MARLBOROUGH DISTRICT COUNCIL

RESOURCE CONSENT APPLICATION

U220564

Kapua Marine Farms Limited

Catherine Cove, d'Urville Island

Submissions Close

5.00 pm Thursday 1 September 2022

Beth Bovey-8156

From: PALMS LTD <palmsltd@xtra.co.nz>
Sent: Friday, 22 July 2022 9:26 am
To: RCInbox
Subject: Resource Consent Renewal and Realignment Application Marine Farm Site 8005, Catherine Cove D'Urville Island on behalf of Kapua Marine Farm Ltd.
Attachments: 20220721140344205.pdf; 8005 Realignment Site Plan.pdf; 8005 Realignment Layout Plan.pdf; Assessment of Environmental Effects Renewal Realignment MF 8005.docx; 8005 Catherine Cove (Kapua Marine).pdf

Kia ora,

Please find attached an application to renew and realign marine farm Site 8005 in Catherine Cove, D'Urville Island on behalf of Kapua Marine Farm Limited.
Payment of the application fee has been made by electronic banking.
Nga mihi

Ron Sutherland
Director
Property & Land Management Services Ltd
15 Purkiss Street, Blenheim, 7201
+64-27-220-7299 (mob)

Application for Resource Consent or Fast Track Resource Consent

MARLBOROUGH DISTRICT COUNCIL

This application is made under Section 88 or 87AAC of the Resource Management Act 1991

Please read and complete this form thoroughly and provide all details relevant to your proposal. Feel free to discuss any aspect of your proposal, the words used in this form or the application process with Council staff, who are here to help.

This application will be checked before formal acceptance. If further information is required, you will be notified accordingly. When this information is supplied, the application will be formally received and processed further.

You may apply for more than one consent that is needed for the same activity on the same form.

For Office Use

ISO 9001
Document Number:
RAF0002-CI1913

Lodgement Fee Paid $

Receipt No.

Consent No.

Case Officer:

Date Received:

1. Applicant details *(If a trust, list full names of all trustees.)*

Name:
(full legal name)
Kapua Marine Farms Limited

Company/Trust Number:
(if applicable)

Electronic Address for Service zealansimpkins@gmail.com

Mailing address:
(including post code)
C/O Unit 8
115 Grove Street,
The Wood
Nelson
Attn: Zealan Simpkins

Phone: (Daytime) (03) Phone: (Mobile) 0272645282

2. Agent Details *(If your agent is dealing with the application, all communication regarding the application will be sent to the agent.)*

Name: R D Sutherland

Electronic Address for Service: palmsltd@xtra.co.nz

Mailing address:
Property and Land Management Services Ltd
C/- 15 Purkiss Street
BLENHEIM 7201

Phone: (Daytime) (03) 578 1733 Phone: (Mobile) 027 220 7299

3. Type of Resource Consent Applied For

☑ **Coastal Permit** ☐ **Discharge Permit** ☐ **Land Use** ☐ **Subdivision** ☐ **Water Permit**

☐ **Fast Track Application:**

☐ I **opt out** of the fast track consent process

☑ I **do not opt** out of the fast track consent process

4. Brief Description of the Activity

This application is made under Regulation 35 of the Resource Management (National Environmental Standards for Marine Aquaculture) Regulations 2020 (more detail is provided in the attached Assessment of Environmental Effects).

It is proposed to renew and realign U090669 being marine farm site 8005 (3.48 ha), Kapua Marine Farms Limited, Catherine Cove, D'Urville Island to enable the continuing cultivation of Green Shell mussels *(Perna canaliculus)*, Blue Shell mussels *(Mytilus galloprovincialis)*, Scallops *(Pecten novaezelandiae)*, Flat Oysters *(Tiostrea lutaria)* and naturally settled algae, *Macrocystis pyrifera, Ecklonia radiata, Gracilaria sp. and Pterocladia lucida.* The site remains at 3.48 hectares with 7 longlines in one block.

Consent is also sought to disturb the seabed with anchoring devices and to harvest marine farming produce including taking and discharge of coastal seawater and discharge biodegradable and organic waste matter during harvest. Length of term requested is 20 years to 2041. Existing consents will be surrendered on confirmation of consent being issued.

5. Supplementary Information Provided?

☑ **Yes** ☐ **No**

Council has supplementary forms for some activities, such as moorings, water permits, domestic wastewater, discharge permits, to assist applicants with providing the required information.

6. Site Details

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

Location (address): Marine farm site 8005, Catherine Cove, D'Urville Island

Legal description (i.e. Lot 1 DP 1234): _____

(Attach a sketch of the locality and activity points. Describe the location in a manner which 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 application may relate, proximity to any well known landmark, DP number, Valuation Number, Property Number.)

Please attach a copy of the Certificate of Title that is less than 3 months old (except for coastal or water permits.)

Owners/Occupiers of the Site
The names and addresses of the owner and occupier of the land (other than the applicant):

N/A

Affected Persons

Please attach the written approval of affected parties/adjoining property owners and occupiers.

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 on a separate sheet why you have not.

7. Assessment of Effects on the Environment (AEE) *(Attach separate sheet detailing AEE.)*

I attach, in accordance with the 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 also have to include consideration of the provisions of the Resource Management Act 1991 and other relevant planning documents.
Note: Failure to submit an AEE will result in return of this application.

8. Part 2 of the Resource Management Act 1991

I attach an assessment proposed activity against the matters set out in Part 2 of the Resource Management Act 1991.

9. Section 104 of the Resource Management Act 1991

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

10. Other Information

Are there other activities which are part of the proposal to which the activity relates, for example permitted activities, or building consents, etc?

Permitted activities:	N/A
Non Resource Management Act 1991 Activities relating to this application:	N/A
Additional consents that need to be Applied for, or have been applied for:	N/A

Section 124 or 165ZH(1)(c)

If the application is affected by Section 124 or 165ZH(1)(c) of the Resource Management Act 1991 (which relate to existing consents), the value of the investment of the existing consent to the consent holder. (*This assessment should include more than stating a monetary value.*)

Further information is included in body of the report - Assessment of Environmental Effects.

11. Fees

1. 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 put Applicant Name and either U-number, property number or consent type as a reference. If you require a GST receipt for a bank payment, please tick ☐

2. 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). Invoices are due for payment on the 20th of the month following invoice date. 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.

3. Please make invoice out to: ☐ Applicant ☑ Agent
(if neither is ticked the invoice will be made out to Applicant)

12. Declaration

I *(please print name)* R.D. Sutherland

Confirm that the information provided in this application and the attachments to it are accurate.

Signature of ~~applicant~~ or authorised agent: RD Sutherland

Date 22/07/2022

Notes to Applicant
You may apply for two or more resource consents that are needed for the same activity on the same form.
You must pay the charge payable to the consent authority for the resource consent application under the Resource Management Act 1991 (if any).

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 make corrections to your details, please contact Council.

Environmental Protection Authority
If you lodge the application with the Environmental Protection Authority, you must also lodge a notice in form 16A at the same time.
If your application is to the Environmental Protection Authority, you may be required to pay actual and reasonable costs incurred in dealing with this matter (see section 149ZD of the Resource Management Act 1991).

Fast Track Applications *(relates to a land use consent for a controlled activity)*
An electronic address for service must be provided if you are applying for a Fast Track consent. Under the Fast Track resource consent process, notice of the decision must be given within 10 working days after the date the application was first lodged with the council, unless the applicant opts out of that process at the time of lodgement. A Fast Track application may cease to be a Fast Track application under Section 87AAC(2) of the Resource Management Act 1991

N

Lot 1 DP 3893
CT NL110/17
A Hippolite
J Paul
M Teariki

8004

Proposed realigned boundary

8003

Proposed realigned boundary

288° 42' 51"
3220.97 calc to L Attempt Hill

83°30'50"
26.70
353°33'30"
49.69
56°00'00"
112.80
(237.71)
173° 33' 30"
353° 33' 30"
275.82
92.18
173°33'30"
109.69
241° 44' 00"
25.85
247°44'

8005
3.48ha

1
2
3
4
5
6
7
8
9
10
11
12

Low tide fix's
Benthic Survey

Approx Low tide
from Aerial photos

8006

Growing Structures Exclusion Area
(Defined by points 6,7,11&12)

SCHEDULE OF COORDINATES
DATUM: NZTM2000

Point	East	North
1	1676182.45	5476051.22
2	1676151.51	5476325.30
3	1676245.02	5476388.38
4	1676239.45	5476437.75
5	1676265.98	5476440.77
6	1676286.17	5476261.89
7	1676289.79	5476229.86
8	1676292.64	5476204.56
9	1676268.72	5476194.76
10	1676279.06	5476103.17
11	1676257.80	5476219.00
12	1676253.40	5476249.40
Centroid	1676226.26	5476230.57
L Attempt Hill	1673131.77	5477084.67

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

PROPERTY AND LAND MANAGEMENT SERVICES

PALMS
16 August 2021 MF_2821

Proposed Coastal Permit

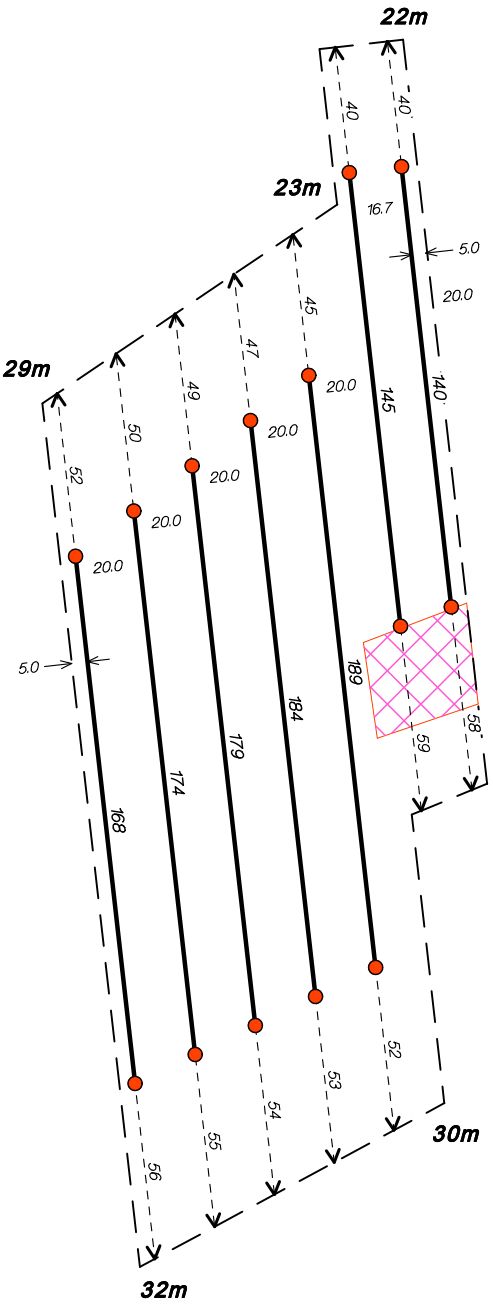
Realignment of Marine Farm 8005

Catherine Cove

SCALE 1:5,000

50 0 100 200 300 400 metres

MF_2821



Catherine Cove

REFERENCE

- Orange Float
- Anchor
- Anchor Warp
- Backbone
- Growing Structures Exclusion Area

NOTE:

Longline Spacing = as shown
Total Longlines = 7
Total Backbone Length = 1179m
Depths are approximate

PROPERTY AND LAND MANAGEMENT SERVICES

PALMS

10 August 2021 MF_2821

Structure Layout

Realignment of Marine Farm 8005

Catherine Cove

50 0 50 100 150 m

C:\General CADD 12\Gxd\Marine Farming\mf_2821.gxd -- 08/10/2021 -- 01:48 PM -- Scale 1 : 2400.00

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

APPLICATION BY KAPUA MARINE FARMS LIMITED, FOR RENEWAL & REALIGNMENT OF MARINE FARM SITE 8005 BEING U090669, IN CATHERINE COVE, D'URVILLE ISLAND

1.0 INTRODUCTION & SITE HISTORY

The original site U990606 (site 8005), for a 3.48 ha space, was issued in March 2000 to Kapua Marine Farms Limited. The consent with its accompanying fishing permit MPE 436 was due to expire on 9th March 2010. MPE 436 included an exclusion zone inshore and is illustrated as per diagram (Exclusion Area).

An application to renew the site was made in September 2009 suggested farm adjustments were recommended due to the presence of reef structures. Two longlines were to be removed. Consent was received and is due to expire in March 2030.

In 2016 modification to the site was proposed and a variation to structure layout was sought. Further investigation of the site as a result of and in subsequent to proposed Variation 1 to the MEP which has resulted in the proposed restructure and realignment of the site.

This application is supported by a recent benthic survey, the report for which is attached and hereafter referred to as 'the Davidson Report'.[1]

2.0 THE PROPOSAL

It is proposed to renew and realign marine farm site 8005 being U090669 (3.48 ha).

In this application assessment followed the NESMA analysis process, however the application is not made under NESMA but seeks to avoid reef and cobble inshore to deliver an appropriate environmental outcome. These are illustrated in the plans attached.

This proposal has considered the documents: the Marlborough Sounds Resource Management Plan (operative Plan or MSRMP), the proposed Marlborough Environment Plan (Appeals Version) (MEP or proposed Plan) and the New Zealand Coastal Policy Statement 2010 (NZCPS). The objectives and policies within have been considered to the extent that they are relevant.

The proposal is to renew like for like. That is, there will remain 7 longlines on the marine farm site 8005, with variable length backbones. Total backbone length will remain as 1295 m on the block. Warps will be between 40 - 59 m in length. Screw and block anchors are used.

