Chris Hines-5483

From: Bea Gregory-5252
Sent: Monday, 29 May 2017 7:31 a.m.
To: Chris Hines-5483
Subject: FW: Application for Resource Consent: REF170520059
Attachments: REF170520059.pdf

Beate Gregory
Administration Officer - Regulatory

MARLBOROUGH DISTRICT COUNCIL

From: MDC
Sent: Sunday, 28 May 2017 12:46 p.m.
To: RCInbox
Subject: Application for Resource Consent: REF170520059

A application for a Resource Consent has been received. Application lodgement number is REF170520059.

Submission details are attached.

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Website www.marlborough.govt.nz
GST No. 50-430-960

Reference Number:	REF170520059
Submitted On:	28/05/2017 12:46
Submitted By:	Aquaculture Direct Ltd

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	Sanford Limited
Is the applicant	
Main applicant name	Zane Charman
Main applicant mailing address	
Main applicant email address	zcharman@sanford.co.nz
Main contact number	0277059290
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 Ltd
Contact person	Bruce Cardwell
Mailing address	
Email address	bruce@aquaculturedirect.co.nz
Main contact number	021451284
Alternative contact number	021451284
Agent reference	Farm 8293

Application Details

Types of resource consent applied for	• Coastal Permit

Property Details

The location to which the application relates is	Samson Bay, Squally Cove, Croisilles Harbour, Marlborough- Marine Farm 8293
Brief description of the activity	To renew an existing resource consent of 5.25 Ha for marine farm 8293 in Samson Bay, Croisilles Harbour including activities ancillary to the operation of the marine farm for a period of 20 years.

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	• **8293 AEE Renewal May 17 Final.pdf(1168758 bytes)**

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	**No files uploaded**
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**

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	• **8293 Squally Cove (Sanford).pdf(4161800 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)	N/A
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	No adjacent neighbours

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?	
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)	Bruce Raymond Cardwell

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 SANFORD LIMITED
TO RENEW EXISTING CONSENT FOR MARINE FARM SITE 8293 IN SAMSON BAY, CROISILLES HARBOUR, MARLBOROUGH

1.0 Introduction – the applicant

Sanford Limited has applied to renew the existing resource consent (MFL419 & MPE927) for marine farm site 8293 (total 5.25ha) for the purpose of farming Greenshell Mussels, (*Perna canaliculus)*, blue mussels (*Mytilus galloprovincialis*), scallops (*Pecten novaezelandiae*), dredge oysters (*Tiostrea chilensis*), Pacific oyster (*crassostrea gigas*), cockle (*Chione stutchburyi*), paua (*Haliotis iris, Haliotis australis, Haliotis virginea*), kina (*Evechinus chloroticus*), seaweed (*Ulva lactuca, Macrocystis pyrifera, Ecklonia radiata, Lessonia variegate, Pterocadia lucida, Gracilaria sp*) and sponge (*Lissodendoryx sp., Latrunculia cf bacegei, Latrunculia n.sp 1, Raspailia agminate Mycale sp.*) using conventional structures. (See attached layout diagrams illustrating the site).

MFL419 – 3.0ha, granted 17th May 1989 – expires 31st December 2024

MPE927 (extensions) – 2.25ha, granted 23rd December 2009 – expires 31st May 2017

This application is to renew both the parent (MFL419) and the extensions (MPE927) consents and combine into one consent.

The benthic report (Davidson report number 851, as attached) recommends an area inside the existing farm not be used for mussel farming. The applicant accepts the recommendation from the report and applies to extend the farm seaward and surrender the inside area of the existing farm. The farm area remains the same size (5.25ha) (see attached site plan).

The original consent granted 23rd December 2009 was for 20 lines. This application is for 18 lines a reduction of two lines to accommodate the new layout.

The application is for a continuation of the activities currently consented at the site. No changes to the activities are proposed. The current status of the 'parent farm' is assessed as controlled activity and the extension assessed as discretionary activity.

Sanford's history extends over 100 years. Sanford is a large and long established fishing company devoted entirely to the harvesting, farming, processing, storage and marketing of quality seafoods and aquaculture products, with a focus on the clear waters of New Zealand. Sanford employs approximately 1,430 employees throughout the various regions in which they operate, Auckland, Coromandel, Tauranga, Nelson, Havelock, Timaru, Waitaki, Kaitangata, Bluff, Stewart Island & Melbourne, 230 of these employees are based in the Havelock.

The Company supports the sustainable utilisation of seafood from New Zealand's unique marine environment, and in other waters in which the company operates.

Sanford is responding to existing and emerging environmental issues by seeking to improve performance standards in all its operations and through active participation in industry environmental initiatives and forums.

Environmental performance improvement is being achieved by;

- The implementation of Environmental Management Systems (EMS) incorporating compliance with ISO 14001 standards. All shore based and on board processing facilities are certified to ISO 14001 standard.
- Continually investigating the implementation of methods to improve the Company's eco-efficiency in terms of farmed and harvested seafood, energy, water, packaging and waste management.
- Protecting and enhancing the natural environment through active management programs to prevent events such as oil spills from occurring, and formal contingency planning in the event they do. We also undertake active maintenance of marine areas nearby to where we operate.

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'
- Member of the A+ New Zealand Sustainable Aquaculture Programme

Refer http://www.aplusaquaculture.nz/sustainable-aquaculture

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

2.0 Introduction – the application

2.1 Size: The site is 5.25ha

2.2 Structures: The site dimensions will be: inshore southern boundary 350m long, outer northern boundary 350m, eastern boundary 150m long and western boundary 150m long (see attached site plan).

There will be a total of 18 longlines (see attached layout diagram).

2.3 Species: It is proposed to farm and harvest (*Perna canaliculus)*, blue mussels (*Mytilus galloprovincialis*), scallops (*Pecten novaezelandiae*), dredge oysters (*Tiostrea chilensis*), Pacific oyster (*crassostrea gigas*), cockle (*Chione stutchburyi*), paua (*Haliotis iris, Haliotis australis, Haliotis virginea*), kina (*Evechinus chloroticus*), seaweed (*Ulva lactuca, Macrocystis pyrifera, Ecklonia radiata, Lessonia variegate, Pterocadia lucida, Gracilaria sp*) and sponge (*Lissodendoryx sp., Latrunculia cf bacegei, Latrunculia n.sp 1, Raspailia agminate Mycale sp.*) using conventional long line methods.

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

3.0 Permitted Activities

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 8293.

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

4.0 Terms of Consent

The parent farm (MFL419) expires on 31st December 2024, while the extension (2.25 ha) expires 31st May 2017 (MPE927). The applicant seeks a 20 year term expiring in 2037 for the entire site.

5.0 The Site - Location

Marine farm 8293 is located on the south coast of Croisilles Harbour in Samson Bay. Croisilles Harbour is in the north western corner of the Marlborough Region, opening to Tasman Bay. Croisilles Harbour has an established aquaculture history in the headwaters of the Sound. Marine farms have been located in this area since the early 1980's.

The farm sits in a ribbon of marine farms in Samson Bay. The nearest marine farms to 8293 are 8291 & 8290 to the north and 8620 & 8621 to the south. There is also a small intertidal oyster farm to the east 8292.

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

The site lies within the boundary of coastal marine zone 2 (CMZ2).

6.0 The Site - Dimensions

The site dimensions have been described above are as per the layout plans attached. The depth of the water at each of the corners of the site is estimated at 8m (NW), 9.5m (NE), 3.5m (SE), and 7.4m (SW).

The application includes 18 long lines each being 110 metres long.

There are currently 14 lines installed and operating at the site that grow greenshell mussels.

The site layout is attached to the application.

The warp length is 32 metres from each end of the backbone (see line layout diagram for individual longline lengths). The warp ratio is 2:1.

The farm is identified as being onsite as shown on the Marlborough District Council website (smart maps) in accordance with the current consent.

7.0 THE PRESENT ENVIRONMENT

7.1 The Marine Environment

In March 2017 Mr RJ Davidson, of Davidson Environmental Ltd, undertook a biological study of the ecology of the marine area of site 8293 (Report 851 attached).

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

"*5.0 Summary and conclusions*
5.1 Benthos
The marine farm consent is in a shallow, sheltered Bay. The benthos under the consent was dominated by soft substratum (i.e. combinations of silt, fine sand, and broken and dead whole natural shell).
Rocky substratum (bedrock, boulder and cobbles) was recorded at a variety of locations inshore and alongshore of the consent. At two locations, some rocky substrata (i.e. occasional cobble) were recorded just inside the consent along the inshore boundary. Mussel farm structures have been positioned offshore of the hard substrata and are presently positioned over substratum considered suitable for marine farming activities.

Mussel shell debris was observed under and close to backbones. When present, it was recorded at low to high levels. High levels were found near droppers.

5.2 Species and communities
Species abundance and diversity was highest from inshore rocky areas compared to offshore soft substratum under and around the growing structures. Encrusting species observed from rocky areas appeared representative of a relatively sheltered shore.

No species or communities of scientific, conservation or ecological importance were observed during the present study (see Davidson et al., 2011 for criteria and biological features). No scallops were seen under the Consent or proposed extension.

5.3 Mussel farming impacts

5.3.1 Benthic impacts

Low to high levels of benthic mussel shell were 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 lower end of the impact spectrum.

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, despite the site being in a low current area (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 a important driver of water movement in this area, especially in shallow parts of the farm.

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).

Croisilles Harbour opens directly to Tasman Bay waters. Unlike Pelorus Sound, it receives little riverine input. It is therefore likely that Tasman Bay delivers most nutrients to the area and algae primary production occurs during the period water resides in the Harbour. Croisilles Harbour is not known as a highly productive area because of these factors, however, its proximity to Tasman Bay means that depletion of seston by farms is likely a minor effect.

5.5 Boundary adjustments, recommendations and monitoring

Rocky substrata are located at two locations along the inshore boundary of the consent. No farm structures are presently located in this area.

The farm has been historically positioned too close to shore (i.e. as little as 10 m distance from low tide). It is suggested that the farm relocated further from shore to avoid rocky substrata and

establish an appropriate inshore separation. Offshore habitats are dominated by silt substrata. This type of substratum is considered more suitable for marine farming activities compared to inshore shallow areas.

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

The application extends the farm seaward and surrenders the inside area. The farm area remains the same size (see attached site plan).

7.2 The Land Environment

The site lies in Samson Bay. See attached locality map.

The adjacent land is forestry.

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

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

8.0 NAVIGATION MATTERS

8.1 The Shoreline

The distance from the shoreline according to the original Cadastral mapping holds with the conventions established in the Marlborough Sounds Resource Management Plan. That is, the inshore boundary of the farm is beyond 50m from the mean low water mark. However, when checking onsite the farm inshore boundary would be approximately 10-25m from rocky substrates identified in the Davidson report (851)

The application extends the farm seaward and allows improved navigation inshore of the farm. The farm area remains the same size (see attached site plan).

8.2 Headlands

There are no headlands immediately adjacent to the site.

8.3 Navigational Routes (Formal/Informal)

The shoreline in which the farm sits is not on a normal navigation route, however, vessels that wish to navigate within the area can proceed through the farm and either inside or outside of the site.

