

Yvonne Lamb-5381

From: MDC
Sent: Friday, 12 May 2017 10:43 a.m.
To: RCInbox
Subject: Application for Resource Consent: REF170503604
Attachments: REF170503604.pdf

A application for a Resource Consent has been received. Application lodgement number is REF170503604.

Submission details are attached.



PO Box 443, Blenheim 7240
Tel 03 520 7400 / Fax 03 520 7496
Email mdc@marlborough.govt.nz / www.marlborough.govt.nz

Marlborough District Council
15 Seymour Street
Blenheim 7201
PO Box 443
New Zealand

Telephone 00 64 3 520 7400
Facsimile 00 64 3 520 7496
Email mdc@marlborough.govt.nz
Website www.marlborough.govt.nz
GST No. 50-430-960



Reference Number:	REF170503604
Submitted On:	12/05/2017 10:43
Submitted By:	Aquaculture Direct Limited

Important Information

This application is made under Section 88 of the Resource Management Act 1991.

Please provide all details relevant to your proposal. Feel free to discuss any aspect of your proposal or the application process with Council's duty planner, who is here to help. Duty planner hours are 9.00 am to 3.00 pm Monday to Friday.

This application will be checked before formal acceptance. If the application is incomplete, we are unable to accept it for processing and it will be returned to you.

If this activity requires more than one consent type, (eg both land use and discharge) you may apply for all within this application.

Applicant Details

Select as many as are applicable

Is the applicant

Is the applicant • A company

Company name Schwass Family Trust Partnership

Is the applicant

Main applicant name Bruce Lock

Main applicant mailing address PO Box 587, Picton 7250

Main applicant email address brucelock@xtra.co.nz

Main contact number 035735124

Alternative contact number Not answered

Is there an agent working on behalf of the applicant? Yes

All communication regarding the application will be sent to the agent

Are you a business or an individual? Business

Company name Aquaculture Direct Limited

Contact person Joanne Taylor

Mailing address PO Box 213, Blenheim 7240

Email address joanne@aquaculturedirect.co.nz

Main contact number 0211672425

Alternative contact number Not answered

Agent reference Not answered

Application Details

Types of resource consent applied for	• Coastal Permit
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Property Details

The location to which the application relates is	MARINE FARM SITE 8425 IN TONGUE BAY, PORT UNDERWOOD, MARLBOROUGH
Brief description of the activity	To renew the existing permit and licence (MFL416 & U021071, MPE723) for marine farm site 8425 in Tongue Bay, Port Underwood including activities ancillary to the operation of the marine farm for a term of 20 years until 2037.

Assessment of Effects on the Environment (AEE)

I attach, in accordance with Schedule Four of the Resource Management Act 1991, an assessment of environmental effects in a level of detail that corresponds with the scale and significance of the effects that the proposed activity may have on the environment. (Applications now also have to include consideration of the provisions of the Resource Management Act 1991 and other relevant planning documents)

Please upload Assessment of Effects on the Environment	• 8425 AEE Renewal May 2017.pdf (786743 bytes)
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Plans

Please upload plans (e.g. site plan, elevation plans, scheme plan etc) of the locality and activity points. Describe the location in a manner that will allow it to be readily identified, e.g. house number and street address, grid reference, the name of any relevant stream, river, or other water body to which the application may relate, proximity to any well known landmark, DP number, valuation number, property number

Site/location plan	• 8425 Aerial Overlay.pdf (870448 bytes) • 8425 Layout_Plan.pdf (238872 bytes) • 8425 Locality Map.pdf (3867375 bytes) • 8425 Site_Plan.pdf (419451 bytes)
Scheme plan	No files uploaded
Forest harvest plan	No files uploaded
Building plans	No files uploaded
Dam design drawings	No files uploaded

Certificate of Title

Certificate(s) of Title and legal documents	No files uploaded
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Supplementary Forms

Please indicate which supplementary forms you are adding

Technical Reports

Do you wish to upload any technical reports to be included in the application by the relevant Resource Management Plan, Act or regulations?	Yes
Benthic report	• 8425 Tongue Bay Biological Report (Schwass May 2017).pdf (4536562 bytes)
Cultural effects assessment	No files uploaded
Dam construction report	No files uploaded
DSI	No files uploaded
Ecology report	No files uploaded
Economic report(s)	No files uploaded

Engineering report	No files uploaded
Erosion and sediment management plan	No files uploaded
Geotechnical report	No files uploaded
Landscape report	No files uploaded
PSI	No files uploaded
RAP	No files uploaded
Wastewater report	No files uploaded
Any other report not covered in the list above	No files uploaded

Written Approvals

Please provide the names and addresses of the owner and occupier of the land (other than the applicant)	Not answered
Please attach any written approval(s) that may have been obtained from affected parties/adjoining property owners and occupiers	No files uploaded
Note: As a matter of good practice and courtesy you should consult your neighbours about your proposal. If you have not consulted your neighbours, please give brief reasons why you have not below	
Brief reason for not consulting with neighbours	Not answered

Other Details

Are additional resource consents required in relation to this proposal?	No
The applicable lodgement (base) fee is to be paid at the time of lodging this application. If payment is made into Council's bank account 02-0600-0202861-02, please record applicant name and either property number or consent type as a reference.	
The final cost of processing the application will be based on actual time and costs in accordance with Council's charging policy. If actual costs exceed the lodgement fee, an invoice will be issued (if actual costs are less, a refund will be made). Council may stop processing an application until an overdue invoice is paid in full. Council charges interest on overdue invoices at 15% per annum from the date of issue to the date of payment. In the event of non-payment, legal and other costs of recovery will also be charged.	
Do you require a GST receipt for a bank payment?	Yes
Please make invoice out to	Applicant
The application lodgement fee	Will be paid by applicant
Notes	Not answered
I confirm that the information provided in this application and the attachments are accurate	Yes
Authorised by (your full name)	Joanne Carlyn Taylor

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 SCHWASS FAMILY TRUST PARTNERSHIP TO RENEW EXISTING CONSENT FOR MARINE FARM SITE 8425 IN TONGUE BAY, PORT UNDERWOOD, MARLBOROUGH

1.0 INTRODUCTION – THE APPLICANT

Schwass Family Trust Partnership has applied to renew the existing resource consent (original licence and permit numbers MFL416 & U021071, MPE723) for marine farm site 8425 (total 4.5ha) for the purpose of farming Greenshell mussels, (*Perna canaliculus*), blue mussels (*Mytilus galloprovincialis*), and naturally settled algae (*Macrocystis pyrifera*, *Ecklonia radiata*, *Gracilaria sp*, *Pterocladia lucida*) using conventional structures. (Refer attached layout diagrams illustrating the site.)

MFL416 (parent farm): Granted 20th January 1989 for 2.7ha

U021071, MPE723 (extension): Granted 28th February 1995 1.8ha

The parent farm (2.7ha) expires 31st December 2024 (MFL416) while the offshore extension (1.8ha) expired on the 28th February 2017 (MPE723).

This Application is to renew both the parent (MFL416) and the extension (U021071, MPE723) consents and combine into one consent.

The application is seaward of the existing/original approved sites as shown in the attached site plan. The Marlborough District Council are aware that due to errors in surveying systems 20 years ago the farm structures of many marine farms were installed seaward of the licence boundaries. The inshore area of the farm has been substituted by the seaward area and there is no additional water space sought. The maps are attached to this application.

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

The Schwass Family Trust Partnership together with Terry and Jill Schwass have been involved in the aquaculture industry for over 39 years, with farms located in the Port Underwood and East Bay areas. Terry has been actively involved with industry groups, including;

- The Marine Farming Association Executive Committee for 18 years. This included working with local and central Government to develop the industry, introduction of quality standards etc.
- An industry working group established to eradicate *didemnum vexillum*, an invasive marine organism (imported into NZ via ships ballast) impacting on both the environment and marine farms within NZ.
- Driving the establishment of the Aquaculture Academy at Queen Charlotte College in Picton, this extended to ongoing support and continuing sponsorship over the past 15 years.

The Applicant adheres to the 'Greenshell Mussel Industry Environmental Code of Practice' and its successor, the Environment Management Framework and is an active participant of the Marine Farming Association's Environmental Programme.

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

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

As this is a 'like for like' Application by an existing permit holder in terms of the parent farm, that part of the Application should be processed under section 165ZH. Section 165ZH does not apply to the offshore extension, as this application was lodged after the expiry of that consent.

2.0 INTRODUCTION – THE APPLICATION

2.1 Size: The site is 4.5ha.

2.2 Structures: The site dimensions will be: inshore boundary 270.60m long, outer boundary 284.25m, northern boundary 165.08m long and southern boundary 163.10m long (refer attached site plan).

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

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

The Application is for a continuation of the activities currently being undertaken at the site. No changes to the activities are proposed.

3.0 PERMITTED ACTIVITIES

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)).

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 8425.

While both the parent farm and the extension were applied for prior to August 1996, the application does not meet the controlled activity standard in 35.2.5.1(b) of the Marlborough Sounds Resource Management Plan, as the area applied for is offsite of the original area. The parent farm is a discretionary activity in terms of Rule 35.4. The consent for the extension has expired. That aspect of the farm does not comply with the discretionary activity standard in Rule 35.4.2.9(b), as the seaward part of the farm is more than 200m from the mean low water mark. It is appropriate to consider the Application as a non-complying activity.¹

4.0 TERMS OF CONSENT

The parent farm (2.7ha) expires on 31st December 2024 (MFL416) while the offshore extension (1.8ha) expired 28th February 2017 (U021071, MPE723).

The Applicant seeks a 20-year term expiring in 2037 for the entire site.

5.0 THE SITE - LOCATION

Marine farm 8425 is located in Tongue Bay immediately east of Separation Point.

Tongue Bay is a south-facing bay at the tip of Separation Point, Port Underwood. Tongue Bay has a coastline length of approximately 865 m and covers an area of sea of approximately 7.8 ha.

¹ Although the Applicant notes that it is open to a decision maker to re-consent the parent farm as a discretionary activity under this application.

Tongue Bay is approximately 670 m wide across the mouth and is approximately 6 km from the entrance to Port Underwood. The Bay has a number of other consented marine farms around its edges, with marine farm 8426 and 8427 to the east of the site.

The adjacent land to the south and east of the farm is Rural 1 (forestry).

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

6.0 THE SITE - DIMENSIONS

The site dimensions have been described above as per the layout plans attached. The depth of the water at each of the site corners is 6.5m (NW), 11m (NE), 14.8m (SE), and 15.1m (SW).

The Application includes 10 long lines, each being 245 metres long.

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

The site layout is attached to the Application.

The warp lengths are between 16 metres and 25 metres from each end of the backbone (see line layout diagram for individual line lengths). The warp ratio is 1.5:1.

The farm is currently offsite, being seaward of its original consented position. This application seeks to renew the parent farm and a new consent for the extension based on the current footprint, as per the site layout diagrams.

7.0 THE PRESENT ENVIRONMENT

7.1 The Marine Environment

In April 2017 Mr RJ Davidson, of Davidson Environmental Ltd, undertook a biological study of the ecology of the marine area of site 8425 (Report 855, attached).

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

“5.1 Substratum and biological values

The proposed replacement consent area was located over silt and clay substratum. Small patches of red algae were observed under the farm, but most was observed from inshore and offshore areas outside the consent. Red algae have been recorded growing under backbones at a variety of locations in the Sounds and Port Underwood (Davidson and Richards, 2017). At this site, it is uncommon under the consent, however, historic data suggests it was never abundant in the Consent area.

Silt and clay substratum is widespread the Marlborough Sounds. Mud (i.e. silt and clay) is the most common subtidal habitat in the sheltered Marlborough Sounds and has been traditionally targeted by marine farming activities. This substratum type is considered suitable for consideration for marine farming activities in the Marlborough Sounds.

Relatively few surface dwelling species were observed from photographs. Occasional parchment or straw worms were observed from the consent area. These are widespread in Port Underwood and other sheltered muddy areas in the Sounds. They are also often recorded under farms in Port Underwood.

No habitats or species that have known significant biological or ecological values were observed within or close to the site (Davidson et al. 2011)."

7.2 The Land Environment

The site lies in Tongue Bay. (Refer attached locality map.)

The adjacent land is commercial forestry.

The inshore coastline is dominated by a narrow rubble and bedrock intertidal zone bordered by short bluffs rising to the steep hill slopes above with a small pocket beach in the curve of the bay adjacent.

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.

8.2 Headlands

There are no major headlands in the area. Distances to the Points at the end of the Tongue are some 200m from the outer east and west boundaries 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 in the vicinity of the site.

8.5 Indirect Effects-Servicing vessels at site

The Applicant estimates farming and harvesting vessels will visit the site on an average of 50 - 60 days a year, for periods of 0.5 to 10 hrs to undertake farm maintenance, seeding and harvesting. The total number of hours spent on these activities is estimated to be 250-350 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

There are no residences in Tongue Bay.