The site 8005 is licenced to farm and harvest the following species:

(i) Green Shell mussels (*Perna canaliculus)*
(ii) Blue Shell mussels *(Mytilus galloprovincialis)*
(iii) Scallops *(Pecten novaezelandiae)*

[1] Davidson, R.J.; Richards, L.A.; Scott-Simmonds, T. 2021. Biological report for the reconsenting of marine farm 8005 in northern Catherine Cove, D'Urville Island. Prepared by Davidson Environmental Ltd. for Kapua Marine Farms Limited. Survey and monitoring report no. 1086 (the Davidson Report).

(iv) Flat Oysters *(Tiostrea lutaria)*

And naturally settled algae:

(i) Macrocystis pyrifera,
(ii) Ecklonia radiata
(iii) Gracilaria sp.
(iv) Pterocladia lucida

This application seeks consent to continue farming those species on the site. It is proposed to continue to use conventional longline methods.

Consent is also sought to continue to disturb the seabed with anchoring devices and to harvest marine farm produce, including the taking and discharge of coastal seawater and discharge of biodegradable organic matter which will occur at harvest. Term of consent sought is for twenty years to 2042. Existing consents will be relinquished on confirmation of consent being issued.

As above, this is an application by existing permit holders for the site and activities permitted by the existing consents and as such must be processed under Section 165ZH. Further matters outlined in Section 165ZJ also come into play, most likely as to the nature of condition imposed, in that the applicants have:

a) Complied with the relevant Regional Coastal Plan, and

b) Complied with resource consent conditions for the current aquaculture activities undertaken by the applicants.

2.1. Existing Permitted Activities

Species to be farmed, anchoring devices in place, and harvesting of produce which includes taking and discharge of coastal seawater and discharge of biodegradable and organic waste, and activities that are designed to maintain the structure, lines and floats that are a comprehensive management package for the site.

The movement of vessels in a Permitted Activity S27 Marine and Coastal Area (Takatai Moana) Act 2011 and includes anything reasonably incidental to vessel movement (S27(2)).

3.0 STATUS OF THE APPLICATION

The site is located within the Coastal Marine Zone 2 (CMZ2) in the operative Marlborough Sounds Resource Management Plan (the Plan). Marine farming at the site is currently authorised by marine farm licence MFL 062 Non-complying Activity. This is because:

(a) The farm is authorised by a current consent which was applied for prior to 1 August 1996 (granted 1980); and

(b) The application complies with the standards in rule 35.2.5.1 as:

(i) The number and placement of longlines are to be as were considered under the original consent and therefore the applicant seeks a fresh consent for those structures (rule 35.2.5.1(a));

(ii) The farm is to be located in the area for which it was originally consented and will continue to be used for the farming the specified species and purpose under

the original consent (i.e. for the purpose of marine farming the specified species) (rule 35.2.5.1(b) and rule 35.2.5.1(c)). Moving the site will provide beneficial environmental outcomes and not adversely affect the marine environment use.

4.0 LOCATION

4.1. The Site

The site lies in the middle of an area of marine farms along the northeastern shore of Catherine Cove. To the west lies marine farm site 8003 and to the northwest lies site 8004 and south site 8006

4.2. Site Dimensions

The site dimensions are as per the layout plans attached. The western boundary is 325.51 m long, the northern boundary 139.50 m, and 329.89 m eastern boundary 135.54 m and the southern boundary 135.54 m. The depth of the water inshore ranges from 22.0 m – 30.0 m and 29.0 m – 32.0 m on the outside boundary.[2]

4.3. Site Layout

The site layout is depicted as per the layout plan attached. The site includes one set of longlines totalling 7 longlines in all. The longlines are variable in length, totalling 1179 m. Longlines are 16.7 m to 20.2 m apart. The warp lengths are 40-59 m. (See line layout diagrams). Block and/or screw anchors are used.

5.0 THE PRESENT ENVIRONMENT

The information provided in this section derives from three ecological reports which have been undertaken at the site, which provides context of the existing environment generally.

5.1. Historical Reports

There have been two historical reports for the site as reported in the Davidson Report[3] The first was by Davidson in 1996 and Davidson and Richards 2010.

5.2. The Marine Environment

The present report, (the Davidson Report) aimed to provide a biological description of the benthos under and adjacent to the proposed marine farm and to identify any potential threats to any conservation values posed by the proposed activity and recommended alterations to the site based on the habitats or rock and reefs observed.

The authors concluded that:[4]

"6.5 Benthic habitats and substratum

Substratum and habitat distribution relative to the proposed reconsent area was based on drop camera stations and sonar imaging of the benthos. The consent was located over deep (> 20 m) benthos of silt and clay. Mud (i.e. silt and clay) is the most common subtidal habitat in sheltered areas of the Marlborough Sounds (McKnight and Grange, 1991) and has been traditionally targeted for marine farming activities. This substratum type is suitable for consideration for marine farming activities in the Marlborough Sounds.

[2] The Davidson Report, pg 21.
[3] The Davidson Report pg 41-42
[4] The Davidson Report at pg 40-41.

Unlike mud, rocky substrate is not traditionally considered suitable for marine farming activities as it can be smothered by silt and shell debris and therefore may no longer function as hard substratum habitat. Bedrock reefs were identified at two locations in the existing MPI exclusion area. The southern reef extended through the MPI exclusion into the offshore consent area at a distance of approximately 130 m from low tide. The reef was impacted by silt and mussel shell due to existing backbones positioned directly over the reef.

In previous reports, Davidson (1996) also identified this southern reef structure extending to approximately 140 m distance from shore and depths of 30 m. Davidson and Richards (2010) also documented "two bedrock reef structures were recorded extending into the consent and under lines 1 and 2".

Due to the presence of bedrock reef within the consent and directly under growing backbone structures, Davidson and Richards (2010) recommended no droppers should be placed over reef habitat along lines 1 and 2; or, the consent area is revalidated further from shore and lines 1 and 2 should be removed and placed in an offshore position.

6.6 Species and communities

Species abundance and diversity from the consent area was lower than high current locations in the Sounds. Soft substratum habitats traditionally have a reduced epibenthic species diversity and abundance compared to hard substrata. The soft seafloor under the consent area supported common species in relatively low abundance, including macroalgae, sea cucumber, kina, cushion star and 11arm seastar. The rocky reef habitat featured sponge species, which are uncommon on silt benthos. Spotty were observed throughout the consent, regardless of habitat type.

No species, habitats or communities at densities likely to be regarded as ecologically significant (see Davidson et al., 2011 for criteria) were observed during the present study."

5.3. Seabirds

The mussel industry's Environmental Management System (EMS), formally known as the Environmental Code of Practice, seeks to minimise risks to wildlife, and they are likely to be minimal on well-maintained farms (Keeley et al., 2009). The Davidson Report records:[5]

"Catherine Cove farm

During the present survey, only one individual seabird was observed resting on a backbone float, suggesting it may benefit from the farm structures. The number of bird species was very low compared with many marine farms in the Sounds."

Species observed were Spotted shag (2).

The Davidson Report also outlines recent developments in the study of King Shag especially by Bell and McClellum. The Davidson Report concludes that:[6]

"Catherine Cove farm

King shags have been observed foraging in Catherine Cove. The closest colonies are the Trio Islands and Stewart Island. If the consent is moved offshore to avoid bedrock habitat,

[5] The Davidson Report at pg 35.
[6] The Davidson Report at pg 38.

the inshore area will be available as foraging space while the offshore area may or may not be avoided by foraging birds. The total space for this consent will remain the same thereby minimizing any impact on king shag"

5.4. Marine Mammals – Whales & Dolphins

The Davidson Report also canvasses marine mammals that frequent Catherine Cove, D'Urville Island and concluded that:[7]

"For dolphin species, the existing farm could represent an area lost as foraging habitat, however, these species are only occasionally seen in this area of Catherine Cove. The marine farm will not change in size if reconsented, however, it may be moved further from shore to avoid bedrock habitat. This marine farm is located in inner Catherine Cove, while dolphins are usually observed in the open water of western Catherine Cove (authors, pers. obs). Any impacts on dolphin species will likely remain low.

Based on the location of this farm in inner Catherine Cove and known whale migratory patterns and behaviour, it is unlikely this farm represents a threat for migrating whales.

The present marine farm utilises standard mussel farming structures that are under tension and therefore present a low risk of entanglement to marine mammals. Two fur seals were observed utilising the consent area, suggesting they may benefit from the farm placement. (Authors, pers. obs.)."

The Davidson Report also discusses productivity and biosecurity matters (refer page 43).

The Davidson Report concludes that adjustment to the proposed farm re-consent area is needed.

5.5. Boundary Adjustments and Line Adjustments

"6.11 Boundary Adjustments, line adjustments and monitoring

The seafloor under the consent at depths > 20 m was dominated by silt and clay, supporting low diversity and abundance of surface-dwelling species. The inshore area of the consent is designated as an MPI exclusion zone due to two reef structures identified in previous surveys. Hence the inshore boundary of the consent area is positioned as far as 116 m from low tide. During the present survey, backbone structures were located within the MPI exclusion area.

This survey identified reef habitat extended into the consent up to approximately 130 m from low tide and under existing backbones. Reef habitat was impacted by shell debris and silt. It is recommended backbones not be placed over rocky substrata. Options includes:

1. *Add a new area to the MPI exclusion and remove another at the southern end of the consent. Remove production backbones from the MPI are (Figure 17)[8].*
2. *Relinquish the existing MPI exclusion area in favour of an area offshore of the consent where the benthos is silt and clay"*

These recommendations have been adopted in the proposal and are represented in site plans.

[7] The Davidson Report at pp 40-41.
[8] The Davidson Report pg 46

The Davidson Report is attached to, and is an integral part of, this application.

5.6. The Land Environment

The land adjacent is farmland owned by A Hippolite, J Paul and M Teariki with regenerating shrublands.

The shore is characterized by rough cobble and rock beach.

There are no residences in the vicinity of the site.

6.0 VALUE OF INVESTMENT

As part of this application to renew site 8005 it is anticipated they would surrender the existing consents when the application is granted for a period of 20 years. As a result, this is an application to which s165ZH(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 s104(2A).

The focus of the value of investment is crop on the lines.

Harvest per line is variable and depending on the dropper length will be in the order of 30 tonnes per line, a total of 90 tonnes per year.

Returns to the grower can vary however the company advises the value to harvest their product is $1,100/tonne which is consistent with other industry sources. Value is based on 90 tonnes year, production value is $99,000.00.

The company, in particular, values this site due to the moderate productivity and 18-24 month turnaround time.

This assessment is also relevant to the assessment under s7(b) RMA

7.0 SOCIAL, EMPLOYMENT AND ECONOMIC BENEFITS

This application will enable the continuation of production from the site contributing to the social and economic benefits of aquaculture to the local community. This farm is operated by Clearwater Mussels Limited and is part of the portfolio of sites managed and leased by Clearwater Mussels Limited all of which support 16 on-water staff based at Havelock and 9 on-shore staff in Marlborough. Clearwater Mussels Limited also employs 10 on-water staff and 4 on-shore staff in Golden Bay.

Production from this site has played an important role in employment in those communities.

The product from the farm will go to Talley's Group Ltd (Talley's), MacLab New Zealand Ltd (MacLab) and Redwoods processing facilities. The product is sold year-round. In addition to seafood products, Clearwater Mussels supplies its mussels to MacLab as inputs for high value nutraceutical products ('Lyprinol™ and "SeaTone™").

The primary processor of stock of this farm is Kapua Marine Farms Limited (Talley's). Talley's employs 18 people at Havelock, and 342 people in Blenheim. When in full production (double shifting/peak season) the Moteuka branch employs 280 people as day and night workers plus packers, including staff undertaking marinades (40 people).

MacLab employs 65 people. The Redwood's processing facilities employs approximately 40 staff. In addition, the aquaculture industry provides business for many supply chain businesses. Clearwater Mussles operates four vessels out of its base at Havelock and two vessels out of Port Tarakohe.

Clearwater Mussels aims to offer year-round employment, a positive work environment and opportunities to upskill to its employees. Its employees earn the median income for Marlborough and New Zealand. Clearwater Mussels have an investment reward scheme linked to consistent service and performances. Clearwater Mussels offers training opportunities, such as skipper, forklift operator and crane operator tickets, as well as the ability to be promoted within the company.

Clearwater Mussels is based out of Havelock, although some of its employees live in Golden Bay. The marine farming industry plays an important part in enabling small communities in the top of the South Island to survive. For example, Havelock has had a difficult economic industry. It has survived in recent times because of the growth of the marine farming industry. The industry has given the town a shared identity and a new income stream.

8.0 EFFECTS ON REEFS, BIOGENIC HABITAT AND REGIONALLY SIGNIFICANT BENTHIC SPECIES WITHIN THE AREA OF INTEREST

NESMA regulation 18(g) gives Council discretion in relation to "effects of the activity on reefs, biogenic habitat, and regionally significant benthic species within the area of interest." The "area of interest" is defined at NESMA regulation 3 at "the footprint of the surface structures of a marine farm" and "20 metres from the boundary of the consented area of a sub-tidal marine farm". This mussel farm is a sub-tidal marine farm.

The Davidson Report concludes that there are rock zones and reefs within the area for which consent is sought. As a result, the marine farm will have effects on reefs within the area of interest. Modifications to structures and realignment are proposed to avoid the reefs inshore which come out of the consent. The inner backbones stop short of the reef and warps pass over it to anchors beyond.

Regulation 18(g) refers to "biogenic habitat" and that is defined in Regulation 7. That is a very broad definition, but it does link back to requiring one or more of the criteria and triggers in Part 1 of NESMA Schedule 4 needing to be met.