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

8.4 Anchorages or Mooring Areas (Formal/Informal)

There is a registered mooring (110) to the south of the farm. The farm does not impede access to this mooring.

8.5 Indirect Effects-Servicing vessels at site

The applicant estimates farming and harvesting vessels will visit the site on an average of 70-90 days a year for periods of 0.5 to 10 hrs to undertake farm maintenance, seeding and harvesting. The total amount of hours spent on these activities is estimated to be 230-250 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 Samson Bay. The land immediately south and east of the farm is zoned Rural 1 and is forestry.

9.2 Scenic Value

The surrounding area of the farm is forestry that has been recently harvested. (see plate 2 Benthic report). The farm is within an area identified in the current Marlborough Sounds Resource Management Plan as being an area of outstanding natural landscape value. These assessments were made with the farms already in place and operational. There was no direction given in the Plan that the marine farms should be removed for the area to be assessed as being an outstanding landscape. However, in the proposed Marlborough Environment Plan (MEP) the area has not been identified as having outstanding landscape value.

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

10.0 ECOLOGICAL VALUE

There is no ecological value identified in the current Marlborough Sounds Resource Management Plan for Site 8293.

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

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 the Croisilles Harbour Sound 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 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 Samson Bay, but may occur further offshore towards the centre of the cove. The farm will not interfere with commercial fishing operations. No artificial feed or attractants are added

13.2 Recreational Fishing

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

14.0 VISUAL EFFECTS OF THE FARM

The farm structures presently consist of 14 long lines of 110 metres in length containing black mussel buoys ranging between approximately 4 and 60 per line.

The original consent granted December 2009 was for 20 lines. This application is for 18 lines a reduction of two lines to accommodate the new layout.

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

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

15.0 EFFECTS ON WATER QUALITY AND ECOLOGY

Water quality of the area is suitable for mussel farming. The site relies on water quality to enable the process of mussel farming to flourish. The site 8293 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 851.

16.0 EFFECTS ON PRODUCTIVITY

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

17.0 THE BENTHIC ENVIRONMENT

In terms of the benthic environment, the ecology of this area has been documented in Davidson Environmental Ltd report 851 (refer to 7.1 above).

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

18.0 ALIENATION OF PUBLIC SPACE

Croisilles Harbour has been utilised by marine farmers since the early 1980's. Recreation and commercial boat owners are aware of marine farms in this area and all vessels have the opportunity to use the site and transit through it. The spacing between the long lines provides opportunity for access by vessels wanting to transit the site.

19.0 HARVESTING

As part of this application, the applicant seeks to continue harvesting mussel crops. The right to navigate to and from the farm, and to anchor, moor and load crop is preserved by s27 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 to 8.5).

20.0 ON SHORE FACILITIES

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

The mussels harvested from the farm are processed by a factory in Havelock.

21.0 VALUE OF INVESTMENT

As part of this application to renew site 8293, 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 s 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 s 104(2A).

The existing site was purchased by the applicant in 2010. The applicant has invested significantly on the purchase of this farm.

The farm has potential to produce approximately 150 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 $300,000 to $340,000. Approximately 95% of mussel products are exported. All lines are restocked after harvest to achieve 150 GWT/per annum harvest.

The mussels are processed in Havelock where they provide a critical part of the production to maintain processing to the factory which employees 230 FTE.

22.0 PART II RESOURCE MANAGEMENT ACT ISSUES

22.1 Section 5

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

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

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

22.2 Section 6

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

The Proposal recognises:

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

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

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

The area of the application is in an area identified as an area of outstanding landscape value in the current Plan. The effects of the application on the landscape will be the same as the present consent and any effects will not impact on the values which contribute to the landscape. This assessment was made with marine farms in situ.

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

The adjacent vegetation next to the farm is forestry.

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 mātaitai 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 Croisilles Harbour.

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

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

23.3 Policy 8

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

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

i. The need for high quality water for aquaculture activities; and

ii. The need for land-based facilities associated with marine farming.

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

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

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

23.4 Policy 11

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

The farm is located over mud habitat and rocky substrates are located at two locations along the inshore boundary of the consent. This application is to locate the farm seaward of these rocky substrates.

There will be no adverse modified effects on indigenous biodiversity.

23.5 Policy 13

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

The area of the application site is not recognised as an area of outstanding natural character in the Proposed Marlborough Environment Plan.

23.6 Policy 15

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

This application is within an area of outstanding landscape value under the Marlborough Sounds Resource Management Plan. There will be no further impact on the landscape than those already occurring under the current consent. The effects of the application on the landscape will be minor and the effects are not likely to impact on the values which contribute to the landscape.

23.7 Policy 18

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

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 is one registered moorings in the vicinity of the site. Opportunities for recreational fishing may be enhanced by the presence of the marine farm.

23.8 Policy 22

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

23.9 Policy 23

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

CONCLUSION

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

24.0 REGIONAL POLICY STATEMENT/MARLBOROUGH SOUNDS RESOURCE MANAGEMENT PLAN

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

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

CONCLUSION

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

25.0 CONSULTATION

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

26.0 CONCLUSION

The applicant considers that the renewal of site 8293 is appropriate, thereby allowing the continued farming of greenshell mussels and other species at the site.

The site is in that part of the Croisilles Harbour 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 theraputants added Any discharges of organic matter associated with harvesting will be transitory.
5.3.10: The natural species diversity and integrity of marine habitats be maintained or enhanced	5.3.11: Avoid, remedy or mitigate habitat disruption arising from activities occurring within the coastal marine area.	Any disruption associated with the existing mooring of the farm is minor in scale and transitory. The seabed is already in a modified state due to terrestrial run off.
7.1.9: To enable present and future generations to provide for their wellbeing by allowing use, development and protection of resources provided any adverse effects of activities are avoided, remedied or mitigated.	7.1.10: To enable appropriate type, scale and location of activities by: • clustering activities with similar effects; • ensuring activities reflect the character and facilities available in the communities in which they are located; • promoting the creation and maintenance of buffer zones (such as stream banks or 'greenbelts'); • locating activities with noxious elements in areas where adverse environmental effects can be avoided, remedied or mitigated.	The marine farm is consistent with the current Policy and the designated consented area is within a bay with other marine farms.
	7.1.12: To ensure that no undue barriers are placed on the establishment of new activities (including new primary production species) provided the life supporting capacity of air, water, soil and ecosystems is safeguarded and any adverse environmental effects are avoided, remedied or mitigated.	The marine farm is located within the consented area where marine farming is a permitted activity. The benthic report (Davidson report number 851, as attached) recommends an area inside the existing farm not be used for mussel farming. The application extends the farm seaward and surrenders the inside area. The farm area remains the same size (see attached site plan).

		The original consent granted 23rd December 2009 was for 20 lines. This application is for 18 lines a reduction of two lines to accommodate the new layout.
7.2.7 The subdivision use and development, of the coastal environment, in a sustainable way.	7.2.8: Ensure the appropriate subdivision, use and development of the coastal environment.	The marine farm is within a bay with other marine farms. The marine farm's activity is biologically sustainable.
	7.2.10(a) - (d)	The marine farm is located within the consented area which is permitted for marine farming.
7.3.2: Buildings, sites, trees and locations identified as having significant cultural or heritage value are retained for the continued benefit of the community.	7.3.3: Protect identified significant cultural and heritage features	No sites of cultural or heritage significance have been identified on the area of the application site
8.1.2: The maintenance and enhancement of the visual character of indigenous, working and built landscapes.	8.1.3: Avoid, remedy or mitigate the damage of identified outstanding landscape features arising from the effects of excavation, disturbance of vegetation, or erection of structures.	The site is within an area of outstanding natural landscape and will have no additional impact on landscape values. The farm is well managed and complies with the Greenshell Mussel Environmental Code of Practice.
	8.1.5: Promote enhancement of the nature and character of indigenous, working, and built landscapes by all activities which use land and water.	The marine farm will have no additional impact on landscape values.
	8.1.6: Preserve the natural character of the coastal environment.	The site will have no additional impact on the natural character of the coastal environment.

Appendix B: Marlborough Sounds Resource Management Plan – Policy Analysis

Objective	Policy	Assessment
Ch 2, 2.2, Obj 1: The preservation of the natural character of the coastal environment, wetlands, lakes, and rivers and their margins and the protection of them from inappropriate subdivision, use and development.	Policy 1.1: Avoid the adverse effects of subdivision, use or development within those areas of the coastal environment and freshwater bodies which are predominantly in their natural state and have natural character which has not been compromised.	This application is set in an area which forestry predominates and other marine farms.
	Policy 1.2: Appropriate use and development will be encouraged in areas where the natural character of the coastal environment has already been compromised, and where the adverse effects of such activities can be avoided, remedied or mitigated.	Refer above.
	Policy 1.3: To consider the effects on those qualities, elements and features which contribute to natural character, including: a) Coastal and freshwater landforms; b) Indigenous flora and fauna, and their habitats; c) Water and water quality; d) Scenic or landscape values; e) Cultural heritage values, including historic places, sites of early settlement and sites of significance to iwi; and f) Habitat of trout.	These matters have been considered in the assessment of environmental effects.
	Policy 1.4: In assessing the actual or potential effects of subdivision, use or development on natural character of the coastal and freshwater environments, particular regard shall be had to the policies in Chapters, 3, 4, 5, 6, 12, 13 and Sections 9.2.1, 9.3.2 and 9.4.1 in recognition of the components of natural character.	The application will not have any additional impact on the components of these policies which impact natural character values.

	Policy 1.6: In assessing the appropriateness of subdivision, use or development in coastal and freshwater environments regard shall be had to the ability to restore or rehabilitate natural character in the area subject to the proposal.	Any residual impact on natural character will naturally rehabilitate on removal of the farm.
	Policy 1.7: To adopt a precautionary approach in making decisions where the effects on the natural character of the coastal environment, wetlands, makes and rivers (and their margins) are unknown.	The effects of this application are not unknown and are discussed elsewhere in the assessment of environmental effects. A precautionary approach is not justified.
Ch 4, 4.3, Obj 1: The protection of significant indigenous flora and fauna (including trout and salmon) and their habitats from the adverse effects of use and development	Policy 1.2: Avoid, remedy or mitigate the adverse effects of land and water use on areas of significant ecological value.	The application will have no effect on the adjacent land including flora and fauna. .
Ch 5, 5.3, Obj 1: Management of the visual quality of the Sounds and protection of outstanding natural features and landscapes from inappropriate subdivision, use and development	Policy 1.1: Avoid, remedy and mitigate adverse effects of subdivision, use and development, including activities and structures, on the visual quality of outstanding natural features and landscapes, identified according to criteria in Appendix One.	The effects of the application on the landscape will be the same as the current permitted activity and the effects are not likely to impact on the values which contribute to the landscape.
Ch 6, 6.1.2, Obj 1: Recognition and provision for the relationship of Marlborough's Maori to their culture and traditions with their ancestral lands, waters, sites, waahi tapu and other taonga.	Policies 1.1-1.5	In preparing this application, the applicant has had regard to the Statutory Acknowledgments and has reviewed the statements of association for each iwi. 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 The applicant understands there are no known wahi tapu, taiapure, mataitai or other areas of significance to Maori in the vicinity of the application.