The land is commercial forest and the area is not subdivided for residential use.

9.2 Scenic Value

The farm is in an area used for commercial farming. The farm has not been identified within the Marlborough Sounds Resource Management Plan as being an area of outstanding landscape value. The farm has not been identified as an outstanding natural landscape or as having outstanding, very high or high natural character in the proposed Marlborough Environment Plan (MEP). This reflects the fact that Port Underwood is a working environment, with primary production occurring on both the land and the sea.

This relatively small mussel farm is consistent with, and appropriate in this wider context. The farm will not adversely affect the values of the area.

10.0 ECOLOGICAL VALUE

The farm is not within an area of ecological value identified in the current Marlborough Sounds Resource Management Plan or the Proposed Plan. The site is north of an area mapped as being of significance for Hector's dolphins.

The marine farm is within significant marine mammal overlays for both dolphins and whales in the MEP. Rob Davidson has assessed the likely impact on whales and dolphins in his report. He concludes that "Overall, there is a low risk of entanglement and displacement from the present marine farm."

The entirety of the Marlborough Sounds is potentially within in the range of the king shag. However, Davidson notes that no records exist of king shag feeding in Port Underwood (this may be due to the extent of surveys). The Port is not known to be a significant feeding area for this species. The closest breeding colony is approximately 32km away.

Overall, the marine farm will not affect the terrestrial environment at the site, and will have a low impact on the benthic environment (see below at Section 17.0).

11.0 RECREATIONAL VALUE

In terms of recreational use, there is no road access to the area and the only access to this part of Port Underwood is by boat.

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, has sent an initial letter to iwi, 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 Tongue 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. The marine farm will not prevent the public from accessing the area for recreational fishing.

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 10 long lines of 145 metres in length containing black mussel buoys ranging between approximately 4 and 60 per line.

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

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

The whole of the Marlborough Sounds Coastal Landscape is mapped as a high amenity landscape in the MEP. The farm will not impact on a landscape of this size, nor will it impact on the values of that landscape identified in Appendix 1, Volume 3 of the MEP. The farm is consistent with the wider working character of Port Underwood.

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 8425 has a good capacity for mixing of water with regular tidal currents, wind and wave action.

The effect on the ecology of the site from the existing activity is attached in the Davidson Environmental Limited Report 855.

No specific sites of marine ecological significance have been identified in Tongue Bay in the 'Ecological Significant Marine Sites in Marlborough New Zealand' published by Rob Davidson and others in 2011. The site is located within a significant area for dolphins and whales, as discussed above under Section 10.0 and in the Davidson Environmental Report 855.

16.0 EFFECTS ON PRODUCTIVITY

Water quality is unlikely to be a problem for mussel farming in Tongue Bay. The continuing activity itself is unlikely to create any significant detrimental effects on water quality. Davidson outlined the likely effects on productivity in his report as follows:

5.3.2 Productivity

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

productivity in the Marlborough Sounds relate to cyclical weather patterns in the summer (El Nino and La Nina) and river-derived nutrient inputs in winter. Slow crop cycles in some years are therefore a reflection of a weather cycle and much less about the number of farms.

There has been no data presented to show that the ecological carrying capacity of the Sounds has been reached. There is considerable evidence that shows the major drivers of the Pelorus system, for example, naturally leads to large within and between year variability. Relative to this, the impact of mussel farms appears to be material but relatively small compared to major environmental drivers (Broekhuizen et al., 2015).

Port Underwood is near Cook Strait and receives sediment from the nearby Wairau River. It is likely that Cook Strait delivers nutrients to the area and algae primary production occurs during the longer residence times compared to the Strait.”

The report also indicates that the impact of the current activities is in line with expectations of the environmental impacts of mussel farming and no monitoring is required.

17.0 THE BENTHIC ENVIRONMENT

In terms of the benthic environment, the ecology of this area has been documented in Davidson Environmental Ltd Report 855 (refer to 7.1 above). Mr Davidson assessed the effects on the benthic environment as follows:

“5.3 Mussel farming impacts

5.3.1 Benthic impacts

Benthic mussel shell was recorded from drop camera photos collected under and near backbones. Shell debris impact levels were within the range known for mussel farms in the Marlborough Sounds and towards the low to moderate impact range apart from directly under droppers where shell did occasionally reach high levels.

It is probable that the impact of continued shellfish farming at this site will result in the deposition of more shell and fine sediment under and near droppers. Based on the literature and assuming the present level of activity remains relatively consistent, it is very unlikely that the surface sediments would become anoxic, especially as the site is shallow (<10 m depth) (Hartstein and Rowden, 2004; Keeley et al., 2009; Davidson and Richards, 2014). Tidal flows are expected to be low; however, winds are likely to be an important driver of water movement in this area.

It is noted that benthic impacts of mussel farms are not permanent. If structures are removed, the benthos recovers over a period of approximately 10 years (Davidson and Richards, 2014)”.

No changes to the current site boundaries or the layout are necessary to mitigate any adverse impacts on the seabed.

18.0 ALIENATION OF PUBLIC SPACE

Port Underwood has been utilised by marine farmers for many 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, and the public can still transit along the coastline inshore of the farm.

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

All farm work and harvesting is undertaken by contractors based out of Port Underwood.

The mussels harvested from the farm are processed predominantly by factories in Tauranga, and to a lesser extent also Marlborough.

21.0 VALUE OF INVESTMENT

As part of this Application to renew site 8425, 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 farm is estimated to produce approximately 260 tonnes on an annualised basis (\$950/ Green Weight Tonne (GWT)) and after processing the final ½ shell product would be sold on the export market at approximately \$780,000. Approximately 95% of mussel products are exported. All lines are restocked after harvest to achieve 260 GWT/per annum harvest.

The mussels are transported predominantly to Tauranga where they provide a critical part of the production to maintain processing to the North Island Mussels Limited factory, which employs in excess of 250 seasonal staff.

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 Marlborough and throughout New Zealand.²

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. The farm is not within an area of outstanding, very high or high natural character in the MEP.

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

The farm is in an area used for commercial forestry. The farm has not been identified within the Marlborough Sounds Resource Management Plan as being an area of outstanding landscape value. The farm has not been identified as being an outstanding natural landscape in the MEP. 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.

² See for example the NZIER report to the Marine Farming Association *The economic contribution of marine farming in the Marlborough region* (September 2015). A copy is available here: <http://assets.marinefarming.co.nz/NZIER%20Economic%20Contribution%20of%20Marine%20Farming%20in%20Marlborough.pdf>.

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

The adjacent vegetation next to the farm is commercial forestry. The potential effects on marine mammals have been addressed by Rob Davidson and elsewhere in this application.

- 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 site is not known to be of importance to Maori. 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. No areas of conflict have been identified.

There are no 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 Tongue Bay.

Overall, the risk to marine mammals of displacement or entanglement from the present mariculture farms is considered to be low. No other 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. The effects on marine mammals are discussed elsewhere in this application.

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.

Areas of outstanding natural character are not mapped in the Marlborough Sounds Resource Management Plan.. The farm has not been identified as having outstanding, very high or high natural character in the MEP. The effects of the Application on the natural character will be the same as the present Consent and any effects will not impact on the values which contribute to the natural character.

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.

The farm has not been identified within the Marlborough Sounds Resource Management Plan as being an area of outstanding landscape value. The farm has not been identified as within an outstanding natural landscape in the MEP. The effects of the Application on the landscape will be the same as the present Consent and any effects will not impact on the values which contribute to the landscape.

23.7 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.

As noted above, the only means of access to this area is by boat. 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 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

Overall, the application is consistent with the NZCPS.

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.

The MEP was notified in June 2016. The further submissions phase is expected to be notified in the near future. Aquaculture provisions have yet to be included in the MEP; however, the proposed policies are relevant to aquaculture. This application has been assessed against the relevant policies in the table at Appendix C. Given that the MEP is still in the early phases of the consultation process and has yet to include aquaculture rules, little weight should be given to its provisions at this stage.

Conclusion

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

25.0 CONSULTATION

A 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 16it e Rā Tō	PO Box 708, Blenheim 7240	(03) 578 9695
Te Atiawa Manawhenua Ki Te Tau Ihu Trust	PO Box 340, Picton 7250	(03) 573 5170
Ngati Toarangatira Manawhenua Ki Te Tau Ihu Trust	PO Box 5061, Blenheim 7240	(03) 577 8801
Ngati Rarua Trust	PO Box 1026, Blenheim 7240	(03) 577 8468

26.0 CONCLUSION

The Applicant considers that the renewal of site 8425, including a granting of consent for the existing extension, is appropriate, thereby allowing the continued farming of Greenshell mussels and other species at the site.

The site is in Port Underwood, an area 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. The risk to marine mammals from the farm is low. The site is not within a known king shag feeding area.
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	The marine farm is located within the CMZ2, where marine farming is generally regarded as an appropriate activity. The application is for the same structures and species as are currently farmed at the site.

	environmental effects are avoided, remedied or mitigated.	
7.2.7 The subdivision use and development, of the coastal environment, in a sustainable way.	7.2.8: Ensure the appropriate subdivision, use and development of the coastal environment.	The marine farm is within a bay with other marine farms, and is appropriate in the context. The marine farm's activity is biologically sustainable, and effects are reversible upon removal of the farm.
	7.2.10(a) - (d)	The marine farm is located within the CMZ2, where marine farming is generally considered appropriate.
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.	N/A – the site is not within an AOLV or an ONL.
	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 more than a minor impact on landscape values, and are consistent with the primary production character of Port Underwood.
	8.1.6: Preserve the natural character of the coastal environment.	The site will have no more than a minor 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.	The marine farm is within a bay with other marine farms. The area is not in its natural state.
	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 elsewhere 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, lakes and rivers (and their margins) are unknown.	The effects of this application are not unknown and are discussed elsewhere in the assessment of environmental effects. A precautionary approach is not justified.
Ch 4, 4.3, Obj 1: The protection of significant indigenous flora and fauna (including trout and salmon) and their habitats from the adverse effects of use and development	Policy 1.2: Avoid, remedy or mitigate the adverse effects of land and water use on areas of significant ecological value.	The marine farm will have no more than a minor effect on the flora and fauna of this area. The risk to marine mammals is considered to be low.
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 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. No areas of conflict have been identified by the applicant. 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.	The effects on public access are mitigated due to the layout and siting of 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].	Access to and along the coast is maintained.
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. The structures sit low in the water and largely recessive in colour. The navigational lighting will be in accordance with the Harbourmaster's requirements.
	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 vicinity.
	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 8425 is consented for marine farming, there are other marine farms consented in the bay, and is in the CMZ2 where marine farming is generally considered appropriate.
	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 – while the parent and extension were applied for prior to August 1996, the entire farm is offsite. The application is not for the same area as originally consented.
Ch 9, 9.3.2, Obj 1: Management of the effects of activities so that water quality in the coastal marine	Policies 1.1 to 1.11	This application is not anticipated to have any impact on shellfish quality.

area is at a level which enables the gathering or cultivating of shellfish for human consumption (Class SG).		
Ch 9, 9.4.1, Obj 1:	Policy 1.1: Avoid, remedy or mitigate the adverse effects of activities that disturb or alter the foreshore and/or seabed on any of the following: [criteria specified in Plan].	There will be no additional disturbances of the seabed.
Ch 9, 9.4A.1, Obj 1:	n/a	These policies are no longer relevant due to abolition of AMAs through legislation.
Ch 19, 19.3, Obj 1: Safe, efficient and sustainably managed water transport systems in a manner that avoids, remedies and mitigates adverse effects.	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 Bay. A servicing vessel is estimated to spend approximately 250-350 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.</p> <p>[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.</p> <p>[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.</p> <p>[RPS]</p>	<p>The applicant has given particular consideration to the matters in objective 3.5, as discussed the AEE at sections 12 and 22, in order to assist decision makers.</p>
<p>Policy 3.1.1 – Management of natural and physical resources in Marlborough will be carried out in a manner that:</p> <p>(a) takes into account the principles of the Treaty of Waitangi/Te Tiriti o Waitangi, including kāwanatanga, rangatiratanga, partnership, active protection of natural resources and spiritual recognition.</p> <p>(b) recognises that the way in which the principles of the Treaty of Waitangi/Te Tiriti o Waitangi will be applied will continue to evolve;</p> <p>(c) promotes awareness and understanding of the Marlborough District Council’s obligations under the Resource Management Act 1991 regarding the principles of the Treaty of Waitangi/Te Tiriti o Waitangi among Council decision makers, staff and the community;</p> <p>(d) recognises that tangata whenua have rights protected by the Treaty of Waitangi/Te Tiriti o Waitangi and that consequently the Resource Management Act 1991 accords iwi a status distinct from that of interest groups and members of the public; and</p> <p>(e) recognises the right of each iwi to define their own preferences for the sustainable management of natural and physical resources, where this is not inconsistent with the Resource Management Act 1991.</p> <p>[RPS]</p>	<p>See above.</p>