Regulation 18(g) also refers to "regionally significant benthic species" which is defined in Regulation 9. That includes a reference to a published scientific report which is prepared by subject matter experts in accordance with particular criteria (Regulation 9(d)(ii)(A)) and which is endorsed by the regional council (Regulation 9(d)(ii)(B)). The Davidson Report meets that criteria. It (and subsequent reports/update reports)[9] form the basis for mapped Ecologically Significant Marine Sites (ESMS) in the proposed Marlborough Environment Plan. There are no ESMS inside or within 20m of the consent area. In addition, Mr Davidson confirms there are no "species, habitats or communities at densities likely to be regarded as ecologically significant" in terms of Davidson et al (2011) criteria.[10] In terms of the remainder of identifiers of "regionally significant benthic species" in Regulation 9, no such species were found in the Davidson Report benthic survey at the site.

[9] https://www.marlborough.govt.nz/environment/coastal/ecologically-significant-marine-habitats
[10] The Davidson Report at pg 41.

Given this is a like for like application we have the benefit of having had existing farms operating at the site for some time. We also have the benefit in terms of two previous benthic surveys over a period of time. There have not been issues in terms of the farms affecting benthic species. The benthos has consistently consisted of silt, clays and shell debris.

In terms of Regulation 18(l), the Davidson Report does not mention monitoring as a requirement.

9.0 ACCESS AND NAVIGATION MATTERS

Regulation 18(d) provides as a matter of discretion: "the layout, colour, positioning, density, lighting, and marking of marine farm structures within a marine farm" which are to be considered for the purpose of ensuring:

- Continued reasonable public access (including recreational access) in the vicinity of the marine farm; and

- navigational safety, including the provision of navigation warning devices and signs; and

- with respect to colour, the visibility and coherent appearance of marine farm structures (this aspect is discussed below in the Visual Matters section).

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.

In this case, the farm will continue to be laid out in the existing way, with 16.7 – 20.0 m between each longline facilitating reasonable public access between lines. That will enable watercraft and other users like kayakers, to move around and in the area. Access all around the farms, including to shore, is also maintained. The marine farmers operating the existing sites are unaware of any issues with access or navigation in the area in the past. No complaints have been made.

Further, from a safety perspective, the farms will be lit and marked in accordance with Maritime New Zealand requirements/the Harbourmaster's recommendations. This will ensure that mariners and recreationalists will be able to see the farm structures.

9.1. The Shoreline

The distance from the shoreline generally holds with the conventions established in the Marlborough Sounds Resource Management Plan (MSRMP). However, the inshore boundary is moved to 130 m recommended from the mean low water mark. Davidson Environmental Ltd plotted the position of mean low water at three positions. Point (1) being 103 m from shore, point (2) being 116 m and point (3) 104 m. See Plate 3 and Figure 9 and Table 1 of the Davidson Report. With realignment recommended the site now sits 10 m from Mean Low Water Springs.

9.2. Headlands

There are no headlands in the immediate area.

9.3. Navigational Routes

The area lies inside of the navigational route into the east across at the head of Catherine Cove. Vessels can navigate between the site and the shore, through the farm and on the outside of the site. As indicated above there will be a larger inshore gap between the structures and mean low water mark than the MSRMP minimum.

9.4. Anchorages or Mooring Areas

There are no jetties in the immediate vicinity and the area is not known as a formal anchorage.

There is one mooring (3032) to the south of marine farms and is owned by Rangiruhia Elkington No. 1 Whanau Trust under consent number 071050.01. It is not affected by the location of site 8005.

9.5. Water Ski Lanes

There are no water ski lanes in the vicinity.

9.6. Sub-Aqueous Cables

There are no sub-aqueous cables in the vicinity.

10.0 ALIENATION OF PUBLIC SPACE

The Catherine Cove area has been utilised by marine farmers for many years. Recreation and commercial boat owners are aware of marine farms in this area and recreational fishermen have the opportunity to use the sites and transit through them. Given the wider than average spacing between longlines, there are further opportunities for access by vessels wanting to transit through the site.

From time to time, vessels utilise the longlines for mooring and over-nighting. This process as far as the applicant is concerned, will continue.

11.0 VISUAL MATTERS

In terms of Regulation 18(d)(iii), consideration of visual effects of the farms is limited to being "with respect to colour, the visibility and coherent appearance of marine farm structures". It is worth noting at the outset that there are no residences on the land near the site. Adjacent land is reverted farm with no dwellings. The only persons beyond those operating the site to view the farm structures will be those passing by the area or recreating in/visiting the area, along with adjoining marine farm operators.

The above-water structures will be dark colours (black), being the buoys, with the exception of orange buoys [at both ends of each longline and in the middle of the inner and outer lines of both sites, which are required for navigational safety, and which are common on mussel farms. With respect to colour, the dark colour of the majority of buoys gives the farms a coherent appearance. The surface structures are consistent in the sense that they are the same colour, size and shape buoys (again with the exception of the 14 of orange markers). The remaining structures are below the water surface but are also coherent because they consist of a series of relatively uniform growing ropes and supporting anchor/warp structures of dark colours, along with the organic colours of crop on the ropes. Underwater structures are not visible from the surface from most viewing angles and in most conditions.

The farm (as with the entire Marlborough Sounds) is located within a mapped High Amenity Landscape under the MEP. As above, the relevant aspect of visual effects of the farm structures is as relates to colour. The effects of this are considered above and elsewhere in this AEE.

11.1. Landscape and Natural Character

Regulation 21 provides for additional matters of discretion for marine farms within outstanding areas.

The farm is located within any Area of Outstanding Landscape Value (AOLV) in the Marlborough Sounds Resource Management Plan, and within any area of Outstanding Natural Landscape/Feature (ONFL) within the proposed Marlborough Environment Plan (MEP).

Further, the farm is within an area of Outstanding Natural Character (ONC) in the MEP.

The matter of discretion under NESMA Regulation 21 is therefore relevant to this application. However, these sites are proposed AMAs in Variation 1 to the Marlborough Environment Plan.

12.0 NOISE, RUBBISH AND DEBRIS

Regulation 18(j) of NESMA provides that a matter of discretion for this application is "the management of the effects on the environment of noise, rubbish and debris".

There are amenity aspects of this, though again there are no dwellings in the area. There are also general environmental effects of this, if poorly managed.

12.1. Noise

Noise effects are considered to be minor. This application has the benefit of utilising existing installed structures, so there would be no noise associated with installing the farms. Vessels visit the area to service the farm on an irregular basis. Because this is a remote location, vessels working this and the other farms work on a number of sites while they are present. There are no dwellings in the area.

The farms will be operated in accordance with the A+ Sustainable Management Framework for Mussels (the A+ Framework, or the Framework).[11] The Framework encompasses checklists and auditing procedures.

Amongst other effects management, noise is one aspect addressed in this Framework. The objective is for all operational noise to fall within acceptable limits and not cause a public nuisance.[12] Ways to meet this objective include using low-noise emitting equipment.

Further, the farms are operated by Clearwater Mussels, which operates under the Marine Farming Association's (MFA) Environmental and Compliance Programme and has associated Environmental Certification.[13] That programme entails continuing education of farm-associated vessel crew, audits of related vessels and farm audits to monitor harvesting practices and beach cleaning. In addition, certified companies must operate in accordance 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*.

There is also a general duty to avoid unreasonable noise in s16 of the RMA. It is considered that the farms are operated in a way that adopts the best practicable options to keep noise at a reasonable level. A condition of consent could be imposed along these lines.

12.2. Rubbish and Debris

As with noise, the A+ Framework provides for management of rubbish and debris which could be generated by installing and operating a marine farm. Section 3.4 of the Framework addresses waste. As part of operating the farms under the Framework, the Applicants or Clearwater Mussels would minimise debris and be actively involved in beach clean ups. The farms are operated by Clearwater Mussels Ltd. As part of the MFA Environment Programme, Clearwater is actively involved (along with other industry participants) in annual clean ups of beaches in the Marlborough Sounds, Golden Bay and Tasman Bay. All rubbish found on the beaches is collected as part of this initiative, including non-industry debris.

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[11] https://static1.squarespace.com/static/55d2b0eee4b0649ae7068665/t/55f7d6afe4b05cc86891dd9f/1442305711334/Greenshell+Mussel+SMF+July+2015+10-9-15.pdf

[12] Sustainable Management Framework: New Zealand Mussels, Aquaculture New Zealand, at Pg 20

[13] Refer: https://www.marinefarming.co.nz/environment/

The farmers operating under the Framework also manage this through other means, such as actively monitoring for any lost rope ties, and regularly checking that structures are secure and in place, particularly regarding floats. As above, these farms are operated under the MFA's Environmental and Compliance Programme. That Programme includes specific management methods regarding floats. In addition, Clearwater complies with the MFA's *Code of Practice to Reduce waste taken to landfill as a result of marine farming 'On water' activities.*

Again, a condition of consent could be imposed to ensure this is managed. Adopting the requirements of the Framework is considered suitable management.

13.0 INTEGRITY OF STRUCTURES

Regulation 18(e) concerns "the integrity and security of the structures, including the anchoring systems". It is in the best interests of the farmer to ensure structures are secure, in place and fit for purpose. Lost structures increases costs for operating the site, either through loss or damage to structures or crop.

Aspects of the A+ Framework address integrity of structures, in terms of preventing loss of such and therefore causing debris to be generated. Farm structures not only need to be fit for purpose in terms of being what's needed to farm, but also in terms of being appropriate for the conditions at a particular site.

In this instance the structures proposed to be used are conventional longline structures which are already installed at the location of the proposed farms. They are considered fit for purpose in all respects. The farm operator will monitor their condition on a regular basis as part routine maintenance and inspections, and a condition of consent could be imposed in this respect.

14.0 VIEWS OF TANGATA WHENUA AND CULTURAL CONSIDERATIONS

The Applicants have followed the Schedule 6 NESMA process as part of preparing this application. Regulation 18(f) requires consideration of "the effects of the activity on matters identified in the report required by clause 5 of Schedule 6".

No issues arose from the application forwarded to Schedule 6 groups or individuals identified for consultation. No submissions or comment was received.

The New Zealand Historical Places Trust Inventory and Archsite records have been consulted to identify any sites of significance in this location. There is one site noted to the south of marine farms here and is noted as record P26/111 an "adze find spot".

From the applicant's knowledge no sites of historical or traditional value are present in the area. The 8 Marlborough iwi have been forwarded a copy of this application to comment on should that be necessary.

15.0 EFFECTS ON ECOLOGY – SEABIRDS AND MARINE MAMMALS

Consideration of ecological effects (beyond benthic aspects discussed above) under Regulation 18 are relevant only in terms of Regulation 18(h): "management practices to minimise adverse interactions between marine mammals or seabirds and the marine farm, including entanglements, injury, and mortality".

The discretion under regulation 18(h) relates specifically to management practices to minimise interactions, rather than adverse effects on marine mammals and seabirds generally.

The A+ Framework also considers effects on ecology. The Framework includes an objective that "natural marine habitats are ecosystems and rawa [Te Reo for "assets" or "objects"] are maintained in a healthy, functioning state"[14]. In this case we have the benefit of the fact that two farms have been operating in this location for some time, identical to what is now sought to be consented. There is also existing scientific literature on the effects of marine farms on ecology such as marine mammals and seabirds (some of which is considered in the Davidson Report).

15.1. Seabirds

The Davidson Report considers effects on king shag, including by summarising recent GPS studies of king shag in the Marlborough Sounds.[15] During the survey undertaken as part of preparing the Davidson Report, one bird species was observed within the consent area.[16] The Davidson Report states:[17]

A total of 2 seabirds were observed during the farm survey. One was sitting on a backbone float, with one bird swimming on the surface. Two fur seals was observed resting on floats.

Recent research and reporting has been undertaken regarding king shag. Dr Rachel McClellan undertook a pilot study to compare king shag use of paired sites with and without mussel farms (the McClellan Study). The McClellan Study is summarised in the Davidson Report.[18] This research indicates that king shag do forage in mussel farms and there could be positive effects on king shag from mussel farms.

In addition, the year one results of a three year king shag research project by Seafood Innovations Limited (SIL), the Marine Farming Association and Wildlife Management International are now available. The study includes banding chicks at colonies, and attaching GPS data loggers to individual birds to track foraging behaviour. The data collected to-date indicates that king shag have highly individual behaviour. Of the six birds tracked, one foraged exclusively within mussel farms. This data indicates that mussel farms do not exclude king shag from foraging, as has previously been suggested. The year two results are also available, and the results follow that same pattern of findings in the year one study. The results of the year one study are summarised in the Davidson Report.[19]

No king shag were identified at the site. The three species observed where the spotted shag (2), Black-backed gull (2) and Variable oyster catcher (2). However, based on existing information, Rob Davidson concludes that king shag likely forage in this area of Catherine Cove.

In terms of the matter of discretion at NESMA Regulation 18(h), the main potential adverse interaction between king shag and longline marine farms is entanglement in structures. Moreover, recent research shows that the structures offer positive effects, such as providing ecosystem services and safe roosting sites.[20] There have been no known king shag or other seabird entanglements in this site, which have been operating in some form in this location since the early 1990s. Maintenance and security of structures, and management of debris (discussed above) are management practices that also minimise the risk of adverse interactions between the farms and king shag or seabird species.

[14] Sustainable Management Framework: New Zealand Mussels, Aquaculture New Zealand, at pg 8
[15] The Davidson Report at pp 12-14.
[16] The Davidson Report at pg 23.
[17] Ibid.
[18] The Davidson Report at pp 34 – 37.
[19] The Davidson Report at pp 36 – 37.
[20] With king shag preferentially seeking out mussel farms to roost on. The species either roosts at colonies or on marine farms.