Ch 8, 8.3, Obj 1: That public access *to and along* the coastal marine area, lakes and rivers be maintained and enhanced.	Policy 1.2: Adverse effects on public access caused by the erection of structures, marine farms, works or activities in or along the coastal marine area should as far as practicable be avoided. Where complete avoidance is not practicable, the adverse effects should be mitigated and provision made for remedying those effects, to the extent practicable.	There are no additional adverse effects on public access caused by the marine farm.
	Policy 1.3: To prevent the erection of structures and marine farms that restrict public access in the coastal marine area where it is subjected to high public usage.	There are no additional adverse effects on public access caused by the marine farm.
	Policy 1.8: Public access to and along the coastal marine area should be maintained and enhanced except where it is necessary to [circumstances do not apply].	There are no additional adverse effects on public access caused by the marine farm.
Ch 9, 9.2.1, Obj 1: The accommodation of appropriate activities in the coastal marine area whilst avoiding, remedying or mitigating the adverse effects of those activities.	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: a) Conservation and ecological values; b) Cultural and iwi values; c) Heritage and amenity values; d) Landscape, seascape and aesthetic values; e) Marine habitats and sustainability; f) Natural character of the coastal environment; g) Navigational safety; h) Other activities, including those on land; i) Public access to and along the coast; j) Public health and safety; k) Recreation values; and l) Water quality.	The way in which adverse effects on the stated values will be avoided, remedied and mitigated is addressed elsewhere in the assessment of environmental effects. Overall, the proposal is consistent with this policy.

	Policy 1.2: Adverse effects of subdivision, use or development in the coastal environment should as far as practicable be avoided. Where complete avoidance is not practicable, the adverse effects should be mitigated and provision made for remedying those effects to the extent practicable.	The marine farm is within a bay with other marine farms. There are no additional adverse effects on the coastal environment from this farm. The navigational lighting requirements will not change from the existing consent.
	Policy 1.3: Exclusive occupation of the coastal marine area or occupation which effectively excludes the public will only be allowed to the extent reasonably necessary to carry out the activity.	Consistent with other marine farms in the Marlborough Sounds, exclusive occupation of the consent area is not sought, other than for the area physically occupied by the lines and anchoring devices.
	Policy 1.6: Ensure recreational interests retain a dominant status over commercial activities that require occupation of coastal space and which preclude recreational use in Queen Charlotte Sound, including Tory Channel, but excluding Port and Marina Zones.	Not applicable
	Policy 1.7: Avoid adverse effects from the occupation of coastal space in or around recognised casual mooring areas.	Exclusive occupation of the consent area is not sought. There is one moorings located in the vicinity of the farm. The farm does not impede the navigation to this mooring.
	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 8293 is consented for marine farming, there are other marine farms consented in the bay.
	Policy 1.13: Enable the renewal as controlled activities of marine farms authorised by applications made prior to 1 August 1996 as controlled activities, apart from exceptions in Appendix D2 in the Plan.	The parent farm is assessed as controlled activity.
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 230-250 hours per annum maintaining and harvesting the lines per year. The applicant complies with the 'Code of Practice to avoid, remedy or mitigate noise from marine farming activities in the Marlborough Sounds, Golden Bay and Tasman Bay on other users and residents'

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

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

MEP Provision	Evaluation
[RPS]	
Policy 3.1.2 – An applicant will be expected to consult early in the development of a proposal (for resource consent or plan change) so that cultural values of Marlborough's tangata whenua iwi can be taken into account. [RPS]	See above.
Policy 3.1.3 – Where an application for resource consent or plan change is likely to affect the relationship of Marlborough's tangata whenua iwi and their culture and traditions, decision makers shall ensure: (a) the ability for tangata whenua to exercise kaitiakitanga is maintained; (b) mauri is maintained or improved where degraded, particularly in relation to fresh and coastal waters, land and air; (c) mahinga kai and natural resources used for customary purposes are maintained or enhanced and that these resources are healthy and accessible to tangata whenua; (d) for waterbodies, the elements of physical health to be assessed are: i. aesthetic and sensory qualities, e.g. clarity, colour, natural character, smell and sustenance for indigenous flora and fauna; ii. life-supporting capacity, ecosystem robustness and habitat richness; iii. depth and velocity of flow (reflecting the life force of the river through its changing character, flows and fluctuations); iv. continuity of flow from the sources of a river to its mouth at the sea; v. wilderness and natural character; vi. productive capacity; and vii. fitness to support human use, including cultural uses. (e) how traditional Māori uses and practices relating to natural and physical resources such as mahinga maataitai, waahi tapu, papakāinga and taonga raranga are to be recognised and provided for. [RPS]	The applicant has had regard to the matters in Policy 3.1.3, as set out above, and in the AEE. Ecological effects have been assessed by Davidson Environmental in the report annexed to this application.

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

MEP Provision	Evaluation
Policy 4.3.2 – Identify the qualities and values that contribute to the unique and iconic character of the Marlborough Sounds and protect these from inappropriate subdivision, use and development. [RPS]	The applicant has had regard to the qualities and values identified by the Council in the MEP, as indicated elsewhere in this policy assessment and in the application. Overall, the proposal is appropriate.
Policy 4.3.3 – Provide direction on the appropriateness of resource use activities in the Marlborough Sounds environment. [RPS]	The aquaculture provisions of the MEP have yet to be notified. The proposed site is zoned CMZ2 under the operative MSRMP, which suggests that aquaculture is appropriate in the area.
Policy 4.3.4 – Enhance the qualities and values that contribute to the unique and iconic character of the Marlborough Sounds. [RPS]	The proposal will not have significant effects on the qualities and values of the Sounds, and any effects are reversible upon removal of the farms.
Policy 4.3.5 – Recognise that the Marlborough Sounds is a dynamic environment [RPS]	The applicant recognises that the Sounds is a dynamic environment. The appropriateness of the farm can be 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.

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

MEP Provision	Evaluation
Policy 6.2.3 – Where natural character is classified as high or very high, avoid any reduction in the degree of natural character of the coastal environment or freshwater bodies. [RPS, R, C, D]	The site is not identified in the MEP has having high or very high natural character values.
Policy 6.2.4 – Where resource consent is required to undertake an activity within coastal or freshwater environments with high, very high or outstanding natural character, regard will be had to the potential adverse effects of the proposal on the elements, patterns, processes and experiential qualities that contribute to natural character. [RPS, R, C, D]	See above and AEE sections 9 and 22.3.
Policy 6.2.5 – Recognise that development in parts of the coastal environment and in those rivers and lakes and their margins that have already been modified by past and present resource use activities is less likely to result in adverse effects on natural character. [RPS, R, C, D]	The proposal is less likely to have an adverse effect on natural character, given existing development in the area.
Policy 6.2.6 – In assessing the appropriateness of subdivision, use or development in coastal or freshwater environments, regard shall be given to the potential to enhance natural character in the area subject to the proposal. [RPS, R, C, D]	The effects are not of a scale to justify an enhancement programme.
Policy 6.2.7 – In assessing the cumulative effects of activities on the natural character of the coastal environment, or in or near lakes or rivers, consideration shall be given to: (a) the effect of allowing more of the same or similar activity; (b) the result of allowing more of a particular effect, whether from the same activity or from other activities causing the same or similar effect; and (c) the combined effects from all activities in the coastal or freshwater environment in the locality. [RPS, R, C, D]	There are existing aquaculture activities in the area and the farm has been operating for a number of years. There are unlikely to be cumulative effects issues.
Objective 7.2 – Protect outstanding natural features and landscapes from inappropriate subdivision, use and development and maintain and enhance landscapes with high amenity value.	The area is not mapped as ONFL.

MEP Provision	Evaluation
Policy 7.2.1 – Control activities that have the potential to degrade those values contributing to outstanding natural features and landscapes by requiring activities and structures to be subject to a comprehensive assessment of effects on landscape values through the resource consent process. [R, C, D]	See above and sections 9
Policy 7.2.3 – Control activities that have the potential to degrade the amenity values that contribute to those areas of the Marlborough Sounds Coastal Landscape not identified as being an outstanding natural feature and landscape by: (a) using a non-regulatory approach as the means of maintaining and enhancing landscape values in areas of this landscape zoned as Coastal Living; (b) setting standards/conditions that are consistent with the existing landscape values and that will require greater assessment where proposed activities and structures exceed those standards; and… [C, D]	Policy 7.2.3(b) does not apply to the proposed site, because aquaculture rules have yet to be included in the MEP. As a result, the application must be assessed against the rules applying under the operative MSRMP. This has been done in a separate policy analysis table, at Appendix B.
Policy 7.2.4 – Where resource consent is required to undertake an activity within an outstanding natural feature and landscape or a landscape with high amenity value, regard will be had to the potential adverse effects of the proposal on the values that contribute to the landscape. [R, C, D]	See above.
Policy 7.2.5 – Avoid adverse effects on the values that contribute to outstanding natural features and landscapes in the first instance. Where adverse effects cannot be avoided and the activity is not proposed to take place in the coastal environment, ensure that the adverse effects are remedied. [R, C, D]	See above.
Policy 7.2.7 – Protect the values of outstanding natural features and landscapes and the high amenity values of the Wairau Dry Hills and the Marlborough Sounds Coastal Landscapes by: (a) In respect of structures: (i) avoiding visual intrusion on skylines, particularly when viewed from public places; (ii) avoiding new dwellings in close proximity to the foreshore; (iii) using reflectivity levels and building materials that complement the colours in the surrounding landscape; (iv) limiting the scale, height and placement of structures to minimise intrusion of built form into the landscape; (v) recognising that existing structures may contribute to the landscape character of an	The applicant will minimise the scale, height and placement of structures to minimise intrusion of built form into the landscape. Buoys are low profile and predominantly black, save for orange navigation buoys required for navigational safety. The remainder of policy 7.2.7 does not apply to marine farming structures.