MEP Provision	Evaluation
<p>Policy 3.1.2 – An applicant will be expected to consult early in the development of a proposal (for resource consent or plan change) so that cultural values of Marlborough’s tangata whenua iwi can be taken into account.</p> <p>[RPS]</p>	<p>See above.</p>
<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>	<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.</p>
<p>Policy 3.1.5 – Ensure iwi management plans are taken into account in resource management decision making processes.</p> <p>[RPS]</p>	<p>The applicant has reviewed the Iwi management plans of Ngāti Kōata and Te Ātiawa o Te Waka-a-Māui. No areas of conflict have been identified.</p>

MEP Provision	Evaluation
<p>Objective 4.1 – Marlborough’s primary production sector and tourism sector continue to be successful and thrive whilst ensuring the sustainability of natural resources. [RPS]</p>	<p>The application will support the mussel farming industry in Marlborough and provide an opportunity for that industry to grow. The proposal ensures the sustainability of natural resources, as the adverse effects of mussel farming at the site are likely to be limited, as per the Davidson Environmental report. Within months of removing the farms, any trace of their presence will dissipate. Therefore, the proposal does not restrict the ability of future generations to decide how they wish to use these resources.</p>
<p>Policy 4.1.2 – Enable sustainable use of natural resources in the Marlborough environment. [RPS]</p>	<p>As above at Objective 4.1.</p>
<p>Policy 4.1.3 – Maintain and enhance the quality of natural resources. [RPS]</p>	<p>The proposal will have no more than minor effects on the quality of the natural resources at the site, and those effects are reversible upon removal of the farms.</p>
<p>Objective 4.3 – The maintenance and enhancement of the visual, ecological and physical qualities that contribute to the character of the Marlborough Sounds. [RPS]</p>	<p>The ecological character of the site will be maintained (see Davidson Environmental report). The application site is located over a habitat of sandy mud, typical of similar areas in the Sounds. The effects of low intensity farming are not likely to be significant. Winds are likely to be an important driver of water movements in this area (Davidson), which will assist in preventing the accumulation of organic deposition.</p> <p>The existing character of the area is a working landscape. It is well-suited to the proposed activity due to the existing level of modification from forestry and aquaculture. The proposed renewal is unlikely to adversely affect the existing values of the area.</p>
<p>Policy 4.3.2 – Identify the qualities and values that contribute to the unique and iconic character of the Marlborough Sounds and protect these from inappropriate subdivision, use and development. [RPS]</p>	<p>The applicant has had regard to the qualities and values identified by the Council in the MEP, as indicated elsewhere in this policy assessment and in the application. Overall, the proposal is appropriate.</p>

MEP Provision	Evaluation
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 a 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.
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.

MEP Provision	Evaluation
Policy 5.10.4 – Coastal occupancy charges will be imposed on coastal permits where there is greater private than public benefit arising from occupation of the coastal marine area. [C]	The applicant has insufficient information on coastal occupancy charges to understand the implications.
Policy 5.10.5 – The Marlborough District Council will waive the need for coastal occupancy charges for the following: ... (b) monitoring equipment; [C]	Davidson Environmental has not indicated that ongoing monitoring is necessary at this site.
Policy 5.10.6 – Where there is an application by a resource consent holder to request a waiver (in whole or in part) of a coastal occupation charge, the following circumstances will be considered: [(a) – (d)] [C]	Refer Policy 5.10.4
Objective 6.2 – Preserve the natural character of the coastal environment, and lakes and rivers and their margins, and protect them from inappropriate subdivision, use and development. [RPS, R, C, D]	The farm will not adversely compromise the existing values of the area and is appropriate development
Policy 6.2.1 – Avoid the adverse effects of subdivision, use or development on areas of the coastal environment with outstanding natural character values... [RPS, R, C, D]	N/A –site is not identified in the MEP has having outstanding natural character values.
Policy 6.2.2 – Avoid significant adverse effects of subdivision, use or development on coastal natural character, having regard to the significance criteria in Appendix 4. [RPS, R, C, D]	The proposal avoids significant adverse effects. There will be no damage, loss or destruction. The effects are reversible upon removal of the farm.
Policy 6.2.3 – Where natural character is classified as high or very high, avoid any reduction in the degree of natural character of the coastal environment or freshwater bodies. [RPS, R, C, D]	The site is not identified as having high or very high natural character in the MEP. Davidson has indicated that there will be no more than a minor change in the degree of the biological components of natural character.

MEP Provision	Evaluation
<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.</p> <p>[RPS, R, C, D]</p>	<p>See above and AEE sections 9 and 23.5.</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.</p> <p>[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.</p> <p>[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:</p> <p>(a) the effect of allowing more of the same or similar activity;</p> <p>(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</p> <p>(c) the combined effects from all activities in the coastal or freshwater environment in the locality.</p> <p>[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. Given the overall working character of Port Underwood, there are unlikely to be cumulative effects issues.</p>
<p>Objective 7.2 – Protect outstanding natural features and landscapes from inappropriate subdivision, use and development and maintain and enhance landscapes with high amenity value.</p>	<p>The area is not mapped as ONFL.</p>
<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.</p> <p>[R, C, D]</p>	<p>See above and AEE.</p>

MEP Provision	Evaluation
<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.</p> <p>[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.</p> <p>[R, C, D]</p>	<p>See above.</p>
<p>Policy 7.2.7 – Protect the values of outstanding natural features and landscapes and the high amenity values of the Wairau Dry Hills and the Marlborough Sounds Coastal Landscapes by:</p> <p>(a) In respect of structures:</p> <ul style="list-style-type: none"> (i) avoiding visual intrusion on skylines, particularly when viewed from public places; (ii) avoiding new dwellings in close proximity to the foreshore; (iii) using reflectivity levels and building materials that complement the colours in the surrounding landscape; (iv) limiting the scale, height and placement of structures to minimise intrusion of built form into the landscape; (v) recognising that existing structures may contribute to the landscape character of an area and additional structures may complement this contribution; (vi) making use of existing vegetation as a background and utilising new vegetation as a screen to reduce the visual impact of built form on the surrounding landscape, providing that the vegetation used is also in keeping with the surrounding landscape character; and (vii) encouraging utilities to be co-located wherever possible... 	<p>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
[R, C, D]	
Policy 7.2.8 – Recognise that some outstanding natural features and landscapes and landscapes with high amenity value will fall within areas in which primary production activities currently occur. [C, D]	Existing farming and aquaculture already occurs within the bay and general area. The proposal is consistent with this primary production character.
Policy 7.2.9 – When considering resource consent applications for activities in close proximity to outstanding natural features and landscapes, regard may be had to the matters in Policy 7.2.7. [R, C, D]	See above.
Policy 8.3.1 – Manage the effects of subdivision, use or development in the coastal environment by: (a) avoiding adverse effects where the areas, habitats or ecosystems are those set out in Policy 11(a) of the New Zealand Coastal Policy Statement 2010; (b) avoiding adverse effects where the areas, habitats or ecosystems are mapped as significant wetlands or ecologically significant marine sites in the Marlborough Environment Plan; or (c) avoiding significant adverse effects and avoiding, remedying or mitigating other adverse effects where the areas, habitats or ecosystems are those set out in Policy 11(b) of the New Zealand Coastal Policy Statement 2010 or are not identified as significant in terms of Policy 8.1.1 of the Marlborough Environment Plan.	There are no ecologically significant sites in the vicinity of the proposed farm in terms of maps 1 – 16 of the MEP. The farm is within the marine mammal overlays for both dolphins and whales. Overall, the risk posed by the farm is considered to be low.
Policy 8.3.2 – Where subdivision, use or development requires resource consent, the adverse effects on areas, habitats or ecosystems with indigenous biodiversity value shall be: (a) avoided where it is a significant site in the context of Policy 8.1.1; and (b) avoided, remedied or mitigated where indigenous biodiversity values have not been assessed as being significant in terms of Policy 8.1.1	According to the Davidson Environmental report, the proposed farm poses a low risk to marine mammals.
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)]	See AEE and Davidson Environmental report.

MEP Provision	Evaluation
<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, Kenepuru Sound, Mahau Sound, Mahikipawa Arm and Croiselles Harbour, Rarangi to the Wairau River mouth, Wairau Lagoons, Marfells Beach and Ward Beach... <p>[RPS]</p>	<p>Port Underwood is recognised as having a high degree of importance for public access in Policy 9.1.1(a). Public access is maintained through and inshore of the farm.</p>

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




MEP Provision	Evaluation
<p>of the application; (f) for the Marlborough Sounds, whether there is practical road access to the site of the application; (g) how public access around or over any structure sought as part of an application is to be provided for; (h) whether the impact on public access is temporary or permanent and whether there is any alternative public access available; and (i) whether public access is able to be restricted in accordance with Policies 9.2.1 and 9.2.2.</p> <p>[C, D]</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> <ul style="list-style-type: none"> (a) historic buildings (or parts of buildings), places and sites; (b) heritage trees; (c) places of significance to Marlborough’s tangata whenua iwi; (d) archaeological sites; and (e) monuments and plaques. <p>[RPS, C, D]</p>	<p>See above</p>
<p>Chapter 13 objectives and policies.</p>	<p>N/A – Chapter 13 expressly states that it “does not contain provisions managing marine farming.”</p>

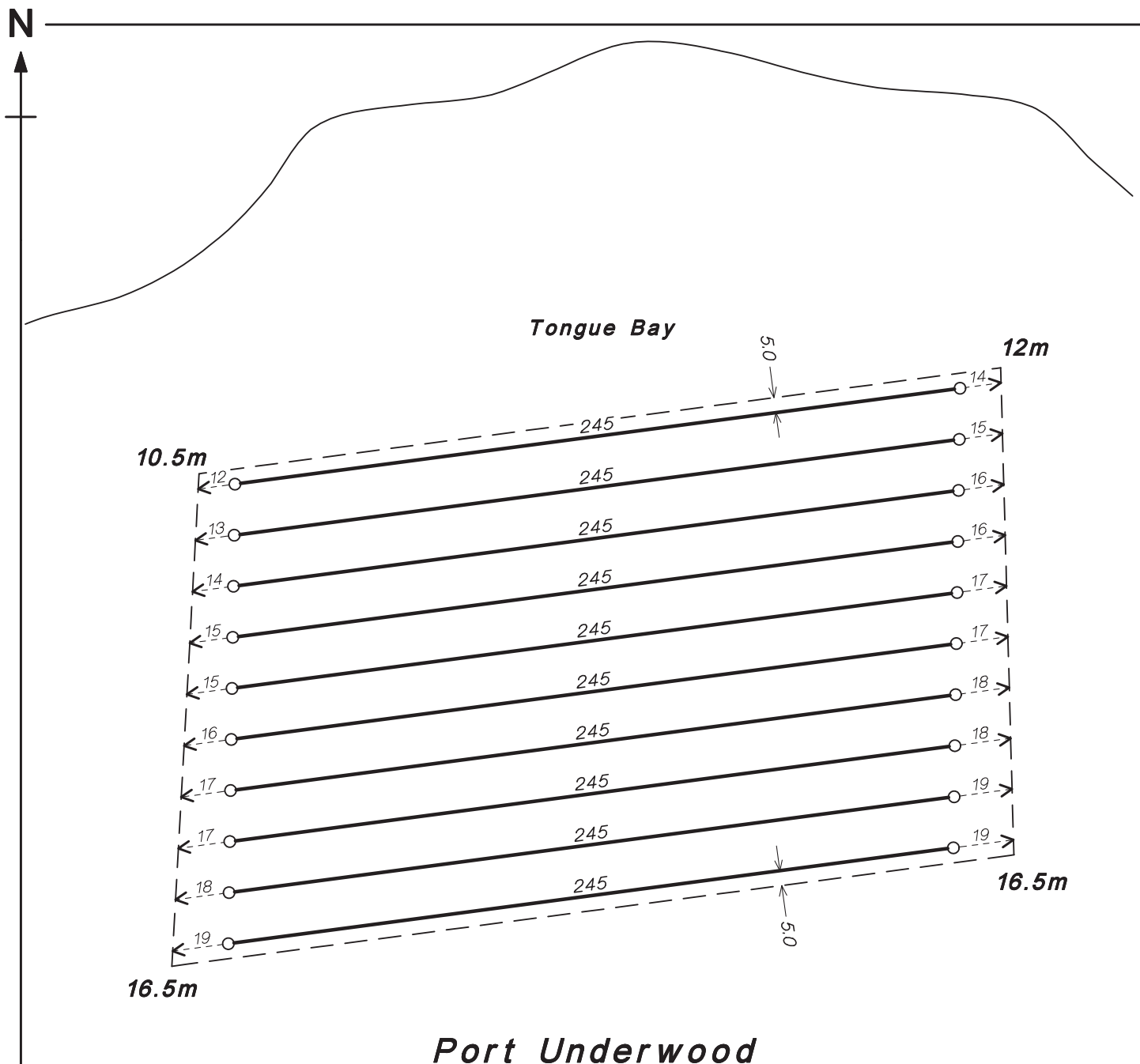
MEP Provision	Evaluation
<p>Objective 15.1a – Maintain and where necessary enhance water quality in Marlborough’s rivers, lakes, wetlands, aquifers and coastal waters, so that:</p> <ul style="list-style-type: none"> (a) the mauri of wai is protected; (b) water quality at beaches is suitable for contact 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>	<p>Mussel farming will not have an adverse effect on water quality, and may even enhance water quality.</p>
<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>	<p>Aquaculture requires excellent water quality. The proposed farm will not have an adverse effect on water quality.</p>
<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>	<p>Discharge from harvesting will not result in any of the specified adverse effects.</p>
<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; 	<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</p>