15.2. Marine Mammals

The Davidson Report also provides a detailed assessment on the effects of the proposed farms on marine mammals. Potential effects of relevance in a NESMA Regulation 18(h) sense are adverse interactions between marine mammals and the farms. The Davidson Report finds[21]:

The present marine farm utilises standard mussel farming structures that are under tension and therefore present a low risk of entanglement to marine mammals.

Fur seals have been seen resting on backbone floats at the site and may derive some benefit from the placement of the farm structures (Authors, pers. obs.).

As above, the main potential adverse interaction between marine mammals and longline marine farms is entanglement in structures. There have been no known marine mammal entanglements in these sites, which have been operating in some form in this location since the early 1990s. Maintenance and security of structures, and management of debris (discussed above) are management practices that also minimise the risk of adverse interactions between the farms and marine mammals.

15.3. Summary

It is considered that the farms can be operated in a way that manages risk to seabirds and marine mammals, and conditions could be imposed to minimise entanglement risk. It is also worth noting that (as the Davidson Report finds[22]) any effect on ecology would be the same as that which currently exists at this site from the existing farms. There are no known issues in this respect.

16.0 BIOSECURITY

Regulation 18(i) provides the matter of discretion regarding "the management of biosecurity risks".

Biosecurity is another matter expressly addressed in the A+ Framework. The objective is that "farming activities do not cause an unacceptable biosecurity risk"[23]. This is another matter that can be addressed by consent conditions (noting Regulation 18(i) refers to "management" specifically), and as an example it is anticipated to be addressed in terms of conditions (rather than potentially affecting the decision to grant consent) in the NZCPS Policy 12:

Provide in regional policy statements and in plans, as far as practicable, for the control of activities in or near the coastal marine area that could have adverse effects on the coastal environment by causing harmful aquatic organisms to be released or otherwise spread, and include conditions in resource consents, where relevant, to assist with managing the risk of such effects occurring.

Biosecurity risks in the coastal marine area are not limited to risks from marine farming activities. There are other sources of risk, such as from recreational activity and boats associated. Further, there are other structures in the coastal marine area that pose risk, such as moorings, jetties, marine berths and wharves.

[21] The Davidson Report at pp 40-41.
[22] The Davidson Report at pg 41.
[23] Sustainable Management Framework: New Zealand Mussels, Aquaculture New Zealand, at pg 9

It is in the best interests of the marine farmers to avoid biosecurity outbreak for such could have a substantial impact on their operation, such as through loss of stock. The Applicants are very experienced in operating marine farms.

Biosecurity is a fast evolving area. Aquaculture New Zealand and MPI are actively working in this space to develop best practice standards. Future standards could be implemented via a review of consent conditions.

17.0 OTHER REGULATION 18 MATTERS

17.1. Regulation 18(a): the duration and lapsing of the coastal permit

This is a matter for consent conditions. The Applicants seek a consent term of 20 years. The effects of marine farming at this location are well understood. Three Benthic surveys across a period of time have been undertaken. There have been farms operating at this site for some time now.

17.2. Regulation 18(b): review conditions

The Council already has existing abilities to review consent conditions in the future, if need be, per s128 of the RMA. This can simply be imposed as a condition of consent on this application. More information in relation to Regulation 18(b) can be found in the MPI NESMA Consenting Guidance Document[24]:

Review conditions for existing marine farms should allow for:
• Adverse effects arising from the exercise of the consent to be addressed;
• A regional council to require a consent holder to adopt the best practicable option to remove or reduce any adverse effects that are being caused by the marine farming activity;
• Best practice guidelines for managing effects on the environment to be introduced to consents;
• Changes to standard practice, for example in navigational lighting or use of particular structures, to be required universally for marine farms in a region;
• Changes to monitoring as required over the course of a consent;
• Introduction of adaptive management or monitoring regimes to an area or areas of marine farming in a region.

17.3. Regulation 18(c): when occupation is authorised in relation to seasonal activities such as spat catching

This is not relevant to this application.

17.4. Regulation 18(k): except in relation to existing marine farms that involve fed aquaculture, if a plan or proposed plan includes an adaptive management approach, conditions to give effect to that approach:

This application is not for marine farms involving fed aquaculture. Proposed Variation 1 of the MEP considers adaptive management. This Variation is yet to go through the further submissions, Council hearings and then potential appeals processes. The notified version of MEP Policy 13.22.1 refers to adaptive management in the context of cumulative benthic effects from conventional longline marine farms. In particular, policy 13.22.1(b) states:

[24] https://www.mpi.govt.nz/dmsdocument/44626-Resource-Management-National-Environmental-Standards-for-Marine-Aquaculture-Regulations-2020
Refer page 19.

In order to implement the adaptive management regime set out in (a) above, all resource consents for marine farms using conventional longline structures must include a review condition that requires adaptive management to be implemented if the ES trigger levels set out in (a) are reached.

The trigger levels in policy 13.22.1(a) are in the context of a Sounds-wide monitoring regime for the cumulative benthic effects of longline marine farms. That regime has yet to be resolved via the Schedule 1 process for Variation 1. There are submissions seeking changes to this policy. Following that, the regime will need to be implemented. For these reasons, it is premature to impose a condition of consent relating to ES trigger levels. Further, a more general consent review condition (provided for by NESMA regulation 18(b)) would enable Council to review the consent conditions for these sites to introduce an adaptive management or monitoring regime pursuant to policy 13.22.1 once that provision is operative.

The notified version of MEP Policy 13.22.3 (in Variation 1) also contains reference to staged or adaptive management. However, that policy applies only to new marine farms (not existing farms or replacing an existing marine farm), so is not relevant to this replacement consent application.

17.5. Regulation 18(l): information, monitoring and reporting requirements

This was touched on above in the benthic section. The Davidson Report found that there was no need to recommend any ecological monitoring. It is considered that the effects of marine farming are well known and understood. Further, there are existing management of effects systems in place for operating marine farms, such as the A+ Framework.

Council may include consent conditions requiring information to be reported to Council. An example includes confirmation that the structures have been installed in accordance with the site layout diagram.

17.6. Regulation 18(m): administrative charges, coastal occupation charges, financial contributions

Conditions could be imposed regarding for example cost-recovery for any Council monitoring and compliance functions. The MEP includes objectives and policies regarding coastal occupation charges. These will be imposed on users of the coastal marine area, such as marine farmers, in the future. This NESMA matter of discretion might be addressed by the Council's standard Advice Notes:

- Pursuant to section 36 of the Resource Management Act 1991 and the Marlborough District Council's schedule of fees, the consent holder will be responsible for all actual and reasonable costs associated with the administration and monitoring of this resource consent and conditions herein.
- The consent holder will in the future be required to pay coastal occupation charges if they are imposed through Marlborough District Council's resource management plans.

17.7. Regulation 18(n): bonds or any alternative measures to recover the cost of repairing or removing abandoned or derelict structures and reinstating the environment.

Consent conditions could be imposed regarding these matters. As above, it is in the best interests of the marine farmer to ensure that structures are fit for purpose and that includes that they are stable, secure and in good working order. If they are not, the farm operations can be impacted. This reality, paired with good farm management the Applicants would adopt such as through abiding by the A+ Framework, would assist with reducing the risk of this becoming an issue.

In a legal sense, unless a replacement consent is granted in the future, the consent holder will be required to remove all structures and equipment from the consent area when this consent expires, or is surrendered or forfeited.

18.0 OTHER PLANNING DOCUMENTS

As is considered above in this AEE, the planning documents are relevant to address the extent that there are objectives and policies that provide guidance in respect of an application. Planning documents usually include rules deriving from the relevant objectives and policies. This application is made under the rules in the operative and proposed Plans.

This section of the AEE needs to be read with that caveat borne in mind.

19.0 PART II RESOURCE MANAGEMENT ACT 1991 (RMA) MATTERS

It is unlikely to be necessary to refer to Part 2, but in the event that it is, an assessment is set out below.

19.1. Section 5

In terms of the enabling provisions in Section 5 of the RMA the marine farming industry has been, and will continue, to be a source of substantial revenue production and in turn employment in the Sounds and in the Nelson/Marlborough regions.

In addition, export income for the nation is generated. Applications such as this enable sustainable use of the marine resources in a way that enables people and communities to provide for their economic and social wellbeing. Occupation and use of public space is integral to the establishment, operation and maintenance of a marine farm. However, the application will not prevent future generations from deciding how to use the resources at the site, because any minor effects from farming at the site are reversible upon the removal of the farm. Therefore, the proposal promotes sustainable management of natural and physical resources.

The farm is considered to be proposed in an appropriate location for farming. In analysing the effects of the proposal on natural and physical resources, the farm is proposed over an environment of mud that is considered to be the most appropriate benthos over which marine farming should occur, as the habitat is widespread and has low diversity species and numbers. This is confirmed in the Davidson Report. Further, the location is in a "working" environment of the Sounds, with anthropogenic changes caused by activities such as historic pastoral farming and other marine farming. The site position and distances from other facilities are not detrimental to other uses of the area. Section 5 of the RMA is given effect to through the New Zealand Coastal Policy Statement 2010 (NZCPS), the Marlborough Regional Policy Statement (MRPS), the Marlborough Sounds Resource Management Plan (MSRMP), and the proposed Marlborough Environment Plan (Appeals Version) (the MEP). The application is assessed against the relevant provisions of the MRPS, MSRMP and the MEP below, and in **Appendices B, C, D and E** (again to the extent relevant for an application made under NESMA Regulation 16).

In my assessment, the proposal as applied for will promote the sustainable management of natural and physical resources.

19.2. Section 6

Matters of national importance have been assessed under the requirements of the MSRMP and MEP.

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 NZCPS, which is considered later in this application. The adjacent vegetation is farmland with some regenerating scrub species. The existing farm does not effect that. NESMA regulation 21 does apply in this case, because the farm is within an outstanding area. However, the site is identified in Variation 1 to the MEP and marine farms are considered appropriate for the area.

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

The site does lie in an area identified as "outstanding landscape". This site is adjacent to other marine farms. The adjacent land is reverting farmland.

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

The vegetation is indigenous shrub lands beginning to dominate the land cover with some wilding pines. As discussed above, there are no significant habitats of indigenous fauna that will be adversely impacted by these marine farms.

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

As required by Regulation 18(d)(i), continued reasonable public access is maintained with good separation from the coast and main navigational routes. The site has been positioned to allow access around the coast without impediment, and access between the shore and structures has been maintained.

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

An application under NESMA can first go through a process of consultation outlined in Schedule 6 of NESMA. In this instance the Applicants have followed that process. This is a farm owned by tangata whenua members of Ngati Kuia.

19.3. 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:*
A number of iwi are identified as having interests in the Pelorus Sound area. The proposal has been developed to avoid offending the guardianship and protection of resources valued by Iwi. It is an existing long-established site. The notion of care and protection of the environment and resources is also an important concept in management of resources, which the applicant also holds as important in its day to day management of water space.

(b) *The efficient use and development of natural and physical resources:*

The proposal is confined and concentrated in a locality out of the way of normal public access and resource use. Being confined and sited together with other marine farm brings efficiencies in applying resources to manage the growing of mussels.

(c) *The maintenance and enhancement of amenity values*:
Impacts on amenity are assessed above in terms of the colour of structures, in addition to noise, rubbish and debris.

(d) *Intrinsic values of ecosystems*:
The values of the ecosystems have been identified in the Davidson Report, which details the benthic environment and other ecological matters. Importantly no significant resources have been identified on the site. The structures are situated over a mud benthos that is widespread in the Marlborough Sounds and is identified as the environment most suited to have aquaculture placed over it. Species are low in number and diversity. Regulation 18(g) has been considered above.

(e) *Recognition and protection of the heritage values of the sites, buildings, place, or areas:*
There are no heritage sites, buildings or places in the near vicinity.

(f) *Maintenance and enhancement of quality of the environment:*
The quality of the environment will not be endangered by the proposal to grow mussels. The process needs high water quality and, as filter feeders, mussels will enhance water quality by the filtration process during feeding.

(g) *Any finite characteristics of natural and physical resources:*
The proposal is to occupy a small part of the bay. Mussels are naturally occurring in the water column and filter feed off naturally occurring phytoplankton and zooplankton.

(h) *The protection of the habitat of trout and salmon*.
Section (h) is not relevant to this application.

19.4. Treaty of Waitangi

Matters of potential concern in relation to the Treaty of Waitangi have also been considered earlier in the original proposals to the site.

20.0 NEW ZEALAND COASTAL POLICY STATEMENT 2010 (NZCPS)

The NZCPS is of general relevance (as above) to this application and all policies have been considered in the development of the proposal. The NZCPS policies of immediate relevance to the applications are policies 2, 3, 6, 8, 11, 13, 15, 18, 22 and 23. I consider that the proposal is consistent with and meets elements within these policies.

20.1. 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 recognizes 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 acknowledgements in the area of the application site. Those acknowledgements have been considered during the preparation of this application, as outlined above.

The applicant has also reviewed the Iwi management plans of Ngāti Kōata, Te Ātiawa o Te Waka-a-Māui and Ngati Kuia. 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 Applicants have undertaken the consultation process outlined in Schedule 6 of NESMA.

No response or comment was forthcoming from the groups the draft application was forwarded to.