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

MEP Provision	Evaluation
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.
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: (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.	Biodiversity offsetting is not justified in this case.
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]	See sections 8, 9, 11, 13, 14 and 18 of the AEE.
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: (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…	N/A

MEP Provision	Evaluation
[RPS]	
Policy 9.1.2 – In addition to the specified areas in Policy 9.1.1, the need for public access to be enhanced to and along the coastal marine area, lakes and rivers will be considered at the time of subdivision or development, in accordance with the following criteria: (a) there is existing public recreational use of the area in question, or improving access would promote outdoor recreation; (b) connections between existing public areas would be provided; (c) physical access for people with disabilities would be desirable; and (d) providing access to areas or sites of cultural or historic significance is important. [RPS, C, D]	See above. The farm will not prevent access to areas or sites of cultural and historic significance in the area.
Policy 9.1.5 – Acknowledge the importance New Zealander's place on the ability to have free and generally unrestricted access to the coast. [RPS, C, D]	The applicant acknowledges the importance to New Zealanders of having unrestricted access to the coast. The site design ensures that the public will continue to have access through the site and along the shore.
Policy 9.1.7 – Recognise there is an existing network of marinas at Picton, Waikawa and Havelock, publicly owned community jetties, landing areas and launching ramps that make a significant contribution in providing access for the public to Marlborough's coastal areas. [RPS, C]	The proposed farm will be able to be accessed from the existing facilities of a contractor or lessee.
Policy 9.1.8 – Enable public use of jetties for the purposes of access to the Sounds Foreshore Reserve and legal road along the coast. [RPS, C]	There are no jetties in the vicinity of the site.
Policy 9.1.13 – When considering resource consent applications for activities, subdivision or structures in or adjacent to the coastal marine area, lakes or rivers, the impact on public access shall be assessed against the following: (a) whether the application is in an area identified as having a high degree of importance for public access, as set out in Policy 9.1.1; (b) the need for the activity/structure to be located in the coastal marine area and why it	The structures have a functional need to be located in the coastal marine area. The public will have access through and around the site. Access to the site is by boat. Any impact on public access would be temporary, being reversible upon removal of the farm. Any restrictions on public access will be consistent with the purpose of a resource consent to farm

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

MEP Provision	Evaluation
Chapter 13 objectives and policies.	N/A – Chapter 13 expressly states that it "does not contain provisions managing marine farming."
Objective 15.1a – Maintain and where necessary enhance water quality in Marlborough's rivers, lakes, wetlands, aquifers and coastal waters, so that: (a) the mauri of wai is protected; (b) water quality at beaches is suitable for contact recreation; (c) people can use the coast, rivers, lakes and wetlands for food gathering, cultural, commercial and other purposes; … (f) coastal waters support healthy ecosystems. [RPS, R, C]	Mussel farming will not have an adverse effect on water quality, and may even enhance water quality.
Policy 15.1.1 – As a minimum, the quality of freshwater and coastal waters will be managed so that they are suitable for the following purposes: (a) Coastal waters: protection of marine ecosystems; potential for contact recreation and food gathering/marine farming; and for cultural and aesthetic purposes; … [RPS, R, C]	Aquaculture requires excellent water quality. The proposed farm will not have an adverse effect on water quality.
Policy 15.1.9 – Enable point source discharge of contaminants or water to water where the discharge will not result: (a) in any of the following adverse effects beyond the zone of reasonable mixing: (i) the production of conspicuous oil or grease films, scums, foams or floatable or suspended materials; (ii) any conspicuous change in the colour or significant decrease in the clarity of the receiving waters; (iii) the rendering of freshwater unsuitable for consumption by farm animals; (iv) any significant adverse effect on the growth, reproduction or movement of aquatic life; or (c) in the flooding of or damage to another person's property. [R, C]	Discharge from harvesting will not result in any of the specified adverse effects.

MEP Provision	Evaluation
15.1.10 – Require any applicant applying for a discharge permit that proposes the discharge of contaminants to water to consider all potential receiving environments and adopt the best practicable option, having regard to: (a) the nature of the contaminants; (b) the relative sensitivity of the receiving environment; (c) the financial implications and effects on the environment of each option when compared with the other options; and (d) the current state of technical knowledge and the likelihood that each option can be successfully applied. [RPS, R, C]	See Davidson Environmental report. Discharge occurs during harvesting, and the effects are momentary and insignificant. Contaminants are materials that are already in the water column, such as sediments and organic materials trapped by lines and structures.
15.1.11 – When considering any discharge permit application for the discharge of contaminants to water, regard will be had to: (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. [RPS, R, C]	See above Discharge during harvest is temporary in nature and sedimentation soon reverts to background levels, consistent with policy 15.1.11(c).
15.1.12 – After considering Policies 15.1.10 and 15.1.11, approve discharge permit applications to discharge contaminants into water where: (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. [RPS, R, C]	Water discharged during harvesting will comply with SG standards in Appendix 5.

MEP Provision	Evaluation
Policy 15.1.16 – The duration of any new discharge permit will be either: (a) Up to a maximum of 15 years for discharges into waterbodies or coastal waters where the discharge will comply with water quality classification standards for the waterbody or coastal waters; … (c) no more than five years where the existing discharge will not comply with water quality classification standards for the waterbody or coastal waters. 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. [R, C]	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. It is illogical to allow for a marine farming permit for 20 years, and restrict a discharge permit for harvesting to 15 years. The applicant is seeking a 20 year resource consent. The AEE suggests that this term in appropriate in these circumstances.

REFERENCE

- Existing Marine Farm
- Proposed Renewal
- Proposed Backbones

Aerial Photo image from MDC GIS dated 2012

aquaculture direct

4 April 2017

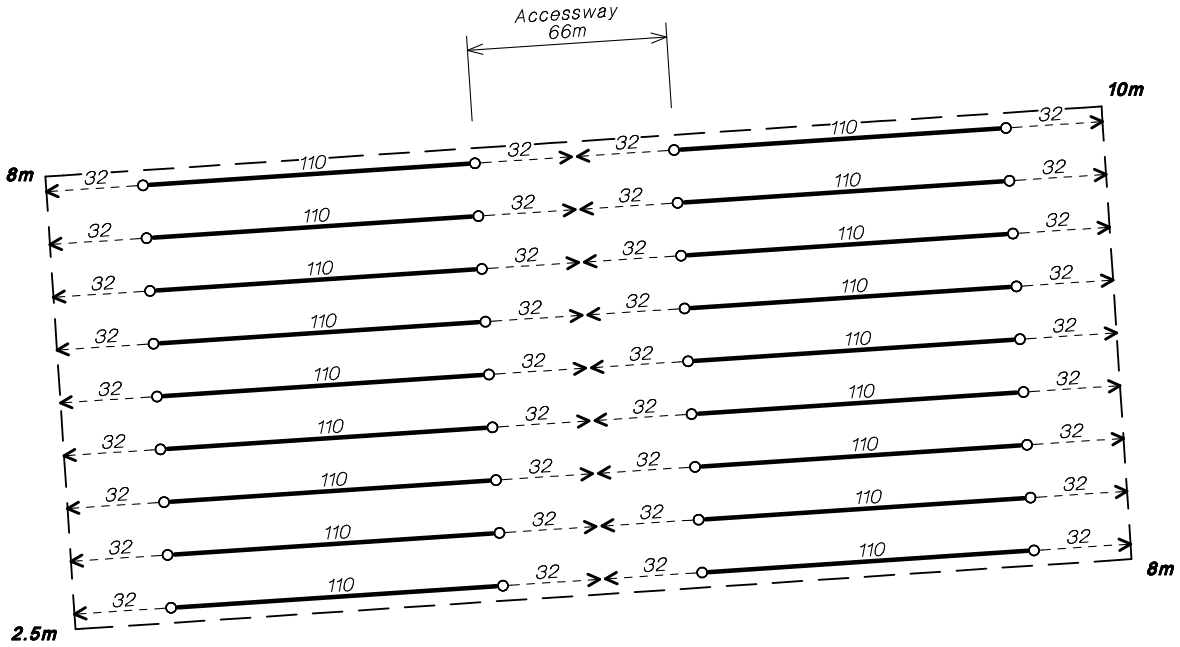
Renewal of Marine Farm 8293
Samson Bay - Squally Cove

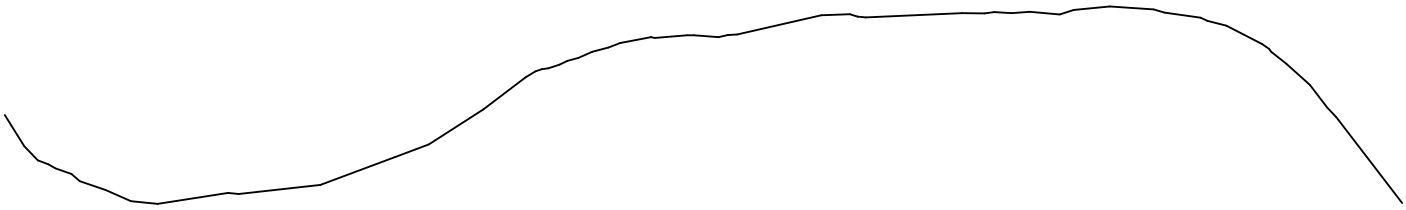
Aerial Overlay

Scale 1:2,500

50 0 50 100 150 Meters

Samson Bay





NOTE: Warp Surface Loss = 32m
Longline Spacing = 17.5m
Warp Ratio = 2:1 minimum
Total Longlines = 18
Total Backbone Length = 1980m