MEP Provision	Evaluation
<p>(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> <p>[RPS, R, C]</p>	<p>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> <p>(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> <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> <p>(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: (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> <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 20 year resource consent. The AEE suggests that this term is appropriate in these circumstances.</p>



<p>REFERENCE</p> <p> Existing Marine Farm</p> <p><i>Aerial Image from MDC GIS Flown 2012</i></p>	<div data-bbox="502 1910 858 2089"></div> <div data-bbox="502 2130 694 2157">11 September 2012</div>	<div data-bbox="986 1892 1380 2089"><p>Marine Farm 8425 (MFL 416) Tongue Bay <i>Aerial Overlay</i></p></div> <div data-bbox="906 2101 1473 2157"><p>Scale 1:2,500</p></div>
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REFERENCE

- Orange Float
- < Anchors
- Anchor Warp
- Backbone

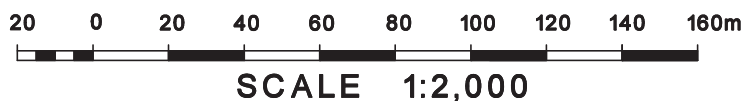
NOTE: Longline Spacing = 16.9m
 Total Longlines = 10
 Backbone Length = 245m
 Total Backbone Length = 2450m
 Warp Surface Loss = as shown
 Warp Length = 16m - 25m
 Warp Ratio = 1.5:1

Layout Details

MF Site 8425

MFL 416 & MPE 723

Prepared by
 Draughting Plus Ltd
 12 May 2017



MF_2511



Topomap 50 Sheet: BQ29

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

Locality Map

Marine Farm 8425 (MFL 416 & MPE 723)
Tongue Bay - Port Underwood



Prepared:
1 November 2012

Scale 1:50,000

500 0 500 1000 1500 2000 2500 3000 3500 Meters

MF_1860a

Sec 4
Blk XII Arapawa SD
CT 3E/701
New Zealand Forest Products Holdings Ltd

Original Boundary

Tongue Bay

Separation Pt

Port Underwood

SCHEDULE OF COORDINATES NZTM2000		
Point	East	North
1	1695814.58	5425855.05
2	1695817.26	5425756.27
3	1695819.00	5425692.01
4	1695537.19	5425654.75
5	1695540.79	5425719.71
6	1695546.32	5425819.58
Centroid	1695679.27	5425755.40
Trig I	1695840.05	5426802.12

MARLBOROUGH DISTRICT COUNCIL
Datum: NZTM2000

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

Marine Farm Site 8425

MFL 416 & MPE 723

SCALE 1:5,000

Prepared by
Draughting Plus Ltd
12 May 2017



MF_2511



Davidson Environmental Limited

Biological report for a marine farm renewal at farm 8425, Tongue Bay, Port Underwood

Research, survey and monitoring report number 855

*A report prepared for:
Schwass Family Trust Partnership
P.O. Box 577
Picton*

May 2017

Bibliographic reference:

Davidson, R.J.; Richards, L.A. 2017. Biological report for a marine farm renewal at farm 8425, Tongue Bay, Port Underwood. Prepared by Davidson Environmental Ltd. for Schwass Family Trust Partnership. Survey and monitoring report no. 855.

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Prepared by:

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

May 2017

1.0 Introduction

The aim of the present study was to provide biological information for the proposed renewal of marine farm site 8425. The farm is located immediately east of Separation Point, in Tongue Bay, Port Underwood (Figure 1, Plates 1 and 2). The study describes the benthos, habitats and ecological attributes associated with the proposed consent. The present report adds data to an earlier report that provided information in relation to a proposed revalidation of the site.



Figure 1. Location of the marine farm 8425 in Tongue Bay (red circle).



Plate 1. Original Consent (black line) and proposed marine farm (light grey) in Tongue Bay, Port Underwood.



Plate 2. Looking north-eastward towards the existing lines of 8425. Photo taken west of the western inshore consent corner.

2.0 Background information

2.1 Study area

Tongue Bay is a south-facing bay at the tip of Separation Point, Port Underwood. Tongue Bay has a coastline length of approximately 865 m and covers an area of sea of approximately 7.8 ha. Tongue Bay is approximately 670 m wide across the mouth and is approximately 6 km from the entrance to Port Underwood. Port Underwood has many other consented marine farms around its edges (Figure 2).



Figure 2. Location of proposed renewal (grey area in red circle) and other consented marine farms in the vicinity (white).

2.2 Historical reports

Two historical biological reports relating to site 8425 was found during a search of available literature.

Davidson and Davidson (1994) produced a report for a proposed extension offshore of the parent farm. The authors stated:

“Results from the swim across random parts of the proposed farm extension and existing farm suggested that:

1. no bedrock or rubble areas were located within the proposed extension area;
2. substrata and associated communities in the proposed farm extension area were relatively homogeneous;
3. a distinct difference in substrata and community type was observed between the farmed and non-farmed areas; and
4. few species of fish in relatively low numbers were recorded from the study area.

From surface observations, the subtidal shore around the bay edges were dominated by bedrock and rubble substrata dominated by a high percentage cover of foliose macroalgae (*Carpophyllum maschalocarpum*, *C. flexuosum*, *Macrocystis pyrifera*).

Under the proposed marine farm extension, the benthos was dominated by soft sediments composed primarily of silts and clays at depths of 13 to 17 metres. The most common and widespread feature were often dense areas of straw worms. From the transect swim, a total of 12 species of invertebrate, 2 algae, 1 ascidian, and 2 species of bony fish were recorded. No tubeworms *Galeolaria hystrix* were recorded in the present study.

Only two species of fish were recorded from the transect, with spotty (*Notolabrus celidotus*) being numerically the most abundant. No blue cod (*Parapercis colias*) were recorded.

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Opalfish (*Hemerocoates monopterygius*) were recorded on the silt habitat at 14 m depth. The brachiopod *Terebratella sanguinea* was not recorded from the study area. No other species of brachiopod were recorded from the study site.

Green-lipped mussels (*Perna canaliculus*) were recorded in occasional clumps in the proposed extension area. Under the existing mussel farm a 1-1.5 metre high mussel shell debris layer was recorded. No blue mussel (*Mytilus galloprovincialis*) was recorded.

Conclusion

No rare or threatened species or communities were recorded in the present study. A relatively low diversity of epibenthic species were recorded from this site in Port Underwood. This was primarily due to low diversity of habitat/substrata and the narrow depth range investigated.

The substrata and associated flora and fauna under the proposed marine farm was dominated by mud (silts and clays) with a relatively low diversity of marine biota. This habitat is the most common habitat type in sheltered Marlborough Sounds areas and has a relatively low diversity of species compared to many rich and diverse habitats and communities recorded from parts of the Sounds. The establishment of a mussel farm extension at this site would mean the ultimate modification of this mud benthos and straw worm community. This impact would, however, represent a small fraction of this habitat type in the Marlborough Sounds.”

Davidson (2003) produced a report for the revalidation of the site. The authors stated

“Six drop camera images were collected from the inshore area of the original consent. This area was characterised by silt and clay substrata with a layer of microalgae from deeper area. At the western inshore end, depths were less and coarser substratum was observed. Mussel shell debris was observed from two photos collected from an area relatively close to backbones.

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Four drop camera images were collected from the offshore area occupied by structures. This area was characterised by silt and clay substrata with areas of red algae. Mussel shell debris was also observed under backbones.”

The authors concluded “No adjustments to the proposed revalidation area are recommended or appear necessary on biological grounds.”

3.0 Methods

The site was first visited on 21 March 2013 with 10 drop camera photos collected from inshore and offshore areas (Davidson, 2013).

The present biological survey added to the initial data and was conducted on 21st March 2017. In the present study, an additional 36 drop camera photos were taken (total = 46 photos for both studies).

Prior to fieldwork, the proposed marine farm application corners were plotted onto mapping software (TUMONZ). The laptop running the mapping software was linked to a Lowrance HDS8 Gen2 GPS receiver 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 depth at each corner of the proposed marine farm was surveyed using the real-time GPS.

3.1 Drop camera stations, site depths and diver inspection

A total of 46 drop camera photographs were collected during the two surveys. Photographs were collected from (a) within the old consent, (b) within the new consent, (c) inshore of the consents, (d) under warps and backbones, and (e) away from farming structures.

At each site, a Sea Viewer underwater splash camera fixed to an aluminium frame was lowered to the benthos and an oblique still photograph was collected where the frame landed.

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The location of photograph stations was selected to obtain good coverage of the study area. Additional photographs were taken when any features of particular interest (e.g. shell debris, reef structures, cobbles) were observed on the remote monitor on-board the survey vessel. All photographs collected during both surveys have been included in Appendix 1.

4.0 Results

4.1 Application corner depths

The inshore corner depths of the proposed consent ranged from 6.5 m to 11 m (Figure 3). Offshore boundaries of the proposed consent ranged from 14.8 m to 15.1 m (Table 1, Figure 3).

In general, depths increased from inshore to offshore and from north-west to east across the farm.

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
Proposed consent corner	1, 11m	1695814.58,5425855.05
Proposed consent corner	3, 14.8m	1695819.00,5425692.01
Proposed consent corner	4, 15.1 m	1695537.19,5425654.75
Proposed consent corner	6, 6.5m	1695546.32,5425819.58
Structure corner	15.1m	1695567.3,5425666.6
Structure corner	9m	1695560.2,5425815.9
Structure corner	13.5m	1695785.7,5425846.6
Structure corner	14.5m	1695783.5,5425694.8
Original consent corner	A, 9.5m	1695791.7,5425890.2
Original consent corner	B, 14.6m	1695828.1,5425744.7
Original consent corner	C, 15.1m	1695537.2,5425672.2
Original consent corner	D, 4.8m	1695500.9,5425817.7

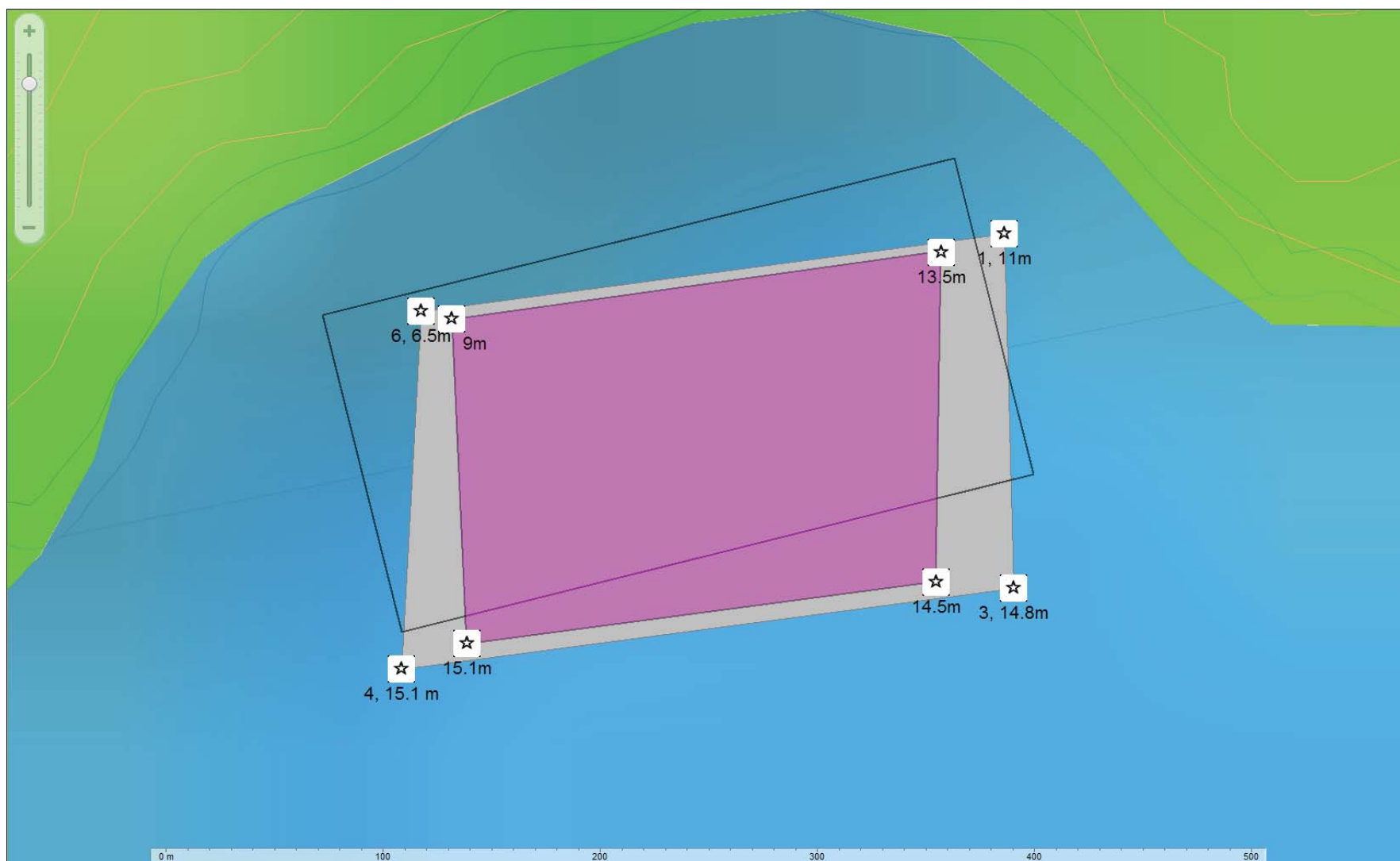


Figure 3. Depths of the proposed consent (grey) and original consent boundaries (black line). Marine farm surface structures have been depicted in pink.