Policy 3

This policy requires a precautionary approach be adopted where the effects on the coastal environment from the proposed activity are "uncertain, unknown, or little understood, but potentially significantly adverse". Such is not required here, given that we have the benefit of existing farms having been operated in this Bay since early 1990's (for the most part) and since 2004 in totality of the current farming (ie. accounting for the marine farm extension to site 8005), and that effects of mussel farms are generally well understood. Adaptive management in terms of NESMA regulation 18(k) is addressed above.

20.2. 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 consistent with the character of the existing built environment in Catherine Cove. 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 the Policy 6 is particularly relevant. Mussel farming clearly has a functional need to be located in the coastal marine area. It 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.

20.3. 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, recognizing that relevant consideration 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 an 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 production from the site, contributing to the social and economic benefits of aquaculture to the community. 'Renewing' existing marine farms is anticipated by NESMA. The marine farm is not within an area that is inappropriate for existing marine farming (in terms of NESMA regulation 6) under the MSRMP or the MEP. No changes to the impact on water quality are anticipated. This application satisfies the requirement of Policy 8.

20.4. Policy 11

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

The farm is located over mud habitat and avoids any reef areas or any other areas of significant biodiversity. No adverse effects on dolphins or other marine mammals have been reported from the existing farm. The site is not within a dolphin or whale mapped area under the Plan or under the MEP. Effects on king shag and seabirds are addressed above. Overall, there is unlikely to be any material change compared to what is currently consented. Refer to the Davidson Report and assessment above in respect of regulations 18(g) and (h) for more detail.

20.5. Policy 13

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

As above, the farm is within a mapped outstanding area, but a very high rating on the land but not on the water, so the additional matter of discretion in regulation 21 does not apply. Regulation 18(d)(iii) is only concerned with visual effects and coherent appearance in terms of colour of farm structures, which is addressed above.

20.6. Policy 15

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

As above, Regulation 18(d)(iii) is only concerned with visual effects and coherent appearance in terms of colours of farm structures. These are discussed above and it is considered that the farm structures are suitable in terms of Regulation 18(d)(iii).

This application is within an area of outstanding landscape value under the MSRMP or proposed MEP, so the additional matter of discretion in regulation 21 does apply.

20.7. 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 activities and passive recreation. Regulation 18(d)(i) talks of ensuring continued reasonable public access (including recreational access) in the vicinity of the marine farms. This is ensured.

All of the access to this area is by boat. The area has a low viewing audience. Access to the coast for recreationalists is maintained.

No formal water ski lanes are present. Opportunities for recreational fishing may be enhanced by the presence of the marine farm.

20.8. Policy 22

Policy 22 requires an assessment of sedimentation levels, and that use will not result in a significant increase in those levels. The Davidson Report states 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 is necessary in the author's opinion. There would be no shell drop/deposition on the inshore reef area, given the farm is shifted to avoid location over such.

20.9. Policy 23

Subpart 1 of Policy 23, relates to managing discharges to water in the coastal environment. 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.

21.0 REGIONAL POLICY STATEMENT/MARLBOROUGH SOUNDS RESOURCE MANAGEMENT PLAN

Certain provisions of the Marlborough Regional Policy Statement (MRPS) have relevance to this application and are considered in **Appendix B**.

The MSRMP contains a number of provisions that are relevant to this application. An assessment of the application against the requirements of the MSRMP is contained in **Appendix C**.

21.1. Conclusion

Taken overall, the application is consistent with the relevant objectives and policies of the MRPS and MSRMP.

22.0 PROPOSED MARLBOROUGH ENVIRONMENT PLAN (APPEALS VERSION) AND VARIATION 1

Rules regarding marine farming are currently going through the MEP Schedule 1 variation process under Variations 1 and 1A. Variation 1A relates to finfish aquaculture so has no relevance to this application. In terms of Variation 1, as above this application is made under NESMA, but consideration of the objectives and policies of the MEP Variation 1 provisions are relevant to the extent that they relate to Regulation 18 matters. An analysis table assessing the proposal against the relevant provisions of the Appeals Version of the MEP is included at **Appendix D**. A table assessing (again where relevant) this application against Variation 1 to the MEP is also included, attached at **Appendix E.**

23.0 CONSULTATION

The Applicants elected to follow the Schedule 6 NESMA process with this application. The Marlborough District Council provided me with a list of tangata whenua in accordance with clause 3 of Schedule 6 of NESMA. On 27/. 06/2022 I sent the information required in clause 4 of Schedule 6 to the contact persons included in Council's list and two sets of MACA lists as detailed under section 25.1

This application was lodged on 22/07/2022, being 21 working days after those persons were sent that clause 4 information.

The persons and groups informed by the applicant under clause 4 were:

25.1 Marlborough District Council Consultation List

Name	Address
Ngāti Kōata Trust	PO Box 1659 Nelson 7040
Te Rūnanga a Rangitāne O Wairau	taiao@rangitane.org.nz Copy to: admin@rangitane.org.nz
Te Rūnanga O Ngāti Kuia	julia@ngatikuia.iwi.nz
Ngāti Apa ki te Rā Tō Trust	taiao@ngatiapakiterato.iwi.nz
Te Ātiawa o Te Waka-a-Māui Trust	rc@teatiawatrust.co.nz
Ngāti Toa Rangatira ki Wairau Trust	C/ Johnny Joseph PO Box 5061 Springlands Blenheim 7241
Ngāti Rārua Settlement Trust	admin@ngatirarua.co.nz

MACA Applicant (Te Arawhiti List)	Contact Person	Contact Details
Ngāti Kōata Trust MAC-01-12-007	Loretta Lovell	loretta@lovellassociates.co.nz
Te Runanga o Toa Rangatira MAC-01-12-021		
Te Ātiawa o Te Waka-a-Māui Trust (for their Whakatu/Hoiere application MAC-01-12-018	Sylvie Heard and office emails	rm@teatiawatrust.co.nz CEO@teatiawatrust.co.nz chair@teatiawatrust.co.nz
Rangitane O Wairau (Hynes) MAC-01-12-011	M J Radich (Primary)	miriam@radichlaw.co.nz
Ngati Apa ki te Ra To MAC-01-12-006		office@ngatiapakiterato.iwi.nz
Te Runanga o Ngati Rarua MAC-01-12-008	Andrew Luke and office	taiao@ngatirarua.co.nz and admin@ngatirarua.co.nz

Those with relevant applications before the High Court

High Court MACA List / Applicant	Contact Person(s)	Contact Details
Ngati Koata Hori Turi Elkington, trustee of the Ngati Koata Trust, for orders recognizing the	Loretta Lovell	loretta@lovellassociates.co.nz

Customary Marine Title and Protected Customary Rights of Ngati Koata CIV-2017-485-218		
Te Ātiawa o Te Waka-a-Māui Trust Te Hawe Harvey Ruru, Susan Glenice Paine, Cindy Lou Batt, John Pere Katene, Ngawaina Joy Shorrock, Ronald Keith Riwaka, Venessa Patricia Charmon Turama Ede, William Tahuaroa Reeves, as trustee of Te Ātiawa o Te Waka-a-Māui Trust, Beach Road, Waikawa Marina, Waikawa, Picton 7220 CIV-2017-485-365	Sylvie Heard and office emails and Felix Geiringer	info@mokoia.co.nz felix@geiringer.law rm@teatiawatrust.co.nz CEO@teatiawatrust.co.nz chair@teatiawatrust.co.nz
Rangitane o Wairau Trust Wendy Dee Hynes, Calvin Tui Hart, Haysley Kenny Macdonald, Jeremy Tatere MacLeod, Leigh Edward Macdonald and Janis Barbara de Thierry as Trustees of Te Runanga a Rangitane o Wairau Trust for orders recognising Customary Marine Title and Protected Customary Rights of Rangitane o Wairau in te Tau Ihu o Te Waka. CIV-2017-485-251	Miriam Radich	miriam@radichlaw.co.nz
Te Runanga a Rangitane o Kautuna Michael Kenneth David Bradley as representative of Te Runanga a Rangitane o Kautuna Incorporated for an order recognizing Customary Marine Title and Protected Customary Rights. CIV-2017-485-167	Tim Castle	tim.castle@xtra.co.nz

Those persons and groups were informed of this application by myself, via letter dated 27/06/2022. No response was received from any person or groups as listed above.

24.0 CONCLUSION

The Applicants consider that the use of this area for aquaculture is appropriate, allowing the farming of mussels and other species listed above. The activity enables people and communities to provide for the social, economic and cultural wellbeing, while ensuring the principles of sustainable management are met. This application meets Regulation 14 of NESMA, and all matters of discretion in Regulation 18 have been addressed.

RD Sutherland
Property and Land Management Services Limited,
On behalf of the Applicants

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.	N/A, as is outside the matters of discretion in regulation 18
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 farms is minor in scale and transitory. The seabed is already in a modified state due to terrestrial run off and other anthropogenic activities.
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 areas are within Catherine Cove, in an area well-established for marine farming. Marine farms are clustered in the area.
	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 environment effects are avoided, remedied or mitigated.	This area has a primary production character, and is well suited to marine farming. This policy supports the proposed renewal. The life supporting capacity of the area will be safeguarded.

Objective	Policy	Assessment
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 well established for marine farming. The marine farming activity is biologically sustainable. The effects of mussel farms are generally well understood.
	7.2.10(a) – (d)	Access and the ability for recreational use of the area and its surroundings will be retained. The farm provides for a public use/benefit, in terms of the contribution the farm will have to the industry/employment and the community as a whole. This farm is placed over a mud benthic environment apart from an area of reef to be covered by warps.
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.	One site of cultural or heritage significance has been identified on the area of land near application site per the Archsite database. The farm would not prevent access to land for any such sites.
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 NESMA Regulation 18 matters are limited to considering visual effects in terms of colours of structures. The colours proposed are standard for marine farms of this type. The farms are well managed and will comply with the Aquaculture New Zealand A+ Sustainable Management Framework for Mussels.
	8.1.5: Promote enhancement of the nature and character of indigenous, working and built landscapes by all activities which use land and water.	As above.

Objective	Policy	Assessment
	8.1.6: Preserve the natural character of the coastal environment.	Under NESMA, effects on natural character are only relevant when the farm is within a mapped outstanding area, which is the case for this application. In terms of visibility and coherence appearance of structures, the buoys will be a uniform colour apart from orange floats required for navigational safety. The site is proposed as an AMA.

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 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 of 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.	As above.
	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.	As 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 where relevant to the Regulation 18 matters of discretion and in the Davidson Report.

Objective	Policy	Assessment
	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.	As above.
	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.	The reversibility of marine farming effects has been studied. Visual effects are immediately reversible upon the removal of the structures, and benthic effects reversible between 5 and 7 years on soft substratum, and longer over any reef area.
	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. Adaptive management is discussed in the AEE.
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 aligned farm is not sited over any mapped area of significant ecological value. The farm is placed over appropriate mud benthos, away from any reef area.
Ch 5, 5.3. Obj 1: Management of the visual quality of the Sounds and protection of outstanding natural features and landscapes from inappropriate subdivision, use and development.	Policy 1.1: Avoid, remedy and mitigate adverse effects of subdivision, use and development, including activities and structures, on the visual quality of outstanding natural features and landscapes, identified according to criteria in Appendix One.	The application site is within an area of outstanding landscape value identified in the Plan, so the additional matter of discretion in regulation 21 does apply. Visual effects from colours of the structures are the only relevant matter in this regard, as above.

Objective	**Policy**	**Assessment**
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 applicants have had regard to the Statutory Acknowledgements and have reviewed the statements of association for each Iwi
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.	Access inshore and between lines is maintained. That is, continued reasonable public access is ensured in accordance with Regulation 18(d)(i).
	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.	As above
	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].	As above
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 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;	As far as is relevant for this application, 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, and the effects have been considered above in the AEE.

Objective	Policy	Assessment
	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.	This area is not inappropriate for existing aquaculture in terms of the MSRMP or the MEP. Replacement consents are anticipated under NESMA regulation 14, subject to the matters of discretion in regulation 18. Variation 1 to the MEP proposes an AMA for the site and realignment as proposed to avoid reef habitat.
	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.	Adverse effects from the proposal will be minor and will be mitigated to the extent practicable.
	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:	Exclusive occupation of the consent area is not sought. The farm will not impede access to a

Objective	Policy	Assessment
	Avoid adverse effects from the occupation of coastal space in or around recognized casual mooring areas.	nearby mooring. There is no change to the existing environment. Reasonable public access is ensured.
	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 8005 is currently consented for marine farming and this area has been consented for marine farming since 2000. Further, there are many other existing marine farms in the area. This area is not inappropriate for existing aquaculture in terms of the MSRMP or the MEP. Replacement consents are anticipated under NESMA regulation 16, subject to the matters of discretion in regulation 18. Overall, the application is consistent with this policy.
	Policy 1.13: Enable the renewal as controlled activities of marine farms authorized by applications made prior to 1 August 1996 as controlled activities, apart from exceptions in Appendix D2 in the Plan.	N/A. this application is made under NESMA.
Ch 9, 9.3.2, Obj 1: Management of the effects of activities so that water quality in the coastal marine area is at a level which enables the gathering or cultivating of shellfish for human consumption (Class SG).	Policy 1.1 to 1.11:	N/A, as this is outside the scope of the matters of discretion in regulation 18.
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 for installation, because the anchors are already in place. Other benthic effects are assessed in the Davidson Report and in the AEE where relevant to NESMA regulation 18(g).

Objective	**Policy**	**Assessment**
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 environment.	There have been no reported navigational incidences in the bay. The navigational lighting requirements will provide better navigational aids within the Bay.
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 or mitigate community disturbance, disruption or interference by noise within coastal, rural and urban areas.	Adjacent land is reverted pastoral farmland with indigenous shrubland and wilding pines. There are no residences in the area. The contractors servicing vessel is estimated to spend approximately 50-70 hours maintaining and harvesting the lines per year. The applicants comply with the 'Code of Practice' to avoid, remedy or mitigate noise from marine farming activities in the Marlborough Sounds on other users and residents. This is assessed in detail in the AEE with respect to regulation 18(j).

