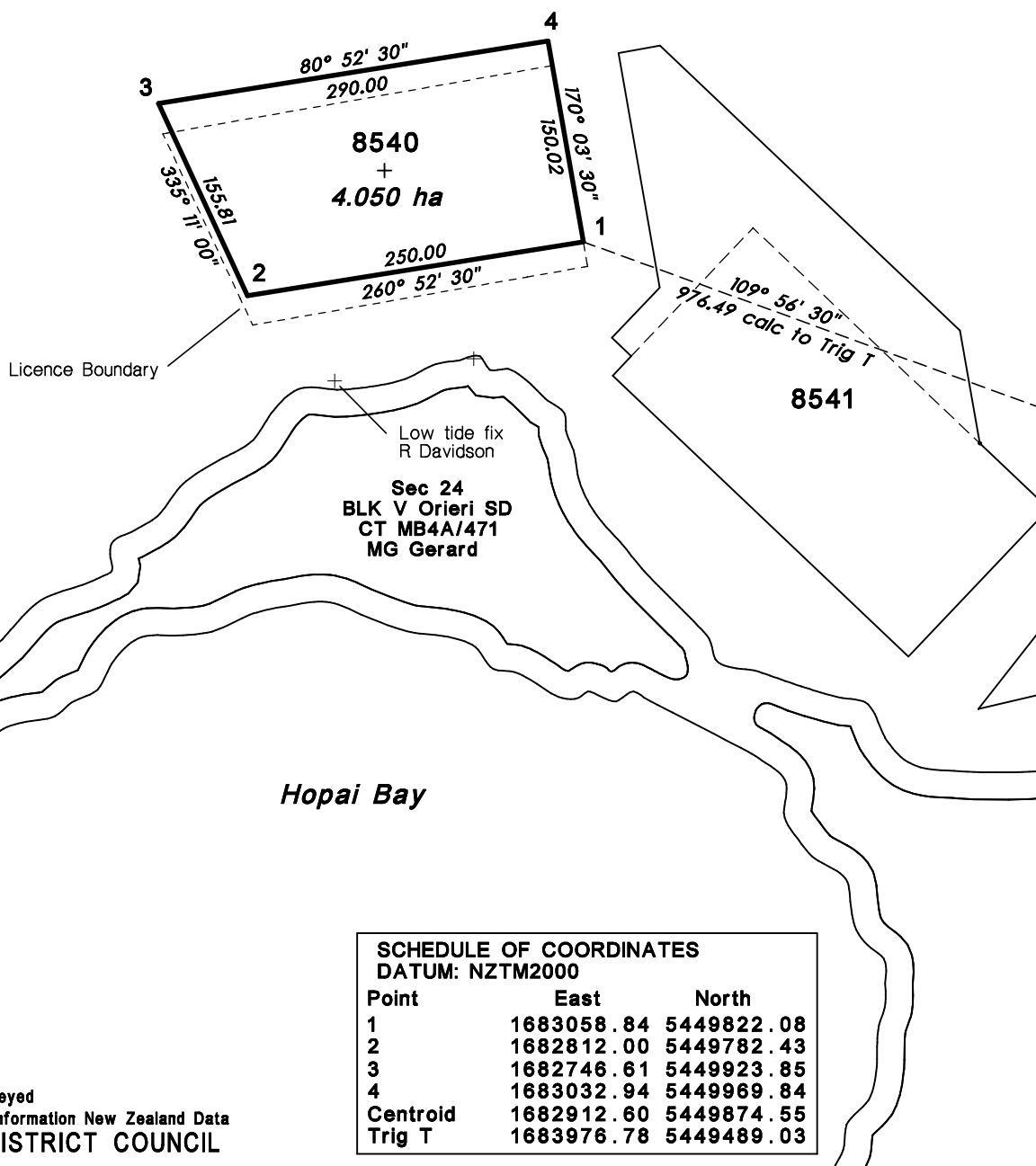
Crail Bay

SCALE 1:2,500



N

Crail Bay



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



MF_2558
22 March 2018

Proposed Coastal Permit Renewal of Marine Farm 8540 *Crail Bay - Pelorus Sound*