REFERENCE

- Orange Float
- Block or Screw Anchor
- Anchor Warp
- Backbone

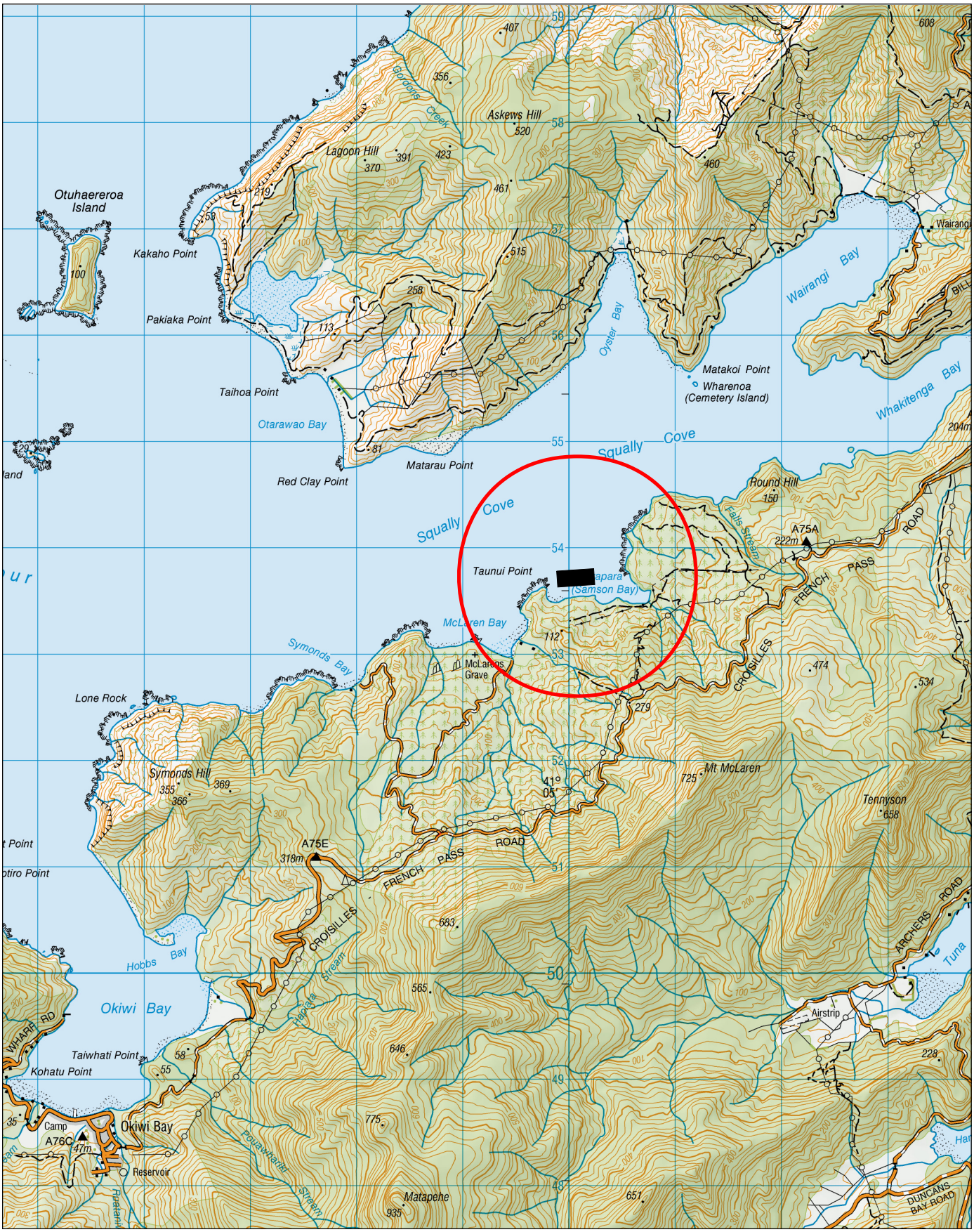
aquaculture direct

Structure Layout Renewal of Marine Farm Site 8293

MF_2502
4 April 2017

SCALE 1:2500

50 0 50 100 150 m



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

Topomap 50 Sheet: BP27 & BP28

Locality Map

Renewal of Marine Farm 8293
Samson Bay - Squally Cove

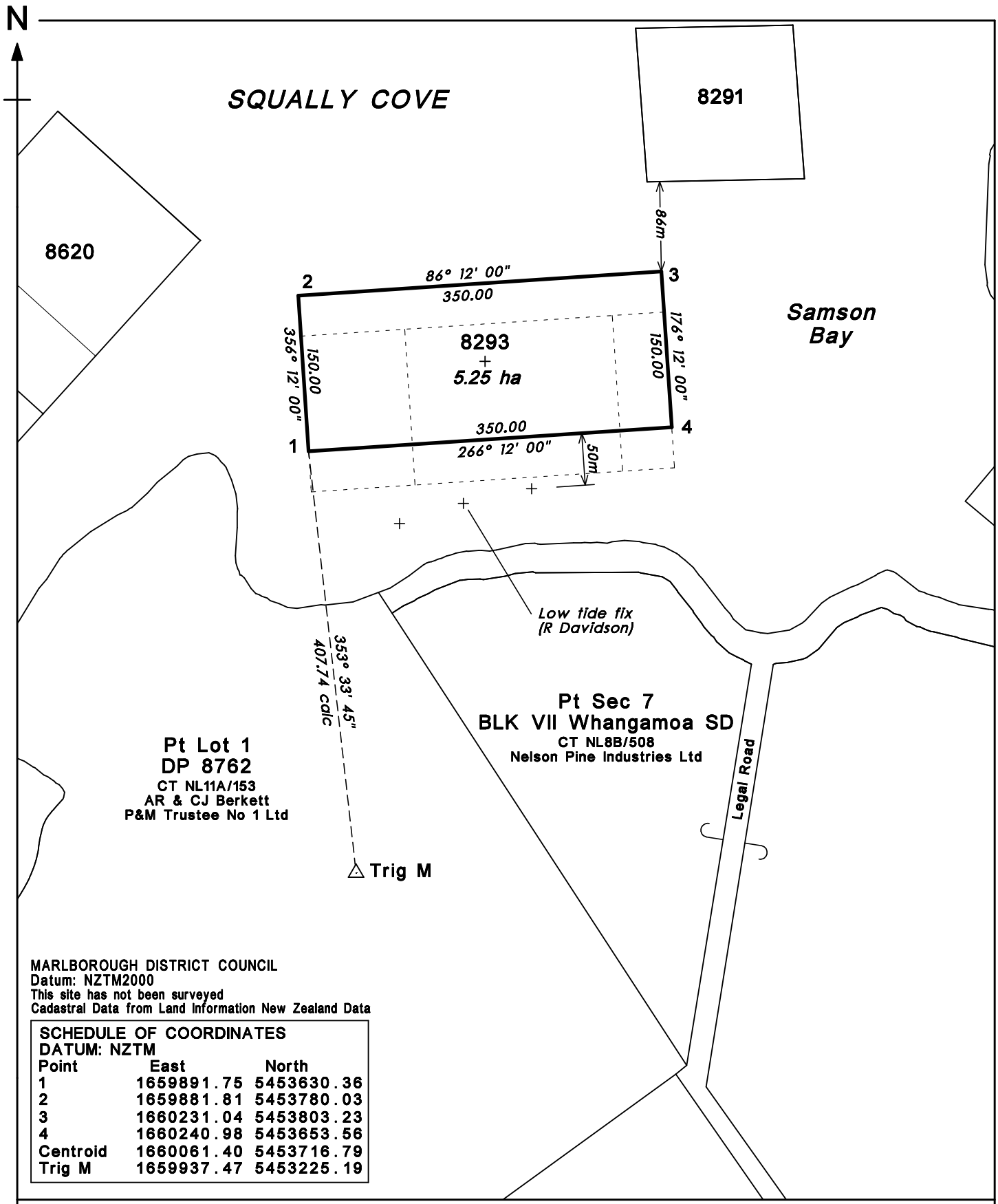
aquaculture direct

Prepared: 4 April 2017

Scale 1:50,000

500 0 500 1000 1500 2000 2500 3000 3500 Meters

MF_2502



MARLBOROUGH DISTRICT COUNCIL
Datum: NZTM2000
This site has not been surveyed
Cadastral Data from Land Information New Zealand Data

SCHEDULE OF COORDINATES
DATUM: NZTM

Point	East	North
1	1659891.75	5453630.36
2	1659881.81	5453780.03
3	1660231.04	5453803.23
4	1660240.98	5453653.56
Centroid	1660061.40	5453716.79
Trig M	1659937.47	5453225.19

aquaculture direct

MF_2502
4 April 2017

Proposed Coastal Permit

Renewal of Marine Farm 8293

Samson Bay, Squally Cove

SCALE 1:5,000

50 0 100 200 300 400 metres

Davidson Environmental Limited

Ecological report for relicensing of farm 8293 located in Squally Cove, Croisilles Harbour

Research, survey and monitoring report number 851

A report prepared for:
For: Sanford Limited
C/o Aquaculture Direct
Radio House 1 Main St,
Blenheim 7201

March 2017

Bibliographic reference:

Davidson, R.J.; Rayes, C. 2017. Ecological report for relicensing of farm 8293 located in Squally Cove, Croisilles Harbour. Prepared by Davidson Environmental Ltd. for Sanford Limited. Survey and monitoring report no. 851.

Prepared by:

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Specialists in research, survey and monitoring

Table of Contents

1.0 Introduction

The main aim of the present study was to describe the impact zone and biological features associated with a 5.25 ha marine farm consisting of the parent farm (3 ha) and an eastern (0.75 ha) and western extension (1.5 ha). The farm is located along the southern shore of Squally Cove (Figure 1, Plates 1 and 2).

This report was commissioned by Aquaculture Direct on behalf of the farm owner (Sanford Limited).

Figure 1. Location of marine farm site 8293 (red circle) in Squally Cove.

Plate 1. Marine farm site 8293. Taken from a location alongshore and west of the existing offshore backbones, looking eastwards into the consent.

Plate 2. Oblique view of existing consent 8293 (grey) in Squally Cove. Note: pine forest has been logged since the aerial photos was taken.

2.0 Background information

2.1 Study area

Squally Cove is the eastern arm of Croisilles Harbour. Croisilles Harbour is the western most harbour in the Marlborough Sounds, opening into Tasman Bay. Squally Cove is some 38.5 km by sea from the entrance to Port Nelson. Squally Cove (as measured from Red Clay Point on the northern side to the western headland of Symonds Bay on the southern side) has a coastline length of approximately 24 km, and covers an area of sea of approximately 1109 ha. Squally Cove is roughly 6.5 km long and up to 1.5 km wide.

The farm is in Samson Bay. Samson Bay has a coastline length of approximately 2 km, and covers an area of sea of approximately 32.3 ha (Figure 2).

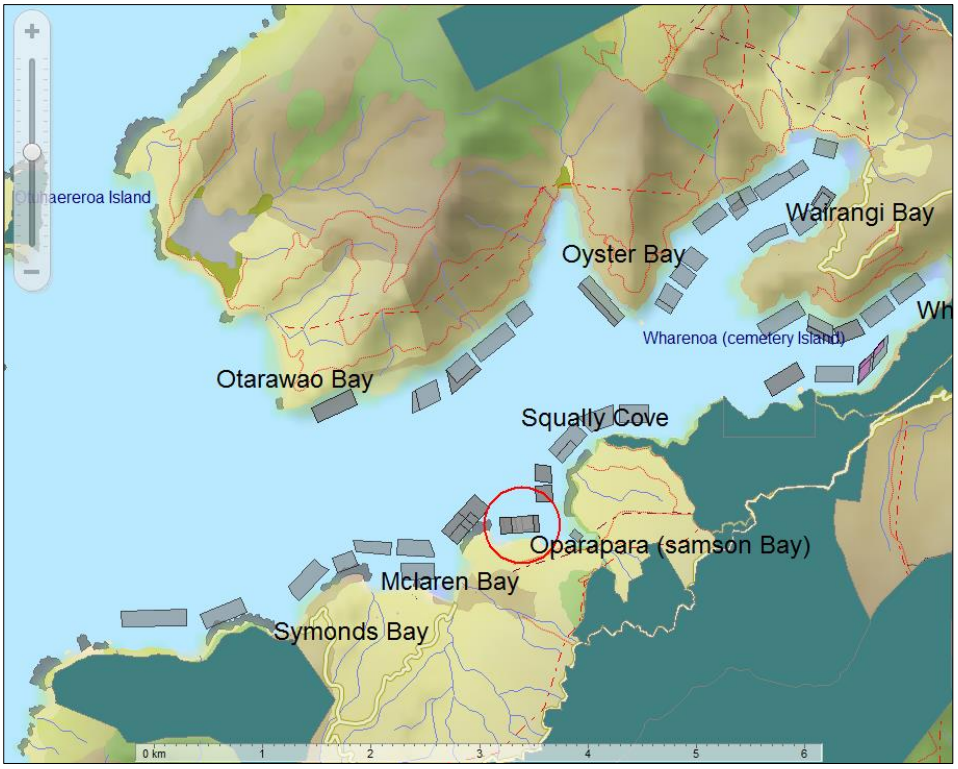

Figure 2. Location of farm (red circle) and other marine farm consents in the area.

2.2 Historical reports

One historic biological report was found in relation to an extension to the parent farm (Brown and Handley, 2001).

"This report presents the results of a seabed ecological survey undertaken as background for an application to extend the area of marine farm 419, Pe 152 and Pe 15, located at Samson Bay, on the southern side of Squally Cove in Croisilles Harbour. At the time of the survey, the actual position of farm structures belonging to Licence 419, Pe 152, and Pe 15 as determined using the GPS, differed from the mapped position.

Results from grain size analysis of the sediment samples confirmed diver observations that the sediment within the proposed extension was predominantly composed of silt.