4.2 Substratum and habitats

Substratum and habitat distribution relative to the proposed marine farm revalidation were based on 46 drop camera images combined with depth soundings conducted throughout the site (Figure 4, Table 2, Appendix 1). During the recent survey, periods of heavy rain had resulted in very poor water visibility.

Inshore of the consent

This inshore area was characterised by silt with a component of natural shell. Patches of red algae were also observed inshore of the consent. No mussel shell debris were recorded from these areas, instead natural shell provided a hard substratum component.

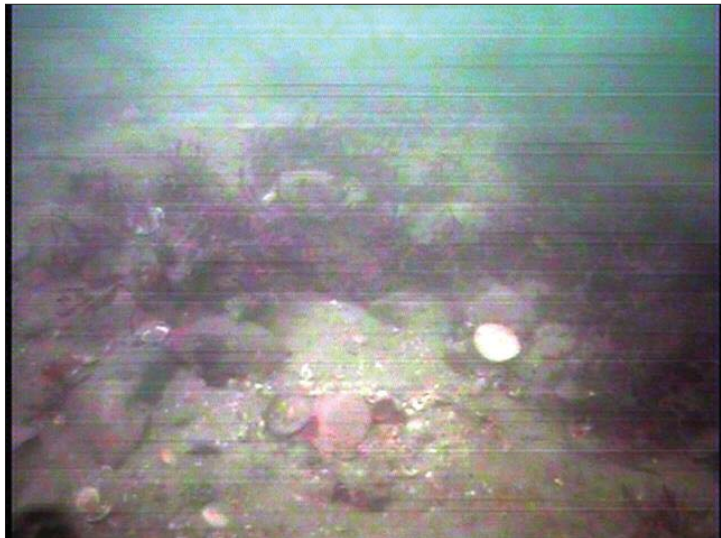
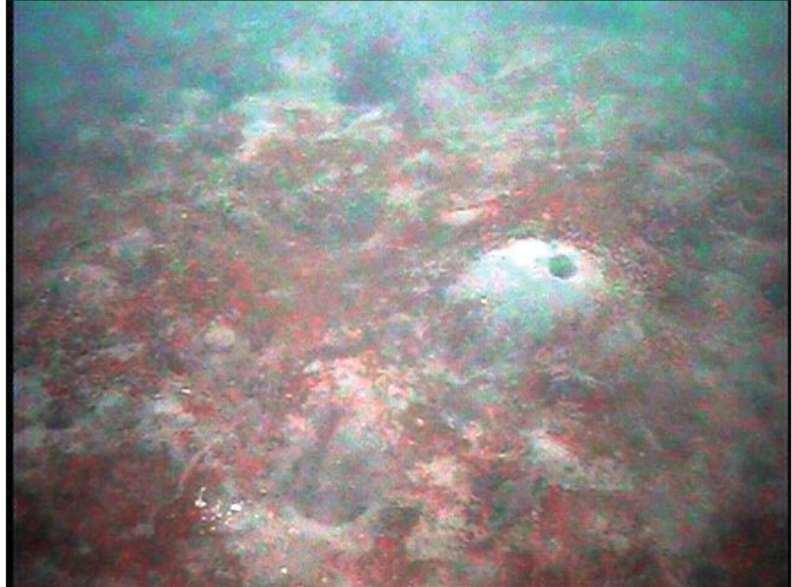


Plate 3. Silt substratum with natural dead whole and broken shell from areas inshore of the consent (photo 42, 9 m depth).

Original consent

Inshore western areas of the now excluded area of the original consent were shallow and characterised by comparable substratum to inshore areas away from the consents. Further eastwards the substratum became dominated by silt and clay (Plate 4). In 2013, mussel shell was observed from two photos where backbones had been previously located.

Plate 4. Silt and clay substratum and a microalgae mat recorded from the inshore areas of the original consent (photo 10, 9.6 m depth).



Proposed consent

The proposed consent area (renewal) was dominated by silt and clay substratum (Plate 5). Mussel shell debris was also observed from the proposed consent (Plate 6). Mussel shell ranged from none through to high, with most photos showing low-moderate levels (Table 2).

Plate 5. Silt, fine sand and natural shell material (photo 17, 13.5 m depth).



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Plate 6. Silt and clay with a high level of mussel shell debris (photo 16, 14 m depth).

Offshore of Consent

Photos collected from areas offshore of the proposed consent were characterised by a silt base covered in a relatively high percentage cover of red algae (Plate 7). No mussel shell was observed from these offshore areas.



Plate 7. Silt and clay base with a high percentage cover of red algae from areas offshore of the proposed consent (photo 39, 14.5 m).

4.3 Fauna

A low range of species was observed from photos. In some inshore areas, live mussels that probably originated from the farm were observed, however, most mussel shell was dead shells. Under the consent, surface dwelling species were dominated by low density parchment worms, sea cucumbers, horse mussels, solitary ascidians and cushion sea stars.

Table 2. Coordinates of drop camera stations showing location relative to the marine farm application (NZTM). Colours are: grey = inside proposed consent, pink = under backbones, light grey = original consent, blue outside consents. Depth, substratum and biological feature data are also listed.

No. & Depth (m)	Coordinates	Location	Substratum	Shell debris
1, 14.5m	1695775.0, 5425697.3	In new consent, under backbones	Silt and clay, mussel shell	High
2, 14.4m	1695721.7, 5425699.8	In new consent, under backbones	Silt and clay, red algae, mussel shell	Low
3, 14.5m	1695647.3, 5425684.9	In new consent, under backbones	Silt and clay, mussel shell	Low-moderate
4, 15m	1695553.6, 5425672.8	In new consent, under warps	Silt and clay, mussel shell	Moderate-high
5, 5.8m	1695514.7, 5425782.6	In original consent, no structures	Silt and clay, red algae	None
6, 5m	1695505.2, 5425814.3	In original consent, no structures	Silt, fine sand, natural shell	None
7, 11.7m	1695606.4, 5425836.7	In original consent, no structures	Silt, mussel shell	Low
8, 13.3m	1695694.1, 5425855.5	In original consent, no structures	Silt and clay, mussel shell	High
9, 13.1m	1695755.5, 5425869.3	In original consent, no structures	Silt and clay, mussel shell	Low
10, 9.6m	1695780.9, 5425883.5	In original consent, no structures	Silt and clay	None
11, 11.8m	1695535.4, 5425793.4	In original consent, no structures	Silt, natural shell, red algae 30%	None
12, 13m	1695622.8, 5425804.2	In new consent, under backbones	Silt and clay, mussel shell	Low
13, 13m	1695698.9, 5425816.3	In new consent, under backbones	Silt and clay, mussel shell	Low
14, 13.4m	1695767.1, 5425828.7	In new consent, under backbones	Silt and clay, mussel shell	Low-moderate
15, 13m	1695804.5, 5425839.3	In new consent, under warps	Silt and clay	None
16, 14m	1695797.4, 5425792.6	In new consent, under warps	Silt and clay, mussel shell	High
17, 13.5m	1695755.3, 5425786.5	In new consent, under backbones	Silt and clay	None
18, 13.5m	1695698.1, 5425782.5	In new consent, under backbones	Silt and clay, parchment worms, drift algae	None
19, 13.2m	1695637.5, 5425775.1	In new consent, under backbones	Silt and clay, mussel shell	Low
20, 13.1m	1695578.7, 5425765.2	In new consent, under backbones	Silt and clay, mussel shell	Low-moderate
21, 9.4m	1695540.4, 5425763.1	In original consent, no structures	Silt and clay, mussel shell	Low-moderate
22, 11.7m	1695558.1, 5425738.4	In new consent, under warps	Silt and clay, mussel shell	High
23, 13.1m	1695587.8, 5425741.7	In new consent, under backbones	Silt and clay, mussel shell	Low
24, 13.2m	1695637.3, 5425744.9	In new consent, under backbones	Silt and clay, mussel shell	Low
25, 13.2m	1695701.3, 5425758.2	In new consent, under backbones	Silt and clay, mussel shell	Low-moderate
26, 13.3m	1695766.3, 5425765.0	In new consent, under backbones	Silt and clay, mussel shell	High
27, 13.5m	1695802.1, 5425769.2	In new consent, under warps	Silt and clay, mussel shell	High
28, 14.1m	1695797.7, 5425734.1	In new consent, under warps	Silt and clay, mussel shell	High
29, 14m	1695754.7, 5425729.3	In new consent, under backbones	Silt and clay, mussel shell	Moderate-high
30, 13.9m	1695704.2, 5425722.4	In new consent, under backbones	Silt and clay, mussel shell	High
31, 13.7m	1695639.8, 5425712.9	In new consent, under backbones	Silt and clay, mussel shell	Moderate-high
32, 13.5m	1695585.6, 5425714.5	In new consent, under backbones	Silt and clay, mussel shell	Low
33, 14m	1695535.2, 5425701.3	In original consent, no structures	Silt and clay, mussel shell	Low
34, 14.9m	1695550.9, 5425669.3	In new consent, under warps	Silt and clay, parchment worms, algae	None
35, 15.1m	1695563.8, 5425647.5	Offshore of consents, no structures	Silt and clay, parchment worms, algae	None
36, 14.8m	1695612.7, 5425656.4	Offshore of consents, no structures	Silt and clay, parchment worms, algae	None
37, 14.4m	1695672.5, 5425669.2	Offshore of consents, no structures	Silt and clay, parchment worms, algae	None
38, 14.3m	1695709.7, 5425677.7	In new consent, no structures	Silt and clay, parchment worms, algae	None
39, 14.5m	1695765.0, 5425681.1	Offshore of consents, no structures	Silt and clay, parchment worms, algae	None
40, 14.8m	1695812.5, 5425685.1	Offshore of consents, no structures	Silt and clay, parchment worms, algae	None
41, 6.8m	1695768.1, 5425899.6	Inshore of consents, no structures	Silt, natural shell	None
42, 9m	1695726.2, 5425896.3	Inshore of consents, no structures	Silt, natural shell, red algae (20%)	None
43, 9.2m	1695682.1, 5425890.5	Inshore of consents, no structures	Silt and clay	None
44, 8.9m	1695642.9, 5425878.9	Inshore of consents, no structures	Silt, natural shell, red algae (2%)	None
45, 6.5m	1695605.5, 5425872.2	Inshore of consents, no structures	Silt, natural shell	None
46, 4.8m	1695537.6, 5425833.8	Inshore of consents, no structures	Silt, natural shell	None



Figure 4. Drop camera stations (triangles), original consent (black line) and proposed consent (grey). Pink area = surface structures. Numbers are the photo number and water depth (m).

5.0 Conclusions

5.1 Substratum and biological values

The proposed replacement consent area was located over silt and clay substratum. Small patches of red algae were observed under the farm, but most was observed from inshore and offshore areas outside the consent. Red algae have been recorded growing under backbones at a variety of locations in the Sounds and Port Underwood (Davidson and Richards, 2017). At this site, it is uncommon under the consent, however, historic data suggests it was never abundant in the Consent area.

Silt and clay substratum is widespread the Marlborough Sounds. Mud (i.e. silt and clay) is the most common subtidal habitat in the sheltered Marlborough Sounds and has been traditionally targeted by marine farming activities. This substratum type is considered suitable for consideration for marine farming activities in the Marlborough Sounds.

Relatively few surface dwelling species were observed from photographs. Occasional parchment or straw worms were observed from the consent area. These are widespread in Port Underwood and other sheltered muddy areas in the Sounds. They are also often recorded under farms in Port Underwood.

No habitats or species that have known significant biological or ecological values were observed within or close to the site (Davidson *et al.* 2011).