APPENDIX C: PROPOSED MARLBOROUGH ENVIRONMENT PLAN (APPEALS VERSION)

MEP Provision	Evaluation
Objective 3.2 – A strong relationship between the Council and Marlborough's tangata whenua iwi in the delivery of outcomes that enables iwi to exercise kaitiakitanga [RPS]	The applicant has sought to consult with iwi on this application, via the specific Schedule 6 process, to assist Council in achieving this objective as it relates to NESMA applications.
Objective 3.3 – Natural and physical resources are managed in a manner that has particular regard to the spiritual and cultural values of Marlborough's tangata whenua iwi as kaitiaki and respects and enables tikanga Māori. [RPS]	Recognition is given to Māori culture and traditions and confirmation from Iwi has been sought via the Schedule 6 NESMA process to ensure the proposal does not affect these values.
Objective 3.4 – The cultural and traditional relationship of Marlborough's tangata whenua iwi with their ancestral lands, water, air, coastal environment, wāhi tapu and other sites and taonga are recognised and provided for. [RPS]	The Applicants have had regard to Kaitiakitanga and followed the Schedule 6 process, recognising tangata whenua's relationship with the waters of Te Tau Ihu. The applicant is aware of the importance of the waters of the Marlborough Sounds to Iwi. Continued reasonable public access is ensured.
Objective 3.6 – Resource management decision making processes that give particular consideration to the cultural and spiritual values of Marlborough's tangata whenua iwi, and their relationship to lands, water, wāhi tapu and wāhi taonga. [RPS]	The applicant has given particular consideration to the matters in objective 3.6, as discussed above and in the AEE. The Schedule 6 process has been undertaken and any feedback reported on in the body of this AEE.
Policy 3.1.1 – Management of natural and physical resources in Marlborough will be carried out by: (a) taking 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) recognising that the way in which the principles of the Treaty of Waitangi/Te Tiriti o Waitangi will be applied will continue to evolve; (c) promoting 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;	See above.

MEP Provision	**Evaluation**
(d) recognising 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) recognising the right of each iwi to define their own preferences through management plans and other documents for the sustainable management of natural and physical resources, where this is not inconsistent with the Resource Management Act 1991. (f) recognising the right of iwi authorities to invite the Council to enter into Mana Whakahono ā Rohe agreements. [RPS]	
Policy 3.1.2 – An applicant will be encouraged, as best practice 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]	The Schedule 6 process has occurred, including reporting on any feedback received. See above in this AEE.
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 consider how: (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) the special relationship between tangata whenua and ngā wai will be recognised and provided for. (e) traditional and cultural Māori uses and practices relating to natural and physical resources such as mahinga maataitai, wāhi tapu, papakāinga and taonga raranga are 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 are also relevant to these considerations, and have been assessed in the Davidson Report. The schedule 6 NESMA process has been completed.
Policy 3.1.5 – Ensure iwi management plans are taken into account in resource management decision making processes. [RPS]	In this instance the appropriate consideration of iwi interests is via the Schedule 6 process. That has been followed.

MEP Provision	Evaluation
Policy 3.1.8 – Enable customary harvest in accordance with tikanga. [RPS]	Exclusive occupation of the total consent area is not sought, and access for customary harvest would still be possible.
Objective 4.1 – Sustainable use and development of Marlborough's natural resources supports Marlborough's social, economic and cultural wellbeing. [RPS]	The effects of mussel farms are generally understood and are acceptable. They are also reversible. Within 5-7 years of removing the farm, any trace of its presence will dissipate, and visual effects are instantaneously reversible. Therefore, the proposal does not restrict the ability of future generations to decide how they wish to use these resources. The proposal has economic and employment benefits to the applicant and community. It is a primary production activity.
Policy 4.1.2 – Enable sustainable use and development of natural resources in the Marlborough environment while managing any adverse environmental effects, through the use of: (a) allocation frameworks; (b) permitted activity rules and standards where no more than minor adverse effects are anticipated; and (c) policies specific to various resources. [RPS]	As above at Objective 4.1, this is a sustainable use of resources. In terms of allocation, given that the Applicants already have consent to occupy the same space in this location, this is an application to which s165ZH(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 s104(2A). The relevant policies have been considered in this AEE and supporting appendices. Because s 165ZH applies, the Applicants are entitled to apply to replace their existing consents which are within an AMA in MEP Variation 1 without holding an authorisation (s 165J(4) RMA).
Policy 4.1.3 – Maintain and enhance the quality of natural resources. [RPS]	The proposal will have less than minor effects on the quality of the natural resources at this location, and those effects are reversible upon removal of the farm.
Objective 4.3 – The maintenance and enhancement of the ecological, physical, and cultural qualities and amenity values that contribute to the character of the Marlborough Sounds. [RPS]	The ecological character of the site will be largely maintained (see the Davidson report). The application site is located over a muddy habitat, typical of similar areas in the Sounds. The effects of mussel farming will be minor with realignment. The farm is away from any reef areas or areas of biogenic habitat of the kind considered by Regulation 18(g). The farm will

MEP Provision	Evaluation
	have a coherent appearance in terms of colour (per Regulation 18(d)(iii), and there is already consented marine farms in this bay. The Applicants have sought to consult with iwi about potential effects on cultural values through the Schedule 6 process.
Policy 4.3.1 – Integrate management of the natural and physical resources within the Marlborough Sounds environment. [RPS]	Integrated management is arguably a matter for Council under Policy 4 of the NZCPS. This application is made under NESMA, which anticipates an application such as this to be made.
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 Applicants have 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, to the extent necessary bearing in mind this application is made under NESMA. 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 provisions under the Aquaculture Variation 1 to the MEP are considered in a separate table in **Appendix D** below.
Policy 4.3.4 – Encourage the enhancement of 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 farm. The visual aspects of the farms is only relevant as far as Regulation 18(d)(iii) is concerned.
Policy 4.3.5 – Recognise that the Marlborough Sounds is a dynamic environment [RPS]	The applicant recognises that the Sounds is a dynamic environment. This particular area has been developed by various activities. The appropriateness of the farm can be re-assessed by future generations in the context of the future environment of this area, through the resource consenting process.
Chapter 6 Natural Character Objectives and Policies	The requirement to map areas of ONC, very high or high natural character is given effect to by the MEP maps. This farm is within a mapped ONC area, therefore effects on natural character are relevant consideration under NESMA (regulation 21 does apply).

MEP Provision	**Evaluation**
Objective 7.2 – Protect outstanding natural features and outstanding natural landscapes from inappropriate subdivision, use and development and maintain and enhance landscapes with high amenity value.	Refer to the AEE. Visual effects are only relevant regarding Regulation 18(d)(iii), which has been considered. There is no ONFL mapping in this area, but it covers all of D'Urville Island.
Policy 7.2.1 – Control activities that have the potential to degrade those values contributing to outstanding natural features and outstanding natural landscapes by requiring activities and structures to be subject to an assessment of effects on landscape values through the resource consent process. [R, C, D]	Refer to the AEE. Visual effects are only relevant regarding Regulation 18(d)(iii), which has been considered. There is ONFL mapping in this area, but it covers all of D'Urville Island.
Policy 7.2.3 – Control activities that have the potential to degrade the amenity values that contribute to those areas of the Marlborough Sounds High Amenity Landscape not identified as being an outstanding natural feature and outstanding natural 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 permitted activity 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]	Aquaculture rules in the MEP per Variation 1 are considered in a separate table below at **Appendix D**. There is ONFL mapping in this area. The farm is within a High Amenity Landscape. In terms of NESMA, amenity effects are considered elsewhere in this AEE, as regards Regulations 18(d)(iii) and 18(j).
Policy 7.2.4 – Where resource consent is required to undertake an activity within an outstanding natural feature and outstanding natural landscape or a landscape with high amenity value: (a) have regard to the potential adverse effects of the proposal on the values that contribute to the landscape; (b) recognise that minor or transitory adverse effects may not need to be avoided; (c) have regard to any restoration and enhancement of the landscape proposed. [R, C, D]	There is ONFL mapping in this area.
Policy 7.2.5 – Avoid adverse effects on the values that contribute to outstanding natural features and outstanding natural 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]	There is ONFL mapping in this area.

MEP Provision	**Evaluation**
Policy 7.2.7 – Protect the values of outstanding natural features and outstanding natural landscapes and maintain and enhance the high amenity values of […] and the Marlborough Sounds High Amenity Landscapes by: (a) In respect of structures: (i) avoiding visual intrusion on skylines, particularly when viewed from public places; (ii) avoiding new dwellings in adjacent to the foreshore; (iii) using reflectivity levels and building materials that complement the colours in the surrounding landscape; (iv) limiting the scale, height and placement of structures to minimise intrusion of built form into the landscape; (v) recognising that existing structures may contribute to the landscape character of an area and additional structures may complement this contribution; (vi) making use of existing vegetation as a background and utilising new vegetation as a screen to reduce the visual impact of built form on the surrounding landscape, providing that the vegetation used is also in keeping with the surrounding landscape character; and (vii) encouraging utilities to be co-located wherever possible; whilst recognising the functional and operational needs of regionally significant infrastructure. […] [R, C, D]	The area has had ONL mapping through out D'Urville Island however the eastern side of Catherine cove has a history of marine farming and is suitable for that purpose.
Policy 7.2.12 In assessing the cumulative effects of activities on outstanding natural features and landscapes, and landscapes with high amenity values, 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 locality.	This is not a specific matter in Regulation 18 of NESMA, however there are existing marine farms in this general area, and in the specific location for which consent is sought for these farms. The effects of farming are generally well understood, and are reversible.
Objective 8.1 – The intrinsic values of Marlborough's remaining indigenous biodiversity in terrestrial, freshwater and marine environments are protected. [RPS, R, C, D]	The applicant has had regard to Objective 8.1 in preparing this application, as outlined in relation to the policies below. in Regulation 18(g).

MEP Provision	**Evaluation**
Objective 8.2 – An increase in area/extent of Marlborough's indigenous biodiversity and restoration or improvement in the condition of areas that have been degraded. [RPS, R, C, D]	Effects of mussel farming are reversible upon removal of the farm. There are no reefs in the area of the proposed realigned farm, nor any NESMA biogenic habitat or regionally significant benthic species.
Policy 8.1.1 – When assessing whether terrestrial, wetlands, freshwater or marine ecosystems, habitats and areas have significant indigenous biodiversity value, the following criteria will be used: *Identification Criteria* (a) representativeness; (b) rarity; (c) diversity and pattern; (d) distinctiveness; *Management Criteria* (e) size and shape; (f) connectivity/ecological context; (g) sustainability; and (h) adjacent catchment modifications. For a site to be considered significant, one of the first four criteria (representativeness, rarity, diversity and pattern or distinctiveness/special ecological characteristics) must rank medium or high. [RPS]	The Davidson Report is relevant here, as is considering this to the extent of Regulation 18(g). The farms are not proposed to be installed over any ESMS or buffer of such under the MEP. The application site is located over a mud habitat, typical of sheltered muddy areas in the Sounds. Mr Davidson concluded that the effects of low intensity farming are low. There are reefs adjacent in the area of the proposed realigned farm, nor any NESMA biogenic habitat or regionally significant benthic species. The realignment is to as far as practical avoid reef habitat.
Policy 8.1.2 – Sites in the coastal marine area and natural wetlands assessed as having significant indigenous biodiversity value will be specifically identified in the Marlborough Environment Plan. [RPS]	The Applicants have had regard to the ecologically significant marine sites mapped in Volume 4 of the proposed MEP. These are discussed in Mr Davidson's report. The farm is not proposed to be located over or near any.
Policy 8.1.3 – Continue to gather information on the state of biodiversity in terrestrial, freshwater and marine environments in Marlborough to enable decision makers to assess the impact on biodiversity values from various activities and uses. [RPS]	The Applicants note that the Council will continue to undertake surveys to improve knowledge. A site specific assessment was undertaken by Rob Davidson recently (ie. the Davidson Report). His report will add to the general body of knowledge.
Policy 8.2.1 – A variety of means will be used to assist in the protection, maintenance and enhancement of areas and habitats with indigenous biodiversity value. [RPS]	The proposal is consistent with policy 8.2.1. It is to be over habitat appropriate for marine farming. There are no reefs in the area of the proposed realigned farm, nor any NESMA biogenic habitat or regionally significant benthic species.