Inshore of the proposed extension at a depth of 4 m, the substratum was sand/shell/silt. From a depth of 9 m, out to the seaward edge of the farm (depth of 15 m), the substratum was predominantly silt. Conspicuous organisms noted by divers were the turret shell (*Maoricolpus roseus*), the eleven-armed star (*Coscinasterias muricata*), and the cushion star (*Patiriella regularis*), scallops (*Pecten novaezelandiae*) and horse mussel (*Atrina zelandica*). The scallops and horse mussels occurred at densities below the trigger levels which would activate a quantitative survey according to the 'Guidelines for ecological investigations of proposed marine farm areas, Marlborough Sounds' (0.1 and 0.2 per m^{-2} respectively) (DoC, 1995). A small area containing a high density of small scallops was encountered approximately 5 m inshore of the proposed extension at a depth of 10 m.

The proposed extension is situated over a relatively flat seabed composed of silt and very fine sand. This type of habitat and the accompanying species assemblage are widespread and common within the Marlborough Sounds, and the conspicuous epifaunal species noted in the survey are common throughout soft sediments in Croisilles Harbour (Davidson and Duffy, 1992).

No other species, communities or habitats of scientific or ecological importance according to those guidelines were identified in the survey."

3.0 Methods for present study

The area was investigated on 27th March 2017. Prior to fieldwork, the consent corners were plotted onto mapping software (TUMONZ Professional). The laptop running the mapping software was linked to a Lowrance HDS-12 Gen2 with an external Lowrance Point 1 high sensitivity GPS allowing real-time plotting of the corners of marine farm surface structures and to pinpoint drop camera stations in the field. This GPS system has a maximum error of +/- 5 m.

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

3.1 Sonar imaging

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

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

3.2 Drop camera stations, depths and low tide

A total of 30 drop camera photographs were collected from the existing parent farm and approved extension areas, including under droppers and warps. At each drop camera station,

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

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

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

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

4.0 Results

On the day of the survey, low tide was 0.8 m at 3.59 am and high tide was 3.5 m at 9.56 am. During the present biological survey, the tide was incoming.

4.1 Consent corners and surface structures

Corner depths of the existing marine farm consent ranged from 1.7 m to 4.2 m inshore and 7.5 m to 9.5 m offshore (Figure 3). The bottom topography under the existing consent comprised a gently sloping shore that increased from inshore to offshore and from west to east.

Existing surface structures consisted of two blocks of backbones covering at total of 2.72 ha of the 5.25 ha consent.

The distance between low tide and the consent boundary was measured from positions established by positioning the survey vessel over low water. Separation distances between the existing consent boundary and the low tide mark were: low tide eastern = 10 m, low tide middle = 20 m and low tide western = 36 m (Figure 3 and 4).

Figure 4. Consent (yellow), structures (red) and adjacent coastline.

Table 1. Depths recorded from the corners of mussel farming surface structures, consent corners and low tide positions. Depths adjusted to datum. Coordinates = NZTM (Northing/Easting).

Type	No. & Depth (m)	Coordinates
Consent corner	1, 4.2 m	1660243.6,5453614.6
Consent corner	2, 9.5 m	1660233.5,5453764.3
Consent corner	3, 7.5 m	1659884.4,5453741.1
Consent corner	4, 1.7 m	1659894.4,5453591.4
Low tide		1659979.3,5453560.9
Low tide		1660040.7,5453580.3
Low tide		1660106.3,5453594.5
Structure corner	A, 2.5 m	1659931.8,5453620.2
Structure corner	B, 6.5 m	1660043.6,5453626.9
Structure corner	C, 5.5 m	1660090.4,5453630.8
Structure corner	D, 6.4 m	1660211.8,5453642.3
Structure corner	E, 8.7 m	1660196.2,5453758.6
Structure corner	F, 8.5 m	1660084.0,5453752.2
Structure corner	G, 8.5 m	1660019.1,5453747.9
Structure corner	H, 8.5 m	1659914.5,5453740.8

Figure 3. Depths of the consent area (teal), and existing surface structures (pink). Low tide positions are also plotted.

4.2 Drop camera stations

Substratum and habitat distribution relative to the consent area were based on drop camera images (Table 2, Figure 5, Appendix 1) and sonar.

Substratum was dominated by a base of silt and clay with a weak component of dead whole and broken natural shell (Plate 4, Table 2). The inshore edges of the consent were very shallow and had a component of fine sand and a higher quantity of natural shell compared to offshore areas. Occasional cobbles were observed along the inshore edge of the consent (Plate 5).

Mussel shell was observed under backbones and appeared to be localised to areas close to droppers. In shallow parts of the consent, little shell was recorded from most photos. Mussel shell, where present, ranged in cover from none to high (Table 2, Plate 6). Drop camera data and sonar images suggest mussel shell is mostly located close to droppers.

Bedrock, boulders and cobbles were observed at a variety of locations inshore and alongshore of the consent (Plate 7, Table 2). This substratum seldom reached the consent, but did penetrate the consent at two locations.

Surface dwelling biota under the backbones was dominated by 11 arm seastars, saddle squirts, cushion seastars, sea cucumbers and in places a low percentage cover of filamentous algae. A greater variety of encrusting species were observed from the bedrock and boulder substratum compared to soft bottom areas. No tubeworm mounds were observed suggesting tidal currents are weak in this area. Spotty were present under the farm and were also associated with reef areas.

4.3 Sonar

The sonar run along the inshore and western boundary of the consent revealed the area was relatively flat, with a featureless seafloor under the consent. Rocky habitats were common inshore and alongshore of the consent (Figures 6 and 7). Rocky substrata extended a small distance into the consent at two locations along the inshore boundary.

Table 2. Coordinates of drop camera stations showing depths, substratum, biological features and level of benthic mussel shell. Depths adjusted to datum. None = no benthic mussel shell, Low = 1-30%, Moderate = 31-50%, Moderate to High = 51-75%, and High = 76-100% cover.

No. & Depth (m)	Coordinates	Location	Position	Substratum	Shell debris
1, 1.2 m	1659939.8,5453585.7	Inshore of consent	No farm structures	Silt, fine sand, natural shell	None
2, 2.5 m	1660001.6,5453599.4	In consent	No farm structures	Silt, fine sand, natural shell	None
3, 2 m	1660079.4,5453607.3	In consent	No farm structures	Silt, fine sand, natural shell	None
4, 4.5 m	1660170.6,5453618.2	In consent	No farm structures	Silt, fine sand, natural shell	None
5, 4.5 m	1660236.7,5453616.3	In consent	No farm structures	Silt, fine sand, natural shell, occasional cobbles	None
6, 0.3 m	1660202.5,5453593.6	Inshore of consent	No farm structures	Silt, fine sand, natural shell	None
7, 0.6 m	1660100.0,5453598.6	Inshore of consent	No farm structures	Silt, fine sand, natural shell	None
8, 0.6 m	1660033.9,5453584.7	Inshore of consent	No farm structures	Silt, fine sand, natural shell, occasional cobbles	None
9, 0m	1659979.0,5453561.5	Inshore of consent	No farm structures	Boulders, cobbles	None
10, 0.5 m	1659914.8,5453568.3	Inshore of consent	No farm structures	Fine sand, natural shell	None
11, 2.5 m	1659924.7,5453625.4	In consent	Under warps	Silt, fine sand, natural shell	None
12, 6.5 m	1660012.1,5453630.6	In consent	Under backbones	Silt, fine sand	None
13, 3.5 m	1660100.8,5453636.6	In consent	Under backbones	Silt	None
14, 7 m	1660177.5,5453643.4	In consent	Under backbones	Silt	None
15, 7.5 m	1660214.6,5453643.0	In consent	Under warps	Silt	None
16, 7.2 m	1660214.9,5453697.9	In consent	Under warps	Silt	None
17, 8 m	1660148.5,5453695.9	In consent	Under backbones	Silt, mussel shell	High
18, 8 m	1660073.2,5453686.4	In consent	Under warps	Silt, mussel shell	Low
19, 8.3 m	1659975.4,5453678.7	In consent	Under backbones	Silt, mussel shell	Low
20, 2.4 m	1659918.0,5453673.5	In consent	Under warps	Silt, mussel shell	Low
21, 5.5 m	1659914.2,5453710.4	In consent	Under warps	Silt, mussel shell	Low
22, 8.1 m	1659981.9,5453708.5	In consent	Under backbones	Silt, mussel shell	Low
23, 8 m	1660063.3,5453720.5	In consent	Under warps	Silt, mussel shell	Low
24, 8.5 m	1660143.7,5453723.8	In consent	Under backbones	Silt, mussel shell	Moderate
25, 9.5 m	1660206.5,5453727.4	In consent	Under warps	Silt	None
26, 9.4 m	1660195.1,5453776.5	Offshore of consent	Close to farm structures	Silt, natural shell	None
27, 9.6 m	1660128.4,5453762.9	Offshore of consent	Close to farm structures	Silt, mussel shell	High
28, 8.5 m	1660046.5,5453763.1	Offshore of consent	Close to farm structures	Silt, mussel shell	Moderate
29, 8.5 m	1659954.2,5453754.1	Offshore of consent	Close to farm structures	Silt, mussel shell	Low
30, 7.5 m	1659897.1,5453748.1	Offshore of consent	Close to farm structures	Silt, mussel shell	Low

Figure 5. Existing consent (teal), surface structures (pink) and drop camera stations with depths (triangles).

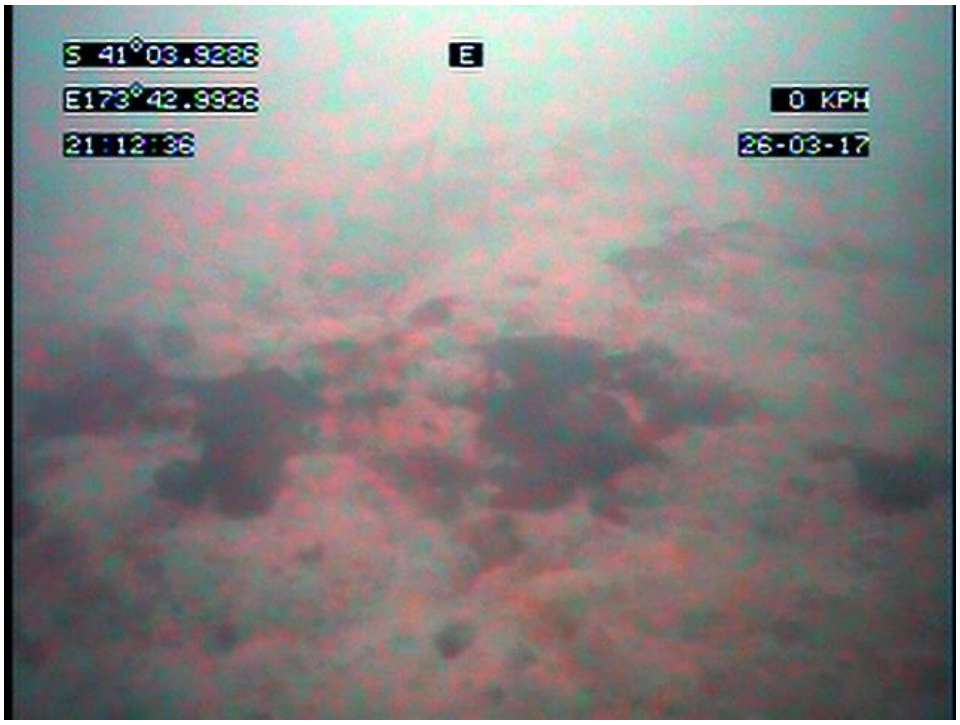

Plate 4. Silt and clay with a small component of whole and broken natural shell located in the consent away from backbones (photo 25, 9.5 m depth).