5.3 Mussel farming impacts

5.3.1 Benthic impacts

Benthic mussel shell was recorded from drop camera photos collected under and near backbones. Shell debris impact levels were within the range known for mussel farms in the Marlborough Sounds and towards the low to moderate impact range apart from directly under droppers where shell did occasionally reach high levels.

It is probable that the impact of continued shellfish farming at this site will result in the deposition of more shell and fine sediment under and near droppers. Based on the literature and assuming the present level of activity remains relatively consistent, it is very

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unlikely that the surface sediments would become anoxic, especially as the site is shallow (<10 m depth) (Hartstein and Rowden, 2004; Keeley *et al.*, 2009; Davidson and Richards, 2014). Tidal flows are expected to be low; however, winds are likely to be an important driver of water movement in this area.

It is noted that benthic impacts of mussel farms are not permanent. If structures are removed, the benthos recovers over a period of approximately 10 years (Davidson and Richards, 2014).

5.3.2 Productivity

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

There has been no data presented to show that the ecological carrying capacity of the Sounds has been reached. There is considerable evidence that shows the major drivers of the Pelorus system, for example, naturally leads to large within and between year variability. Relative to this, the impact of mussel farms appears to be material but relatively small compared to major environmental drivers (Broekhuizen *et al.*, 2015).

Port Underwood is near Cook Strait and receives sediment from the nearby Wairau River. It is likely that Cook Strait delivers nutrients to the area and algae primary production occurs during the longer residence times compared to the Strait.

5.4 Marine mammals

Hector's dolphin (*Cephalorhynchus hectori hectori*), is endemic to New Zealand and is currently listed as Nationally Endangered by the NZ threat classification scheme (Baker *et al.*, 2010) and considered Endangered by the IUCN since 2000 (Reeves *et al.*, 2008). Based on a series of historic boat and plane surveys conducted from 1997–2001, their abundance

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around the South Island was estimated at approximately 7300 animals (95% 5303–9966; Slooten *et al.*, 2004). In the most recent aerial survey found Hector's dolphin abundance to be approximately 9130 (CV: 19%; 95% CI: 6342–13 144) in summer and 7456 (CV: 18%; 95% CI: 5224–10 641) in winter (MacKenzie and Clement, 2014). The authors stated that the population of Hector's dolphin was larger than expected from previous estimates. MacKenzie and Clement (2014) stated this difference was mainly due to approximately half of their summer estimate being distributed across previously un-surveyed regions in offshore waters between 4 and 20 nautical miles. The authors emphasized that, at least in summer, a large portion of the ECSI Hector's dolphin population occurs in waters around Banks Peninsula and within Clifford and Cloudy Bays.

Hector's and other species of dolphin overlap with marine farms areas parts of New Zealand. An overlap for Hector's dolphin occurs around Banks Peninsula, East Bay and Port Underwood, Marlborough Sounds. Admiralty Bay in the Marlborough Sounds supports many mussel farms and is visited annually in winter by large numbers of dusky dolphins (Markowitz, 2002). Despite these spatial overlaps between dolphins and mussel farms, no entanglements have been documented.

There are, however, two reported incidences of dolphin entanglement and death at a salmon farm in New Zealand, both from the Marlborough Sounds (M. Aviss, MDC). In one, an unidentified dolphin species became trapped while a predator net was being replaced, and in the other case, a Hector's dolphin became trapped under a predator net. Internationally, fatal entanglements of dolphins in predator nets on finfish farms have been reported from Australia (Gibbs and Kemper, 2000; Kemper and Gibbs, 2001; Kemper *et al.*, 2003) and Italy (Díaz López and Bernal Shirai, 2007). This may reflect attraction of dolphins to a food source (Kemper and Gibbs, 2001) although such interactions between finfish farms and cetaceans have not been proven (Kemper *et al.*, 2003).

There is also one record of a marine mammal becoming trapped or tangled in a mussel farm (i.e. a Bryde's whale) (Wursig and Gailey, 2002). The low incidence of mussel farm entanglements is probably related warps and backbones being under tension thereby reducing the chance of entanglement. This is in stark contrast to lobster pots that have a single line to the surface. This line is usually under little or no tension. Whales migrating up the east coast of the South Island pass hundreds of lobster lines that present a serious

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entanglement threat. Wursig and Gailey (2002) stated that entanglements by larger whales in aquaculture facilities are relatively rare events.

Displacement of Hector's dolphin by new marine farms have been discussed in a report in Pegasus Bay (DuFresne *et al.*, 2010). The authors considered that there existed the *"possibility that mussel farms may not be optimal habitat for Hector's dolphin, and in that case, some level of displacement was possible."* The authors reported that in Golden Bay, Hector's dolphins have been observed at least in the access lanes between blocks of lines in a mussel farm (Slooten *et al.*, 2001). In the same farm, there are anecdotal reports of dolphins regularly entering the farm area (Slooten *et al.*, 2001), however, a lack of before-after data, and in this case a general paucity of data, preclude making any statements about the impact or otherwise of this farm on Hector's dolphins. DuFresene *et al.* (2010) concluded that *"there are no easy answers to the question of whether Hector's dolphins will be displaced by a mussel farm"*, but they did state that *"Given the size of the proposed marine farm in Pegasus Bay (i.e. 2695 ha) relative to available Hector's dolphin habitat in the immediate vicinity, the presence of a mussel farm was unlikely to have a catastrophic impact on the dolphins"*.

Port Underwood is known as a significant site for Hector's dolphin (Site 8.11 In: Davidson *et al.*, 2011) and part of the Cook Strait whale migratory corridor (Site 7.15 In: Davidson *et al.*, 2011). The latter area includes the greater Cook Strait, Cloudy and Clifford Bays, Tory Channel and Queen Charlotte Sound (Figure 5). The authors stated *"The Cook Strait is part of a migratory corridor along the NZ coast for humpbacks, as they move north from Antarctic feeding grounds to tropical waters for calving and breeding during the winter months (May - August). The Cook Strait is also utilised by other large whales including southern right whales (winter months), blue whales (possibly all year round but very little known about this species distribution) and sperm whales (probably all year round in the deeper waters of the Strait i.e., 300m and below). Humpback whales in New Zealand are part of the oceaia subpopulation and in 2008 were recently reclassified by the international union for Conservation of nature (IUCN) as endangered. They were previously classed as Vulnerable but research on the oceaia subpopulation has indicated this population is more threatened than previously thought. The Department of Conservation has conducted systematic annual surveys of humpbacks as they migrate through Cook Strait during the winters of 2004 to 2010, as well as collecting anecdotal sightings of humpbacks all year round to improve our understanding of the distribution and abundance of these species in*

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New Zealand waters. Nationally endangered southern right whales are also seen in New Zealand coastal waters, including the Cook Strait, in winter months. The New Zealand subpopulation of southern right whales is thought to be very small, with potentially as few as four to eleven breeding females (Patenaude, 2003). Other marine mammal species that have been observed utilising the Cook Strait area include sperm, minke and blue (Endangered) whales as well as orca (Nationally Critical), common, dusky, bottlenose (Nationally Endangered) and Hector's (Nationally Endangered) dolphins."

Tongue Bay is included in both marine mammal sites. Hector's dolphins are occasionally seen in the Port, but most sightings have been recorded between the Wairau and Awatere River Mouths (DuFresene and Matlin, 2009). Other marine mammals may visit the area but their use is likely temporary and uncommon. Large whales occasionally enter the Port. Overall, there is a low risk of entanglement and displacement from the present marine farm in Port Underwood.

Seals are present in Port Underwood and often occupy areas of coast near the mussel farms. Seals are often observed swimming within mussel farm structures and resting on floats (Plate 8). There are no records of seals becoming tangled in mussel farm structures. It is possible seals feed on small fish attracted to mussel droppers.

Figure 5. Marine mammal significant sites in the Marlborough Sounds (from Davidson *et al.*, 2011).

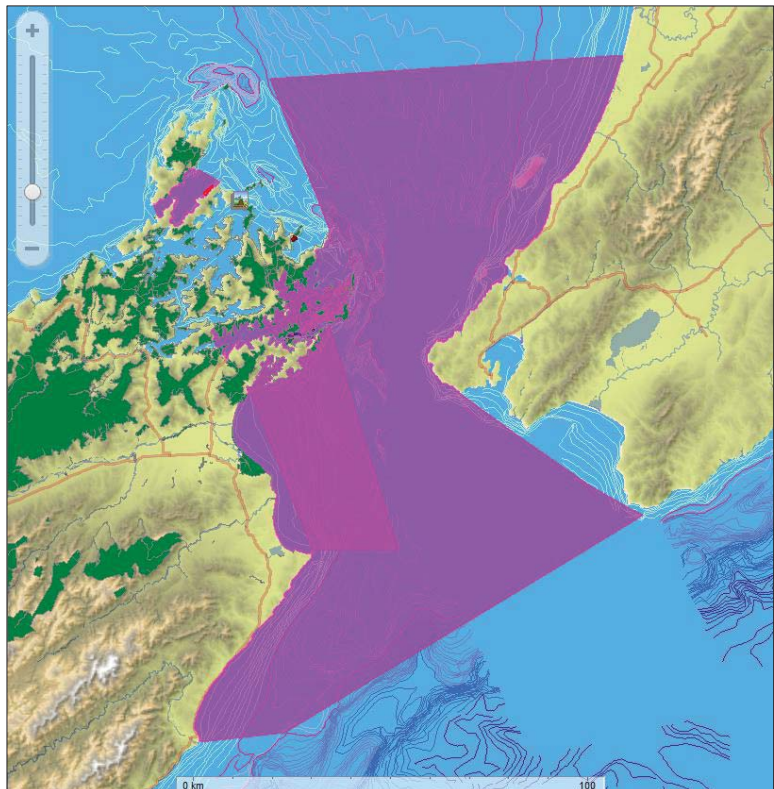




Plate 8. Three seals at a mussel farm in Admiralty Bay (2016).

5.5 Seabirds

There are no known seabird significant sites located in Port Underwood. Site 7.14 located along the outer Cook Strait coast north of the Port. A variety of seabirds visit Port Underwood and can often be observed resting on floats (pers. obs.).

Based on the few studies that have investigated the interactions between mussel farms and birds, mussel aquaculture can potentially affect seabirds by altering their food resources, cause physical disturbances (e.g. noise) and/or introduce possible entanglement risks. The structures associated with aquaculture may also provide benefits including additional perching and feeding opportunities (Plate 8). For example, in the Marlborough Sounds, the Nationally endangered king shag has largely abandoned mainland roost sites presumably in

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favour of mussel floats (Brown, 2001). Further, variable oyster catchers are regularly observed feeding on mussel backbones and floats (author pers. obs.).

Overall, New Zealand (Butler, 2003) and overseas studies (Ross *et al.*, 2001; Roycroft *et al.*, 2004; Kirk *et al.*, 2007) suggest that the general attraction of particular seabirds to mussel farms is likely due to increased foraging success on fish and biofouling, and even on the cultured stock itself. The consequences of this attraction will likely depend on the species' dietary preferences and response to both direct and indirect ecosystem changes induced by mussel cultivation.

Birds are potentially at risk from operational by-products of farms, including ties and plastics. The threat is considered greater after stormy weather (Page *et al.*, 2000) and at poorly operated farms. Butler (2003) found young and adult Australian gannets (*Sula serrator*) in the Marlborough Sounds entangled in discarded rope ties from mussel farms that had been incorporated into nests by parents. The closest gannet colony is 24 km from Tongue Bay, however, a variety of shags are present in the area and may potentially use ties as nesting material. It is therefore important that marine farmers minimize the introduction of ties into the marine environment.

The mussel industries Environmental Management System (EMS), formally known as the Environmental Code of Practice seeks to minimise such risks, and they are likely to be minimal on well-maintained farms (Keeley *et al.*, (2009).

King shag (*Leucocarbo carunculatus*) is a rare seabird, endemic to the Marlborough Sounds. Colonies are dotted throughout the Sounds, from the western coast of D'Urville Island through to Queen Charlotte Sound. Until recently, most colonies were located towards the outer edges of the Sounds. However, a new colony has recently been observed at Tawhitinui Bay towards inner Pelorus Sound. The most recent census in 2015 counted 839 individuals at eight colonies king shag breeding, roosting and feeding areas have been identified in the Marlborough Sounds (Schuckard and Melville, 2015). The closest breeding colony to Tongue Bay is at White Rocks located in outer Queen Charlotte Sound some 32 km distant.

Kings shag feeding has been recorded over many years by Rob Schuckard (Figure 6). No feeding records exist in Port Underwood, however, it is unclear whether the Schuckard surveys extended into this area.