MEP Provision	Evaluation
Policy 8.2.3 – Priority for Council funding and partnership resources will be given to the protection, maintenance and restoration of habitats, ecosystems and areas that have significant indigenous biodiversity values, particularly those that are legally protected. [RPS, R, C]	Part of the area sought for consent under this application is for Kapua Marine Farms Limited and its contractor Clearwater Mussels Limited. Clearwater Mussels Limited contribute funding to the King Shag Working Group (which includes Council, the MFA, DoC, and independent scientists) via their MFA levies.
Policy 8.2.4 – Priority will be given to encouraging the re-establishment and enhancement of indigenous biodiversity in Marlborough's most threatened environments including lowland and marine habitats. [RPS, R]	The farm is not located over any ecologically significant marine site. There are reefs in the area of the proposed farm, but no NESMA biogenic habitat or regionally significant benthic species.
Policy 8.2.8 – A strategic approach to the management of undesirable animals and plants that impact on indigenous biodiversity values will be developed and implemented. [RPS, R, C]	The management of biosecurity risks is in Regulation 18(i). This has been considered elsewhere in this AEE . Part of managing biosecurity risks regarding these farms, comes from compliance with existing industry frameworks and guidelines.
Policy 8.2.9 – Where monitoring of ecosystems, habitats and areas with significant indigenous biodiversity value shows that there is a loss of or deterioration in condition of these sites, then the Marlborough District Council will review the approach to protection. [RPS]	The Applicant is aware of this policy, and acknowledges the Council's role in protecting biodiversity. There are reefs in the area adjacent of the proposed realigned farm, but no NESMA biogenic habitat or regionally significant benthic species. Marine farms can have positive effects and provide ecosystem services.
Policy 8.2.10 – Promote the maintenance, enhancement or restoration of ecosystems, habitats and areas of indigenous biodiversity even where these are not identified as significant in terms of the criteria in Policy 8.1.1, but are important for: (a) the continued functioning of ecological processes; (b) providing connections within or corridors between habitats of indigenous flora and fauna; (c) cultural purposes; (d) providing buffers or filters between land uses and wetlands, lakes or rivers and the coastal marine area; (e) botanical, wildlife, fishery and amenity values; (f) biological and genetic diversity; and (g) water quality, levels and flows. [R, C, D]	There are reefs in the area of the proposed realigned farm, but no NESMA biogenic habitat or regionally significant benthic species. The application is located over benthos appropriate for this type of farming. The Schedule 6 process has been completed, and any responses reported on above. The presence of surface buoys and harvest vessels would have some impact on amenity values, though there are no nearby dwellings. Amenity in terms of Regulation 18(j) has been considered in this AEE.

MEP Provision	Evaluation
	The applicant recognises that resources are finite. Future generations could decide to remove the farms, and the effects will be reversible. In particular, amenity would be restored instantly upon removal of the farms. Effects of mussel farming are generally well understood, and are reversible, 5 to 7 years after removal of the farm on soft substrate.
Policy 8.2.11 – Promote to the general public and landowners the importance of protecting and maintaining indigenous biodiversity because of its intrinsic, conservation, social, economic, scientific, cultural, heritage and educational worth and for its contribution to natural character. [R, C]	This is acknowledged. Ecological effects have been considered In the AEE.
Policy 8.2.13 – Encourage and support private landowners, Marlborough's tangata whenua iwi, community and industry groups, central government agencies and others in their efforts to protect, restore or re-establish areas of indigenous biodiversity. [R, C]	N/A
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. (d) creating a buffer to manage activities in proximity to an Ecologically Significant Marine Site in order to avoid adverse effects on the Ecologically Significant Marine Site. [R, C, D]	There are reefs in the area of the proposed realigned farm, but no NESMA biogenic habitat or regionally significant benthic species. The farm is proposed to be within a Marine Mammal Distribution Map area. Effects are considered in the AEE. Adverse effects on ESMSs will be avoided. The farm is not within an ESMS or a buffer for such.
Policy 8.3.4 – 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) fragmentation of or a reduction in the size and extent of indigenous ecosystems and habitats; (b) fragmentation or disruption of connections or buffer zones between and around ecosystems or habitats;	Where relevant to Regulation 18, these matters have been considered. There are no reefs in the area of the proposed farms, nor any NESMA biogenic habitat or regionally significant benthic species. The proposal avoids the adverse effects in Policy 8.3.4. The farm proposed is located within a Marine Mammal Distribution area under the MEP. In terms of king shag specifically, this has been considered in the

MEP Provision	Evaluation
(c) changes that result in increased threats from pests (both plant and animal) on indigenous biodiversity and ecosystems; (d) the loss of threatened or at risk species or their habitats and species that are rare within the region or biogeographic area; (e) loss or degradation of wetlands, dune systems or coastal forests; (f) loss of mauri or taonga species; (g) impacts on habitats important as breeding, nursery or feeding areas, including for birds; (h) impacts on habitats for fish spawning or the obstruction of the migration of fish species; (i) impacts on any marine mammal sanctuary, marine mammal migration route or breeding, feeding or haul out area; (j) a reduction in the abundance or natural diversity of indigenous vegetation and habitats of indigenous fauna; (k) loss of ecosystem services; (l) effects that contribute to a cumulative loss or degradation of habitats and ecosystems; (m) loss of or damage to ecological mosaics, sequences, processes or integrity; (n) effects on the functioning of estuaries, coastal wetlands and their margins; (o) downstream effects on significant wetlands, rivers, streams and lakes from hydrological changes higher up the catchment; (p) natural flows altered to such an extent that it affects the life supporting capacity of waterbodies; (q) a modification of the viability or value of indigenous vegetation and habitats of indigenous fauna as a result of the use or development of other land, freshwater or coastal resources; (r) a reduction in the value of the historical, cultural and spiritual association with significant indigenous biodiversity held by Marlborough's tangata whenua iwi; (s) a reduction in the value of the historical, cultural and spiritual association with significant indigenous biodiversity held by the wider community; and (t) the destruction of or significant reduction in educational, scientific, amenity, historical, cultural, landscape or natural character values. [R, C, D]	Davidson Report and above in this AEE. Conditions relating to maintenance of structures and management of debris can assist with minimising the interactions between the marine farms and seabirds and marine mammals. Marine farms provide ecosystem services, as outlined in the following 2019 NIWA report: https://www.marinefarming.co.nz/media/1662/stenton-dozey-broekhuizen-2019_-mussel-farm-ecosystem-services_niwa_-report_2019020ch-8_03_19.pdf
Policy 8.3.5 – Take into account that king shag could feed in the coastal marine area within 25km of the breeding sites recorded as Ecologically Significant Marine Sites 1.6, 2.11, 2.14, 2.21, 3.3 and 7.9. [C]	This has been taken into account in the AEE.

MEP Provision	**Evaluation**
Policy 8.3.6 – Where indigenous biodiversity values will be adversely affected through land use or other activities, a biodiversity offset can be considered to offset significant residual adverse effects. Where a biodiversity offset is proposed, the following criteria will apply: (a) Residual adverse effects: the offset will only compensate for significant residual adverse effects that cannot otherwise be avoided, remedied or mitigated; (b) Limits to offsetting: offsetting should not be applied to justify impacts on vulnerable or irreplaceable biodiversity. (c) No net loss: 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; (d) Like for like 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 in the same area. (e) Proximity: the proposal should be located close to the application site, where this will achieve the best ecological outcomes. (f) Timing: the delay between the loss of biodiversity through development and the gain or maturation of ecological outcomes is minimized. (g) Any offsetting proposal will include biodiversity management plans prepared in accordance with good practice. [R, C, D]	N/A – no offset is proposed.
Policy 8.3.8 – Within vulnerable ecologically significant marine sites, activities that disturb the seabed must be avoided. [C]	The farm is not within any ESMS or its associated buffer.
Policy 8.3.10 - Enable customary harvest in accordance with tikanga. [R, C, D]	The Schedule 6 process has been completed. Iwi will not be precluded from accessing the site. The fam is owned by members of Ngati Koata iwi
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]	The proposal is for a marine farm. The public will still have reasonable access (including for recreation) between longlines and inshore of the site (Regulation 18(d)(i)). Opportunities for recreational fishing may be enhanced by the presence of a marine farm.

MEP Provision	**Evaluation**
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: … (b) high priority waterbodies for public access on the Wairau Plain (as shown in the overlay map) and in close proximity to Picton, Waikawa, Havelock, Renwick, Seddon, Ward and Okiwi Bay; (c) 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 Croisilles Harbour, Rarangi to the Wairau River mouth, Wairau Lagoons, Marfells Beach and Ward Beach; […] [RPS]	See above.
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. See above regarding Regulation 18(d)(i).
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 Applicants will make use of this existing network of facilities. The proposed farms will not affect access.

MEP Provision	**Evaluation**
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]	Access to jetties in the area will be preserved. None are nearby.
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 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. (j) whether there are restrictions on activities or access imposed by other legislation including the Submarine Cables and Pipelines Protection Act 1996. [C, D]	The structures have a functional need to be located in the coastal marine area. See above regarding Regulation 18(d)(i). Exclusive occupation is not sought, except for the physical space the structures will occupy (and the total consented area will remain as currently consented). That is consistent with the purpose of a resource consent to farm, in line with Policy 9.2.1.
Objective 9.2 – Public access to and along the coast and the margins of lakes and rivers will only be restricted where necessary for security, health and safety, conservation, cultural or other similar reasons. [RPS, C, D]	Exclusive occupation is only sought to the extent necessary for the physical structures, and to allow the farm to be operated safely. Public access is not restricted beyond that.
Policy 9.2.1 – Public access to and along the coastal marine area and the margins of lakes and rivers may be restricted to: (a) ensure a level of security consistent with the purpose of a resource consent or designation;	The extent of exclusive occupation sought is consistent with the level of security needed for the purpose of farming greenshell mussels.

MEP Provision	**Evaluation**
(b) […] [RPS, C, D]	
Policy 9.2.2 – Aside from the circumstances in Policy 9.2.1 above, constraints on public access shall not be imposed unless: (a) there is no practical alternative; and (b) the effects on public access would be no more than minor. [RPS, C, D]	See above.
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 Applicants recognise the value of open space and has designed the site layout with this in mind. Access through longlines will be allowed, given the separation distances between each line. The farms only take up a small amount of space in the wider picture of the Marlborough Sounds.
Objective 10.1 – Retain and protect heritage resources that contribute to an understanding and appreciation of Marlborough's and New Zealand's history and cultures. [RPS]	The Applicants have had regard to historic and cultural sites within the vicinity of the proposed farm. The Schedule 6 process has been undertaken.
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, R, C, D]	The Historic Places Inventory notes has been consulted and one is recorded nearby on land. The ArchSite Database shows several land-based sites beyond the area in Catherine Cove. The proposed farm will not impact adversely on these sites. The applicant is aware of the importance of the waters of the Marlborough Sounds to Iwi. It recognises that there are Maori archaeological sites within the wider Sounds. Tangata Whenua have been consulted through the Schedule 6 process. The farm will not impact on any of the sites and places of significance to Marlborough's Tangata Whenua Iwi listed in Appendix 13, volume 3 of the MEP.

MEP Provision	Evaluation
Policy 10.1.5 – Avoid adverse effects on the historic heritage values of Category AI heritage resources identified in Schedule 1 of Appendix 13 and sites and places of significance to Marlborough's tangata whenua iwi identified in Schedule 3 of Appendix 13. [RPS]	As above. The farm will not impact on any of the sites and places of significance to Marlborough's Tangata Whenua Iwi listed in Appendix 13, volume 3 of the MEP.
Chapter 13 objectives and policies.	The Variation 1 MEP provisions (including amendments to existing policies that Variation would make) have been considered in the table below at **Appendix D**.
Objective 13.20 - Equitable and sustainable allocation of public space within Marlborough's coastal marine area. [RPS, C]	The Applicants acknowledge 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 (in some respects that will be improved), and the proposal will not affect the ability of future generations to enjoy that public space.
Policy 13.20.1 - Recognition that there are no inherent rights to be able to use, develop or occupy the coastal marine area. [RPS, C]	The Applicants recognise that they have no inherent right to occupy and use the coastal marine area, and require a resource consent for the proposed activity, under NESMA.
Policy 13.20.2 – 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 Applicants consider that the first in first served method of allocation is appropriate in respect of the proposed site. The Applicants have consents for the existing farm in this location.
Policy 13.20.4 - Coastal occupancy charges will be imposed on the consent holders of coastal permits and the occupiers of permitted activity moorings in a Moorings Management Area where there is greater private than public benefit arising from occupation of the coastal marine area. [C]	The Applicants would be comfortable paying coastal occupancy charges to reflect the private benefit from occupying space. However, it is concerned that the level of these charges or at least the method of setting these, is not set out in the MEP.
Policy 13.20.5 - The Marlborough District Council will exempt the following from any requirement to pay coastal occupancy charges: […] (b) monitoring equipment [C]	If any monitoring equipment is required to be permanently installed at the site as a condition of consent, the Applicants agree that coastal occupancy charges for that equipment should be waived. However, the Davidson Report concluded that there were no biological reasons for site specific monitoring.

MEP Provision	Evaluation
Policy 13.20.6 - 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]	The Applicants do not request a waiver of coastal occupancy charges.
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 and in rivers is suitable for contact recreation; (c) people can use the coast, rivers, lakes and wetlands for food gathering, cultural, commercial and other purposes; (d) groundwater quality is suitable for drinking; (e) the quality of surface water utilised for community drinking water supply remains suitable for drinking after existing treatment; and (f) coastal waters, rivers and lakes support healthy ecosystems. [RPS, R, C] And related policies.	Water quality is not listed in Regulation 18, though mussels are filter feeders and require good water quality. The ecological effects of marine farming at this location are considered above in this AEE and in the Davidson Report.
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. The Applicants seek a 20 year term of consent.
Policy 19.1.3 – Enable primary industries to adapt to the effects of climate change. [R, C, D]	Each marine farm has different characteristics, and enables the marine farmer to adapt and manage its resources to ensure a year round supply of product to processing factories,

MEP Provision	Evaluation
	despite inter-annual and seasonal changes in climate. This farm is part of that picture.

APPENDIX D: PROPOSED MARLBOROUGH ENVIRONMENT PLAN – VARIATION 1

Objective	Policy	Assessment
Objective 13.21 – Provide for marine farming in appropriate locations while protecting and maintaining the values of Marlborough's coastal environment. [RPS, C]	Policy 13.21.1 – For the purpose of managing marine farming: (a) the coastal marine area is divided into coastal management units (CMU); (b) areas where marine farms are appropriate are identified as AMAs in accordance with Policies 13.21.3 and 13.21.4;	This farm is considered to be proposed in an appropriate locations, bearing in mind Regulation 18 matters of discretion. There are existing marine farms operating at the locations of the proposed farm.