Plate 5. Silt, fine sand, natural shell inside consent (photo 5, 4.5 m depth).

Plate 6. Silt and natural shell with occasional cobbles located in the consent, close to backbones (photo 24, 8.5 m depth).

Plate 7. Boulders and cobbles inshore of consent (photo 9, 0 m depth).

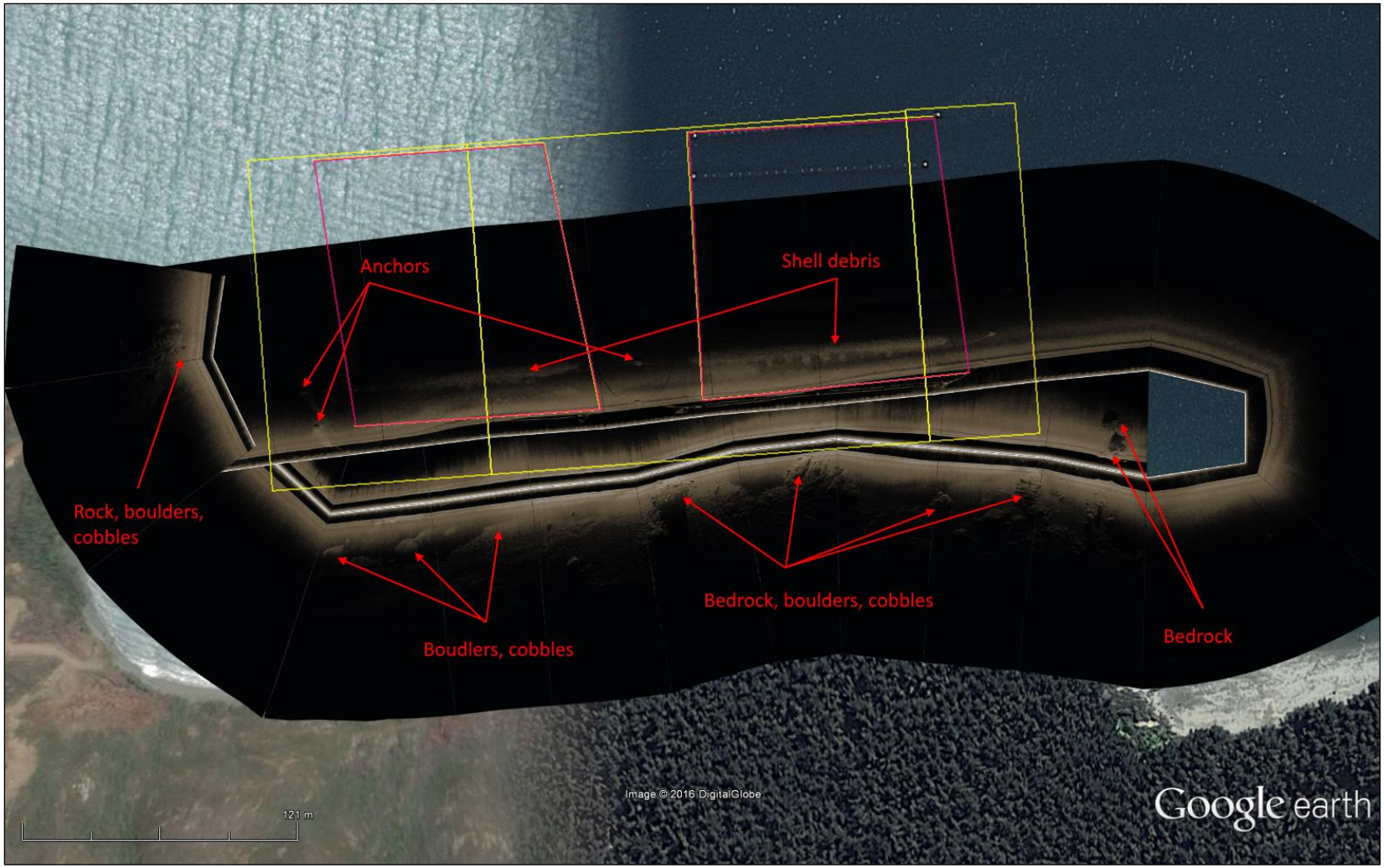

Figure 6. Sonar run at farm 8293. Yellow polygon = consent boundary, white line = sonar track, red polygons = surface structures.

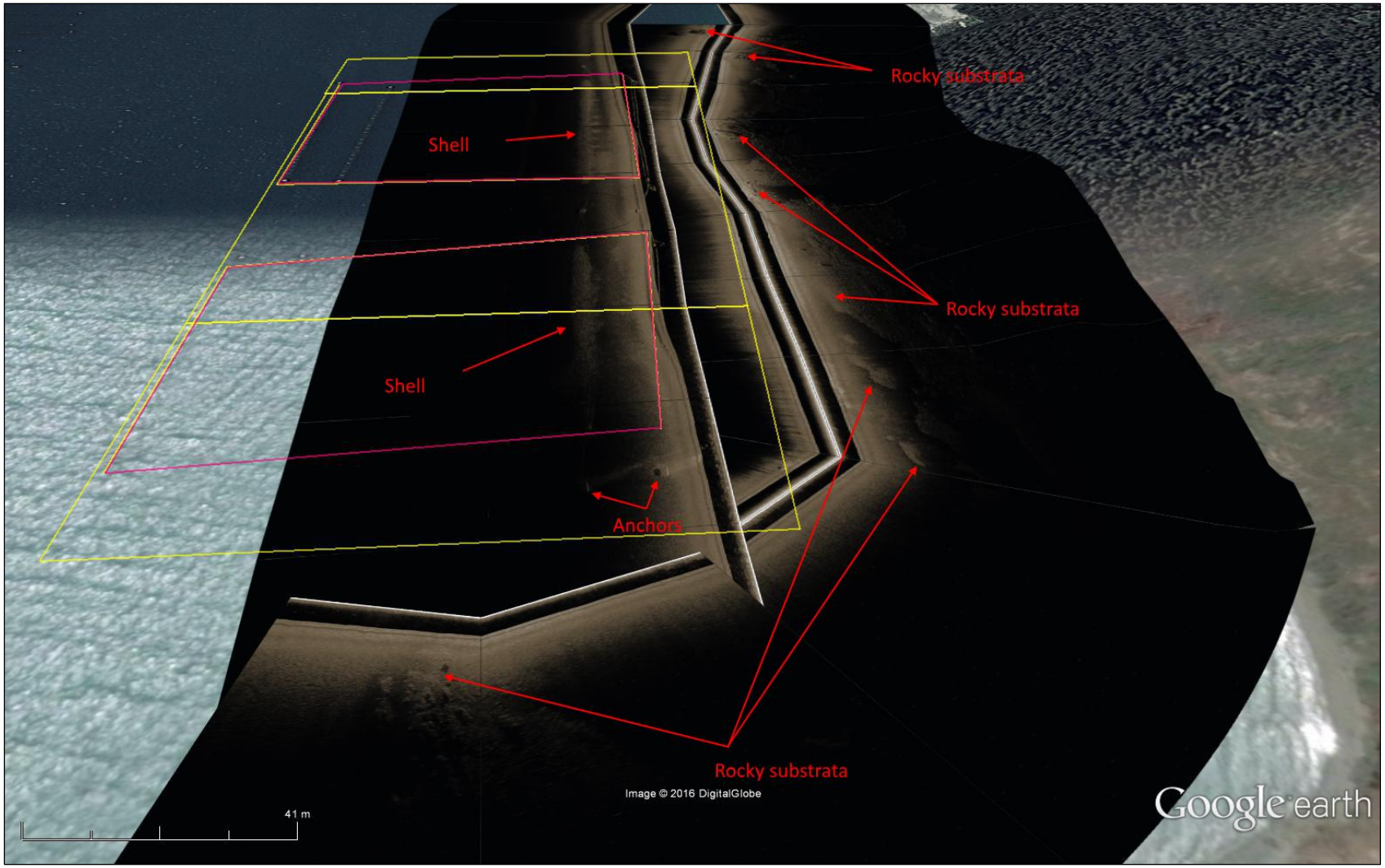

Figure 7. Oblique aspect of sonar runs at farm 8293. Yellow polygon = consent boundary, white line = sonar track, pink polygons = surface structures.

5.0 Summary and conclusions

5.1 Benthos

The marine farm consent is in a shallow, sheltered Bay. The benthos under the consent was dominated by soft substratum (i.e. combinations of silt, fine sand, and broken and dead whole natural shell).

Rocky substratum (bedrock, boulder and cobbles) was recorded at a variety of locations inshore and alongshore of the consent. At two locations, some rocky substrata (i.e. occasional cobble) were recorded just inside the consent along the inshore boundary. Mussel farm structures have been positioned offshore of the hard substrata and are presently positioned over substratum considered suitable for marine farming activities.

Mussel shell debris was observed under and close to backbones. When present, it was recorded at low to high levels. High levels were found near droppers.

5.2 Species and communities

Species abundance and diversity was highest from inshore rocky areas compared to offshore soft substratum under and around the growing structures. Encrusting species observed from rocky areas appeared representative of a relatively sheltered shore.

No species or communities of scientific, conservation or ecological importance were observed during the present study (see Davidson *et al*., 2011 for criteria and biological features). No scallops were seen under the Consent or proposed extension.

5.3 Mussel farming impacts

5.3.1 Benthic impacts

Low to high levels of benthic mussel shell were 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 lower end of the impact spectrum.

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, despite the site being in a low current area (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 a important driver of water movement in this area, especially in shallow parts of the farm.

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).

Croisilles Harbour opens directly to Tasman Bay waters. Unlike Pelorus Sound, it receives little riverine input. It is therefore likely that Tasman Bay delivers most nutrients to the area and algae primary production occurs during the period water resides in the Harbour. Croisilles Harbour is not known as a highly productive area because of these factors, however, its proximity to Tasman Bay means that depletion of seston by farms is likely a minor effect.

5.5 Boundary adjustments, recommendations and monitoring

Rocky substrata are located at two locations along the inshore boundary of the consent. No farm structures are presently located in this area.

The farm has been historically positioned too close to shore (i.e. as little as 10 m distance from low tide). It is suggested that the farm relocated further form shore to avoid rocky substrata and establish an appropriate inshore separation. Offshore habitats are dominated by silt substrata. This type of substratum is considered more suitable for marine farming activities compared to inshore shallow areas.