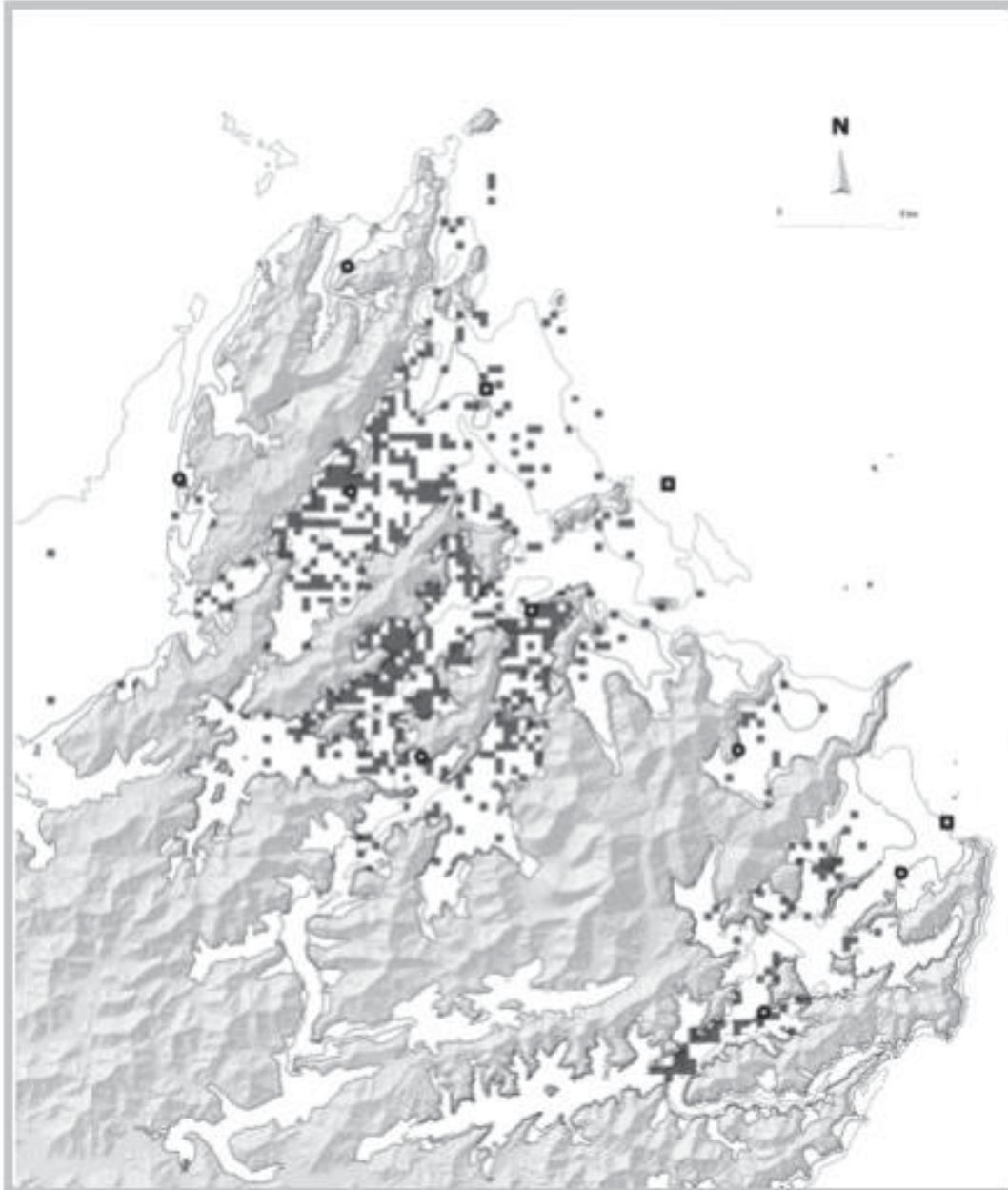


Figure 6. King shag foraging observations (n=~1,000). Taken from Schuckard (2015): Statement of Evidence dated 13 March 2015.

5.6 Boundary adjustments, recommendations and monitoring

There were no biological values that would preclude the proposed consent for continued mussel farming.

All areas of the consent are located over habitats considered suitable for shellfish farming. This substratum is the most common and widespread habitat type in sheltered shore of the Marlborough Sounds and the sheltered outer Sounds bays like Admiralty, Anakoha Bay and Catherine Cove. The impacts for mussel farming on muddy habitats characterised by silt, clay and natural shell are usually low compared to farm impacts in shallow, habitats dominated by rocky or biogenic communities. The present structures are therefore situated over habitats traditionally considered suitable for the activity of farming mussels. No reduction to the present farm boundary is therefore recommended on ecological grounds.

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

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Appendix 1. Drop camera photographs

Photo site 1



Photo site 2



Photo site 3



Photo site 4



Photo site 5



Photo site 6



Photo site 7



Photo site 8



Photo site 9

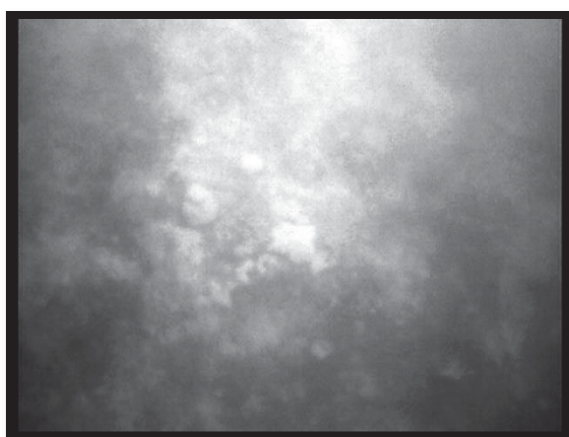


Photo site 10

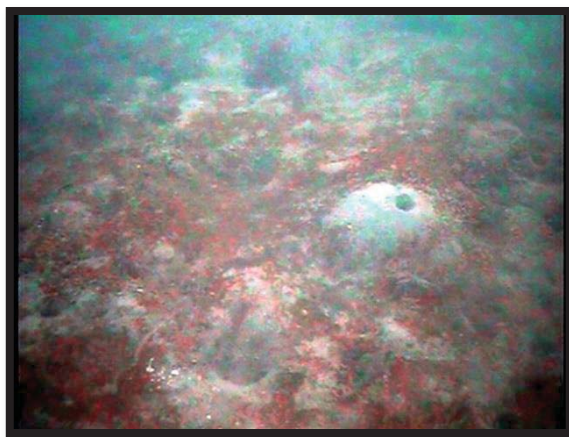


Photo site 11

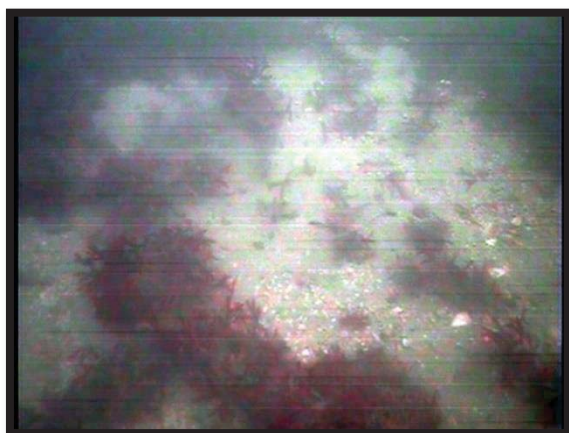


Photo site 12



Photo site 13

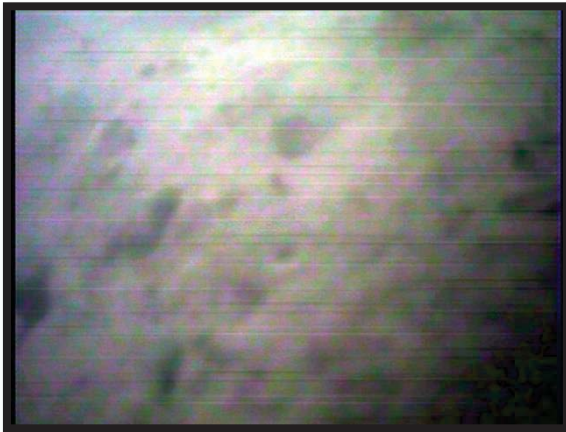


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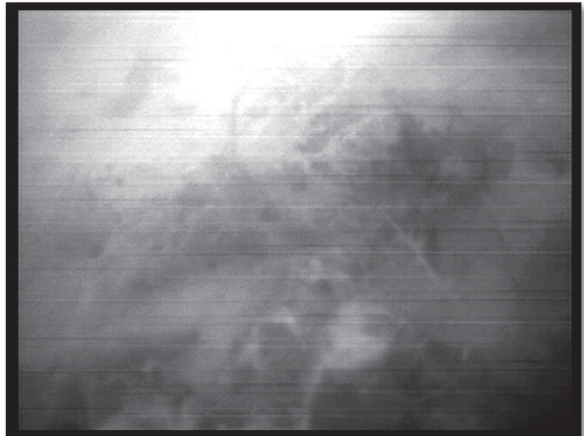


Photo site 15



Photo site 16

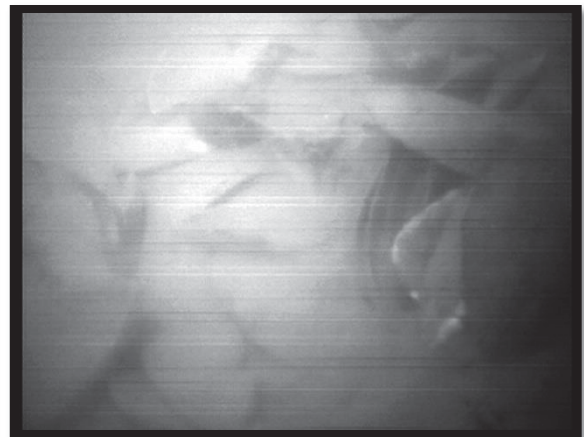


Photo site 17

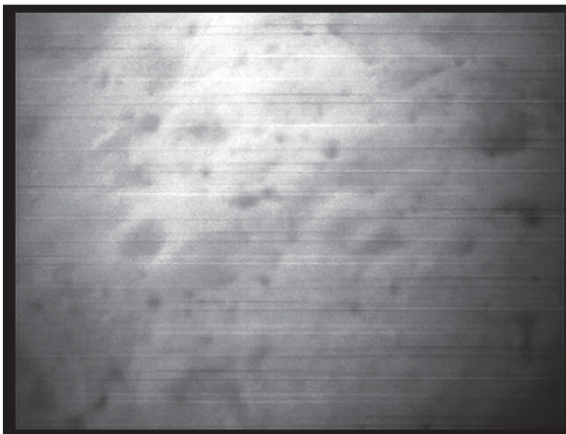


Photo site 18

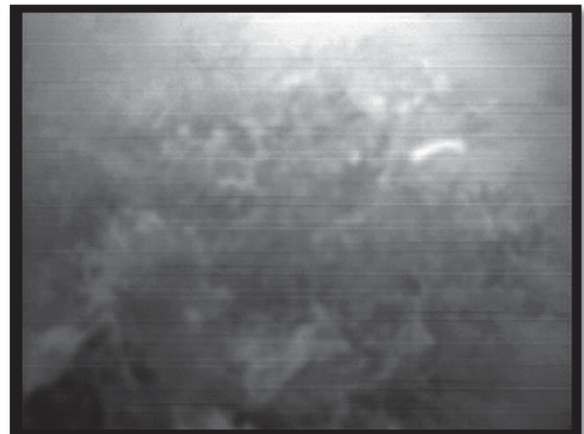


Photo site 19

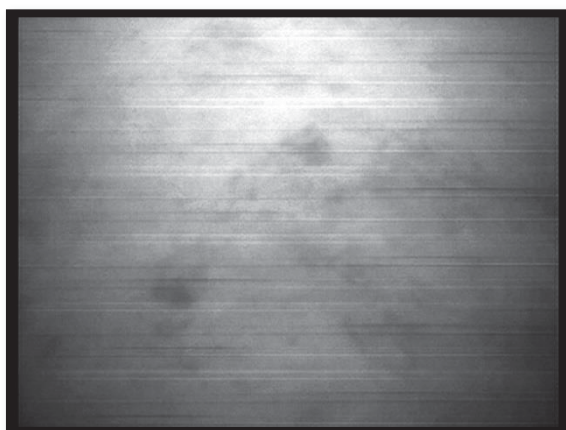


Photo 20

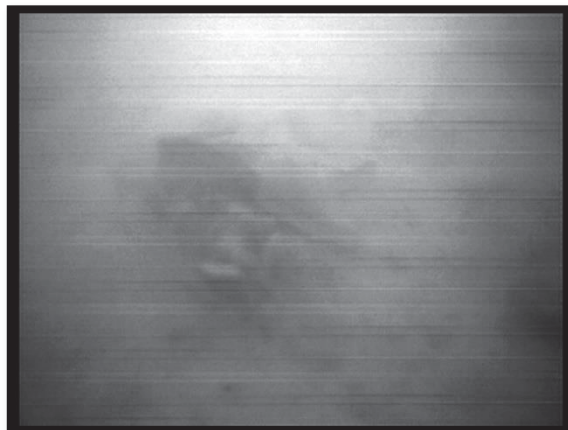


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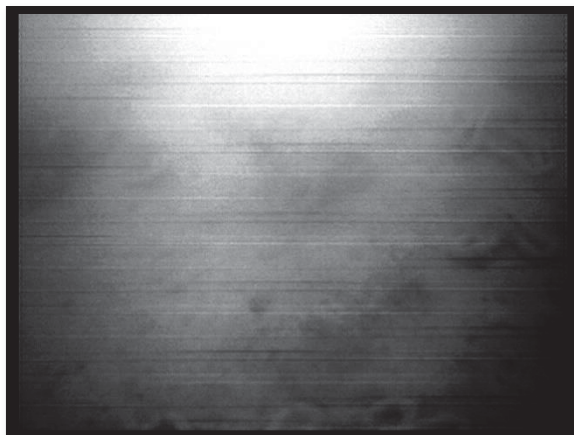


Photo 22

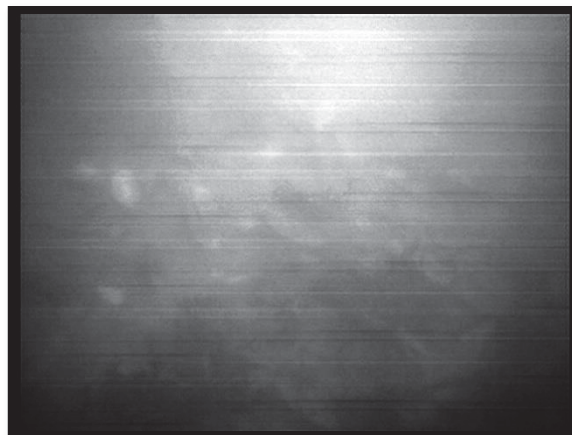


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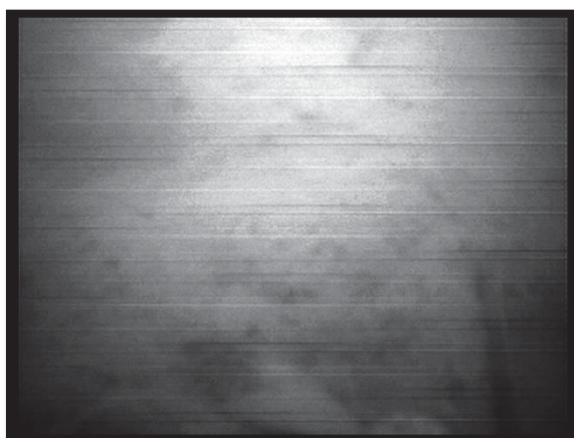


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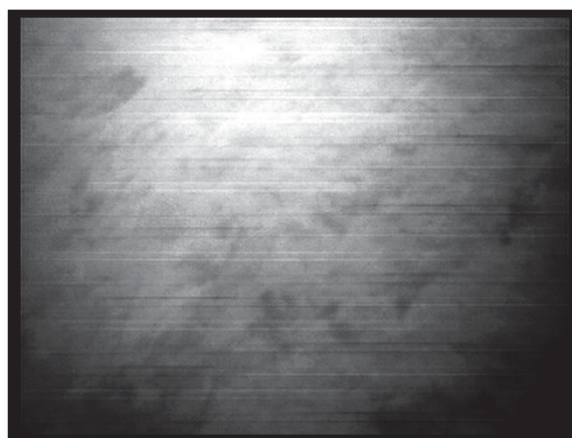


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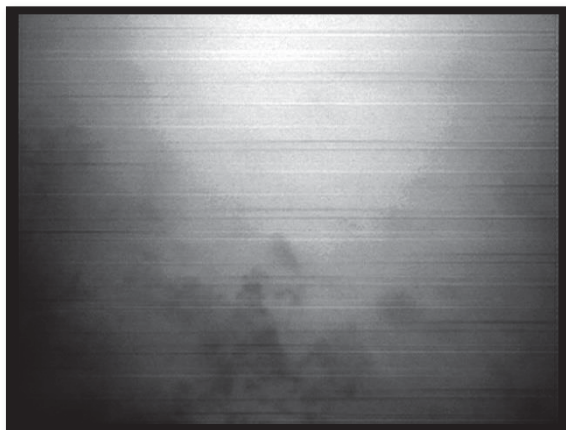


Photo 26

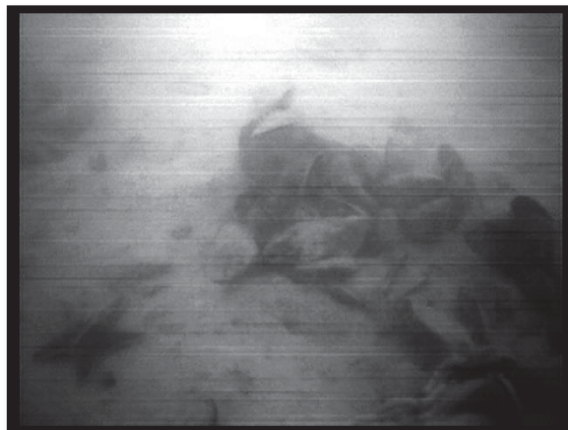


Photo site 27

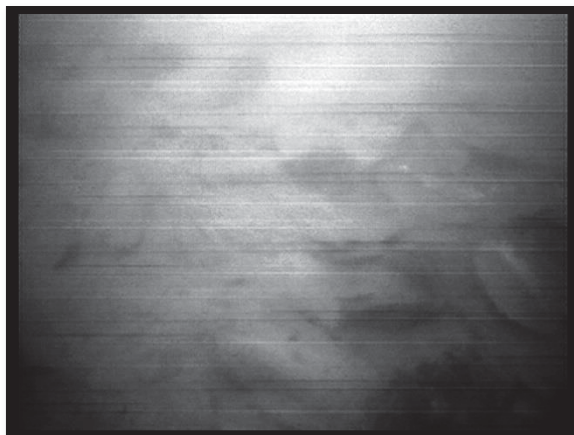


Photo 28

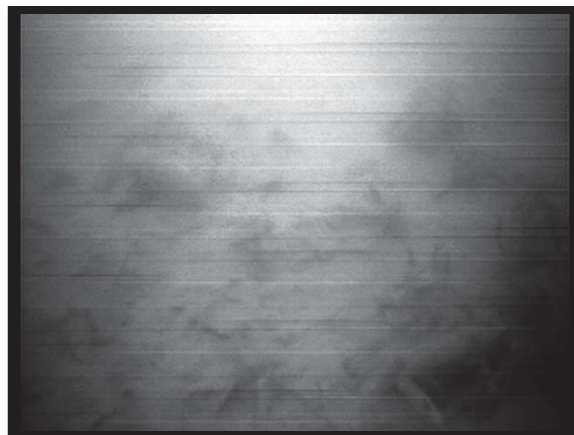


Photo site 29

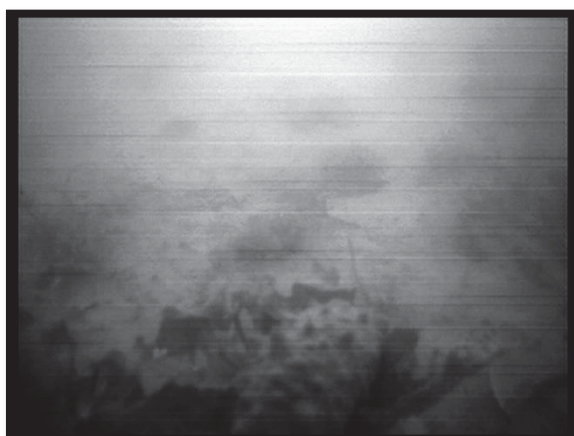


Photo site 30

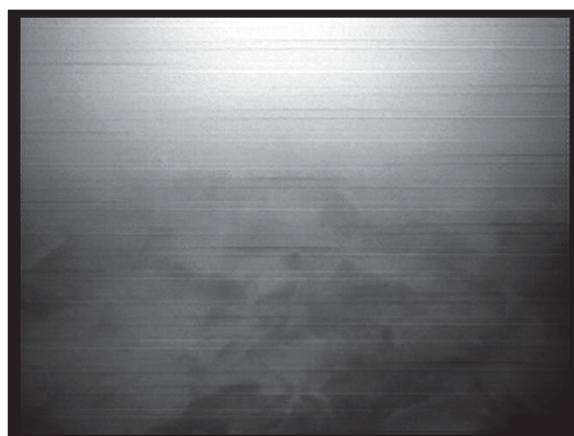


Photo site 31

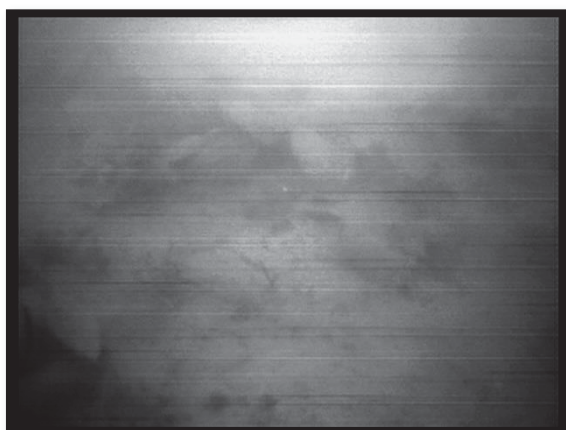


Photo 32



Photo site 33

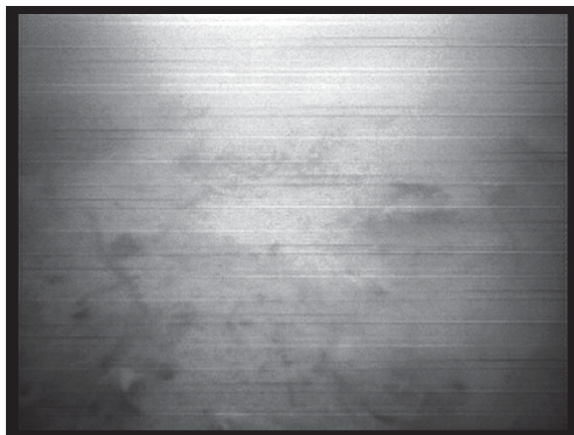


Photo 34



Photo site 35

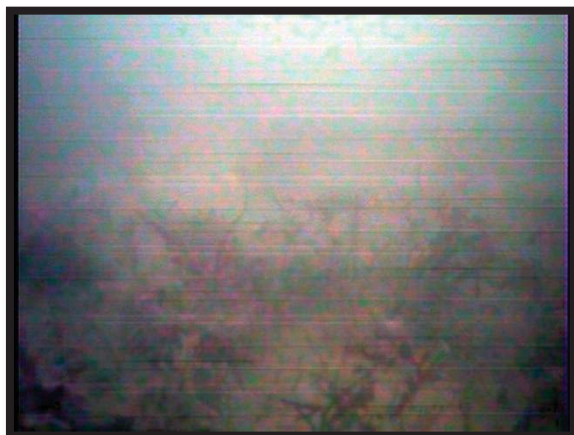


Photo site 36



Photo site 37



Photo 38



Photo site 39



Photo 40

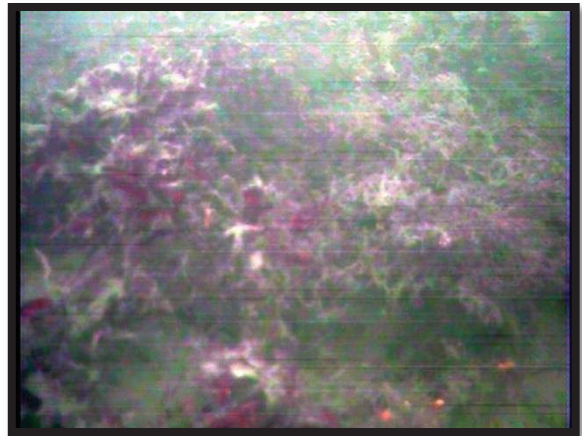


Photo site 41



Photo site 42

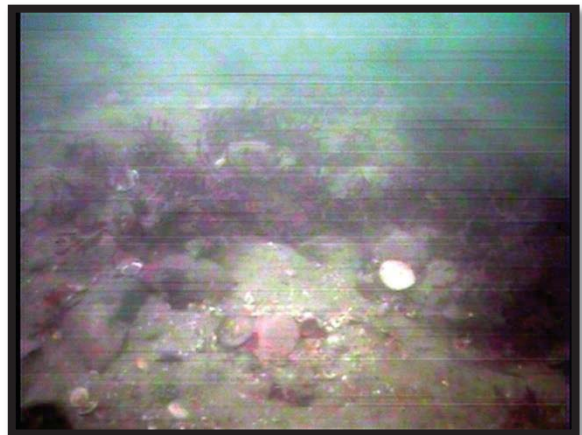


Photo site 43



Photo 44



Photo site 45



Photo 46