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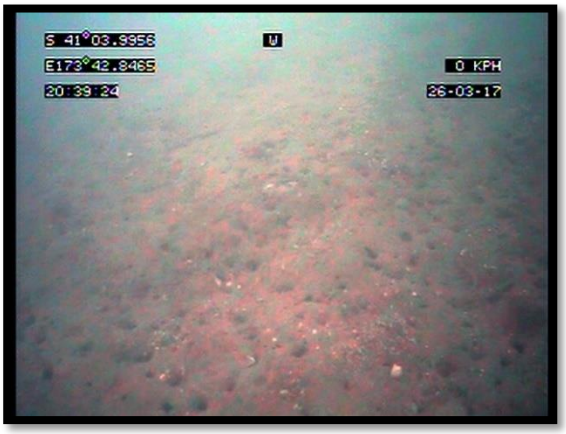
Zeldis, J.R.; Hadfield, M.G.; Booker, D.J. 2013. Influence of climate on Pelorus Sound mussel aquaculture yields: predictive models and underlying mechanisms. Aquaculture Environmental Interactions, Vol. 4, 1-15.

Appendix 1. Drop camera photographs

Photo site 1

Photo site 2



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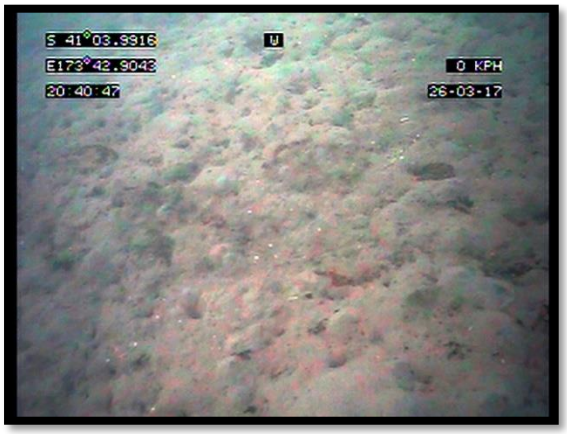

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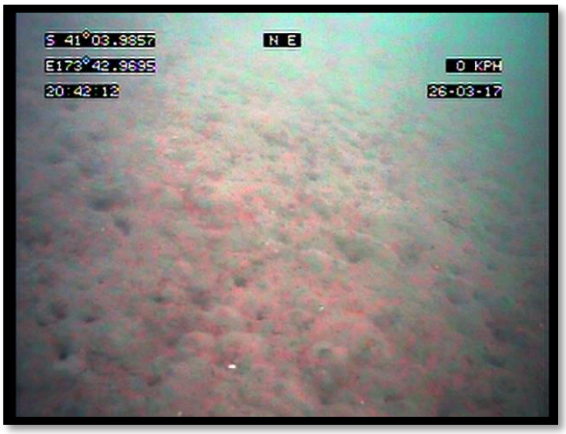

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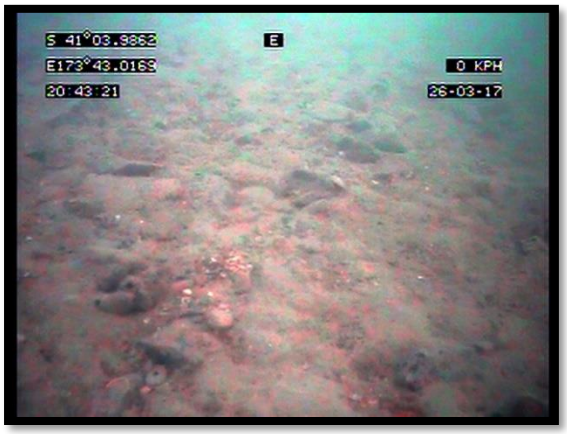

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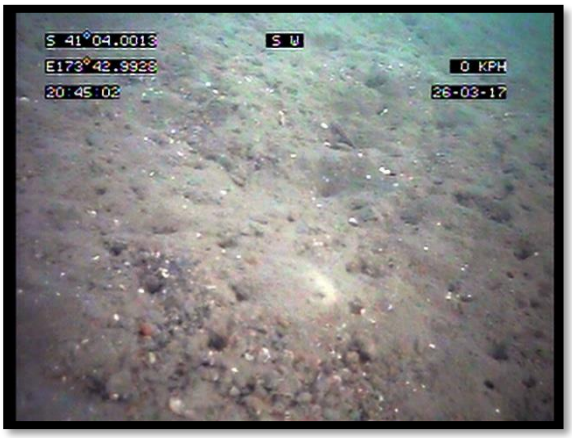


Photo site 7

Photo site 8

Photo site 9

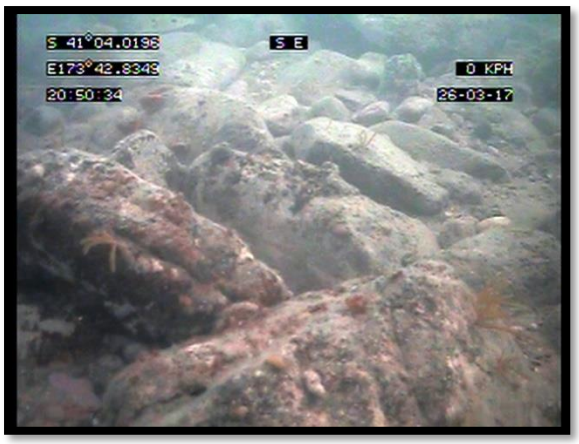
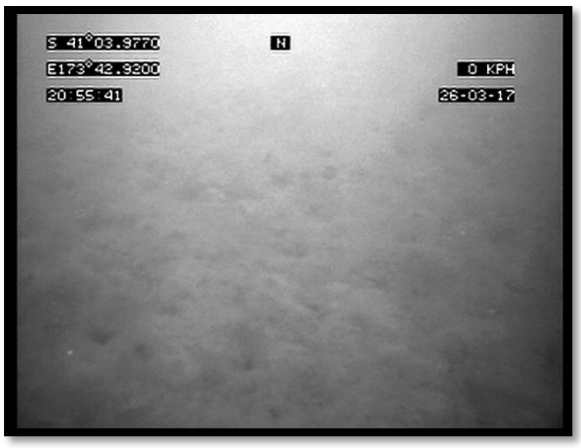


Photo site 10

Photo site 11

Photo site 12

Photo site 13



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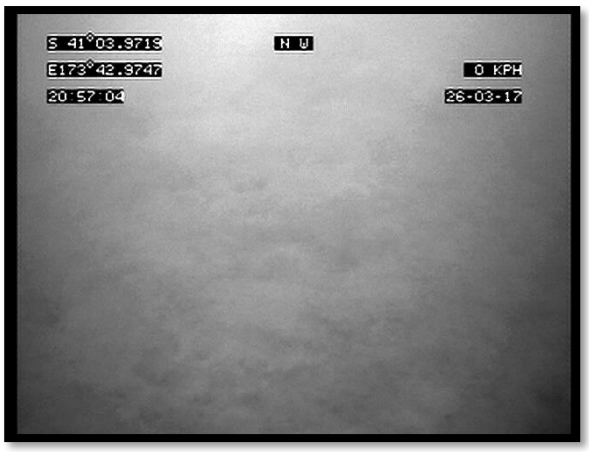

Photo site 15

Photo site 16

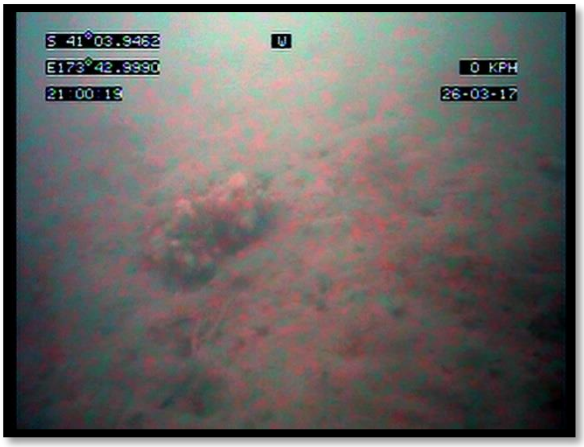

Photo site 17

Photo site 18

Photo site 19

Photo 20

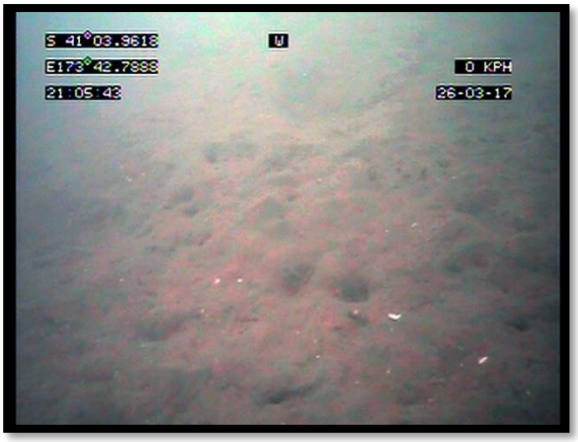

Photo site 21

Photo 22

Photo site 23

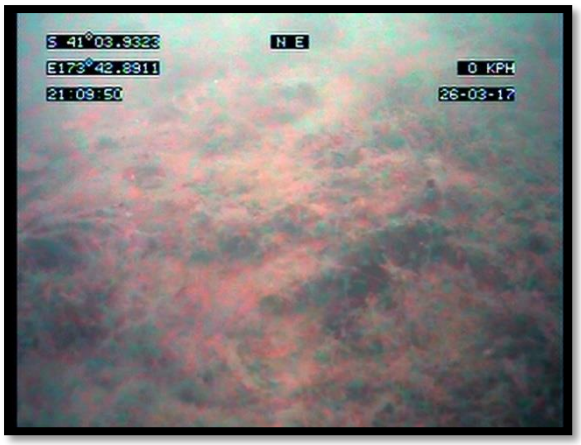

Photo 24

Photo site 25

Photo 26

Photo site 27

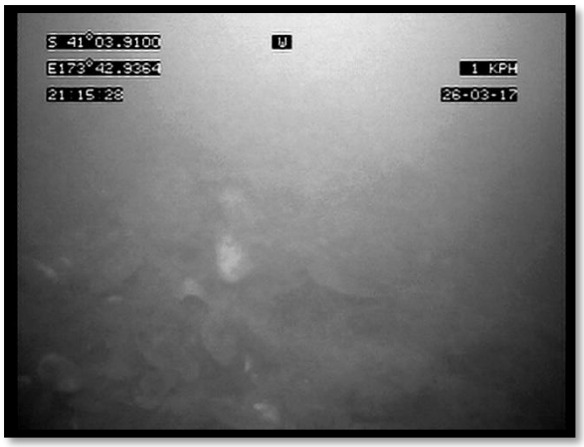

Photo 28

Photo site 29

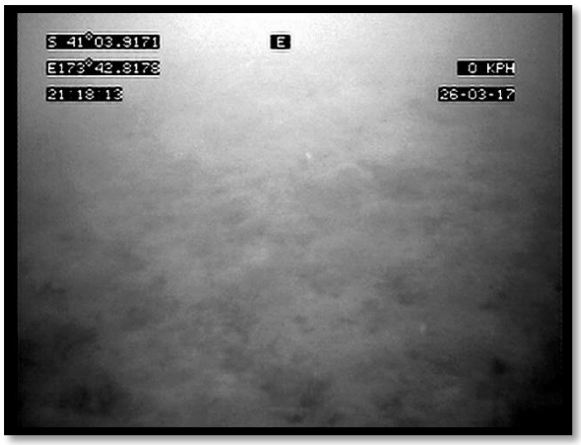

Photo 30