Objective	Policy	Assessment
	[…] [RPS]	Further, the sites are identified within an AMA under the MEP Variation 1, within CMU and AMA Map .
	Policy 13.21.3 – AMAs (other than ASAs) are established to provide for the area of existing marine farms within the Enclosed Water CMUs. AMAs within the Enclosed Waters CMUs are generally located: (a) In the coastal ribbon between 100 and 300 metres from mean low water (other than those AMAs that provide for intertidal marine farms) in order to protect natural, recreational and amenity values of the coastal marine area of the Marlborough Sounds; (b) Away from reefs and other areas of significant marine biodiversity value in order to protect the biodiversity values of those habitats; (c) Away from residences, publicly accessible boat launching facilities, jetties, publicly accessible beaches, moorings, anchorages of refuge and recognized navigational routes where this is necessary to maintain and enhance the recreational and amenity values of the Marlborough Sounds; (d) Outside areas identified as having high, very high or outstanding levels of natural character in Appendix 2, and outside areas identified as outstanding natural features and outstanding natural landscapes in Appendix 1, (both shown on the maps in Volume 4), where this is necessary to protect the characteristics and values of those areas;	The sites are identified within an AMA under the MEP Variation 1, within CMU and AMA Map. Aspects in this policy where relevant to Regulation 18 matters have been considered in this AEE.

Objective	Policy	Assessment
	(e) Outside areas known to provide significant feeding or breeding habitat for New Zealand King Shag, elephant fish, dolphins and other important species; (f) Outside ecologically significant marine sites identified in Appendix 27 and shown on the Volume 4 planning maps. [RPS]	
	Policy 13.21.7 – Authorisation allocation methodology	As an existing consent holder, the applicant is entitled to apply to renew its consent in an AMA as a result of s 165ZH without an authorisation any time prior to the Variation 1 rules becoming operative (s 165J).
Objective 13.22 – Marine farms are operated sustainably, kept in good order, and individual and cumulative adverse effects are addressed. [RPS, C]	Policy 13.22.1 – Monitoring and adaptive management for the cumulative benthic effects of marine farms using conventional longline structures in the enclosed waters of the Marlborough Sounds. (a) In order to understand and, if appropriate, to manage any unanticipated or cumulative adverse effects of marine farming using conventional longline structures on benthic habitat in the enclosed waters CMUs, the Council will: (i) Identify appropriate control and farmed sentinel monitoring sites. (ii) At the identified monitoring sites, sample seabed sediments every five years. (iii) Measure total free sulfide in the seabed sediments as an indicator of ecological function, in a manner consistent with any best practice guidelines for benthic environmental quality in	The Davidson Report concludes that no monitoring is required. Ecological considerations for this application are limited to that which fits within scope of Regulation 18(g). The realigned farm is partly located over a reef, but no biogenic habitat area or where regionally significant benthic species are present. Herein terms of regulation 18(k), it is premature to impose an adaptive management condition reflecting policy 13.22.1(b), but that could be achieved in the future if appropriate via a review condition.

Objective	Policy	Assessment
	the Marlborough Sounds, or as approved by an independent scientific review panel. (iv) If measured total free sulfide levels are greater than 615 µM mL-1at any site, increase monitoring; • Frequency, from five yearly to annually, • Spatially, to include other sites within the CMU in order to ascertain if the raised sulfide levels are widespread or site specific, • Parameters, to monitor additional indicators, including those necessary in order to calculate the Enrichment Stage (ES). (v) If the calculated ES is 4 or greater, or if additional monitoring shows that a significant adverse ecosystem effect is occurring, identify whether marine farming using conventional longline structures is causing or materially contributing to a significant adverse ecosystem effect (using statistical analysis including comparison between farmed and control sites, and review by an independent expert panel); (vi) If the elevated ES or significant adverse ecosystem effect is being caused or materially contributed to by marine farming using conventional longline structures, manage the marine farm (if localised effect) or group of farms (if the effect is widespread) so that the ES is reduced to less than 4 or the significant adverse ecosystem effect ceases, and if possible is reversed; (b) In order to implement the adaptive management regime set out in (a) above, all	

Objective	Policy	Assessment
	resource consents for marine farms using conventional longline structures must include a review condition that requires adaptive management to be implemented if the ES trigger levels set out in (a) are reached. (c) The monitoring and adaptive management approach described in this policy is in addition to the monitoring and adaptive management approach set out in any resource consent, and in addition to the monitoring and management of benthic and water column effects set to manage Finfish farms. [RPS]	
	Policy 13.22.2 (a) Consent holders for marine farms in the coastal marine area will be required to remove marine farm structures from the site: (i) on expiry or surrender of the coastal permit, unless continued operation is allowed by s124 or 165ZH of the RMA or a new coastal permit is granted to allow marine farming to continue using the same structures; or (ii) if marine farming activity ceases for a period of 5 years or greater (other than for operational reasons such as periodic fallowing of a site) on the site and structures are derelict, unused or obsolete, whether or not the coastal permit has expired or been surrendered. (b) An exception may be made to the requirement to remove all structures in (a) for anchoring structures in the following circumstances:	This is relevant as regarding Regulations 18(e) and (n). Conditions of consent could be imposed in this regard.

Objective	Policy	Assessment
	(i) the anchoring structure is a screw anchor, and the screw anchor is cut off at sea floor level and the part of the screw anchor previously protruding from the seafloor is removed; or (ii) the anchoring structure is a block anchor, and the block anchor cannot practicably be removed or reused and the remaining block anchor will not be an impediment to navigation or safe anchoring. [C]	
	Policy 13.22.3 – Adaptive Management for new marine farms. (a) New marine farms (those marine farms that are not existing marine farms or replacing an existing marine farm) will, where appropriate, be required to be developed, monitored and managed in a precautionary manner, using staged or adaptive management, where: […] [C]	N/A – this is not an application for new marine farm in terms of that policy.
	Policy 13.22.4 – New and existing aquaculture activities are inappropriate in the following zones: (d) Coastal marine zone; (e) Port zone; (f) Marina zone; (g) Port landing area zone; except in an AMA overlay or the open water CMU. Marine farms in inappropriate areas are prohibited. [C[	The farm is within an AMA under the MEP Variation 1 and are considered to be in an appropriate location.
	Policy 13.22.5 – Resource consents for marine farms using conventional longline structures will	This is relevant as regards Regulation 18(b). Conditions could be imposed in this regard. As

Objective	Policy	Assessment
	be subject to review conditions that allow the coastal permits to be reviewed in the following circumstances: (a) If monitoring and assessment undertaken in accordance with Policy 13.22.1 concludes that the ES for a marine farm or for any site in a CMU, is 4 or greater and, is or has been caused or contributed to by marine farms; or (b) Monitoring (including monitoring undertaken in accordance with Policy 13.22.1) shows significant adverse ecosystem effects are occurring; or (c) New information becomes available about the effects of marine farming, which requires changes to the management of marine farms to manage those effects; or (d) Every 5 years, unless a review under (a) – (c) has been undertaken in the past 4 years. [C]	above, the Davidson Report finds that monitoring is not required for any ecological reason.
	Policy 13.22.6 – Marine farm owners/occupiers shall monitor for and collect marine farming related debris and litter from their marine farming operation. Marine farm owners/occupiers will also be encouraged to monitor and collect marine farming related debris and litter from the adjoining shoreline and surrounding coastal marine area and dispose of it at an appropriate facility for the duration of any coastal permit issued for a marine farm. [C]	This is relevant as regards Regulation 18(j). This is considered in detail above in this AEE. A condition of consent could be imposed in this regard.

Objective	Policy	Assessment
	Policy 13.22.7 – The layout, positioning, design and operation of marine farms and associated structures must ensure: (a) for marine farms using conventional long line structures, the lines are generally positioned parallel to the shoreline, unless there is a reason related to the geography or bathymetry or hydrology of the location that this is not practicable; (b) for marine farms using conventional long line structures, the lines are positioned with a 15-20 metre space between each line; (c) that a gap of 50 metres between adjacent marine farms is provided to allow for public access to the foreshore (including for recreational access and access for other boating traffic); (d) that the colour, reflectivity and finish of structures avoids, remedies or mitigates effects on visual amenity values, and that this is maintained throughout the term of the consent; (e) adequate buoyage, anchoring and lighting systems are provided to protect the safety of commercial, recreational or residential navigation; (f) the loss of structures, lines, ropes and buoys and other material from the marine farming activity is avoided, remedied or mitigated. (g) that noise and odour from the operation of the marine farm has no more than minor effects on coastal amenity values. [C]	Where relevant under Regulation 18 these matters have been considered above in this AEE. That relates to Regulations 18(d), (e), (j).

Objective	Policy	Assessment
	Policy 13.22.8 – Change in layout	N/A – the applicant is seeking to replace the existing consent.
	Policy 13.22.9 – Change in species	N/A – the applicant is seeking to replace the existing consent for the same species

Biological report for the reconsenting of marine farm 8005 in northern Catherine Cove, D'Urville Island

Survey and monitoring report number 1086

A report prepared for:
Kapua Marine Farms Ltd
C/o Ron Sutherland
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Blenheim

June 2021

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June 2021

Table of Contents

1.0 Preface

The present report provides biological information for a proposed reconsent of existing marine farm 8005 located in Catherine Cove, outer Marlborough Sounds. The 3.48 ha marine farm is owned by Kapua Marine Farms Ltd.

2.0 Background information

2.1 Catherine Cove

Catherine Cove is a large south-facing bay on the eastern side of D'Urville Island, at the northern extent of outer Admiralty Bay. Catherine Cove has a coastline length of approximately 8.9 km and covers an area of sea of approximately 400 ha. The Cove is approximately 2.5 km long and up to 2.1 km wide. D'Urville Peninsula protects the eastern side of Catherine Cove from oceanic weather and is approximately 2.5 km long and up to 650 m wide. Surface currents are strongly wind-driven, while tidal reversal was evident in deeper waters (Gibbs *et al*., 2004).

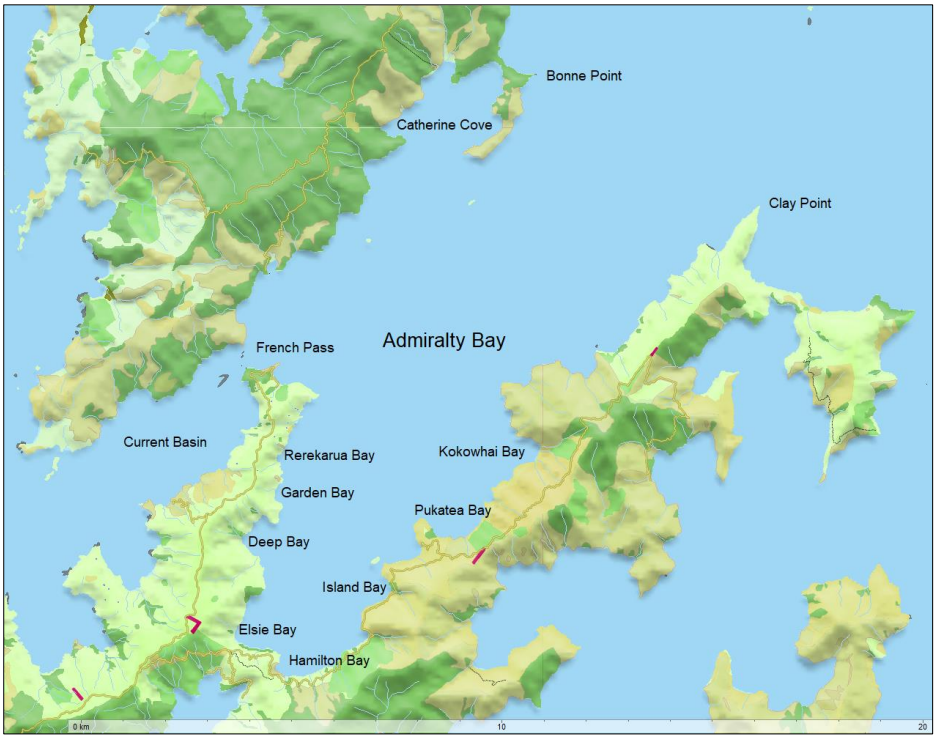

Figure 1. Location of Catherine Cove, D'Urville Island.

2.2 Marine farming

Seven marine farms have been consented in Catherine Cove (Figure 2). It is noted farm consent 8007 consists of two separate farm areas. All marine farm consents are predominantly used for farming mussels.

Figure 2. Marine farm sites located in Catherine Cove.

2.3 Catchments and sediment inputs

The adjacent land and catchments are mostly native vegetation. A small area of pine plantation is present on the promontory east of the D'Urville Wilderness Resort. One small area around French Pass (French Pass Scenic Reserve) and an area south of Catherine Cove

(D'Urville Island Scenic Reserve) are managed by DOC, the remainder of land is in private ownership.

Overall, the present stable vegetation cover means sediment runoff into the marine environment will likely be at the low end of the range known from the Marlborough Sounds.

2.4 Fishing

Trawling occurs inside Catherine Cove (Figure 3a). No commercial scallop dredging has occurred in this area (Figure 3b). Recreational fishing occurs but is less common compared to inner Pelorus and Queen Charlotte Sounds (Figure 3c). Almost the entire eastern side of D'Urville consists of rocky reef fish habitat and considerable anecdotal evidence suggests that fishing catch rates are higher along this stretch of coast compared to within Catherine Cove (Gibbs *et al*., 2004).

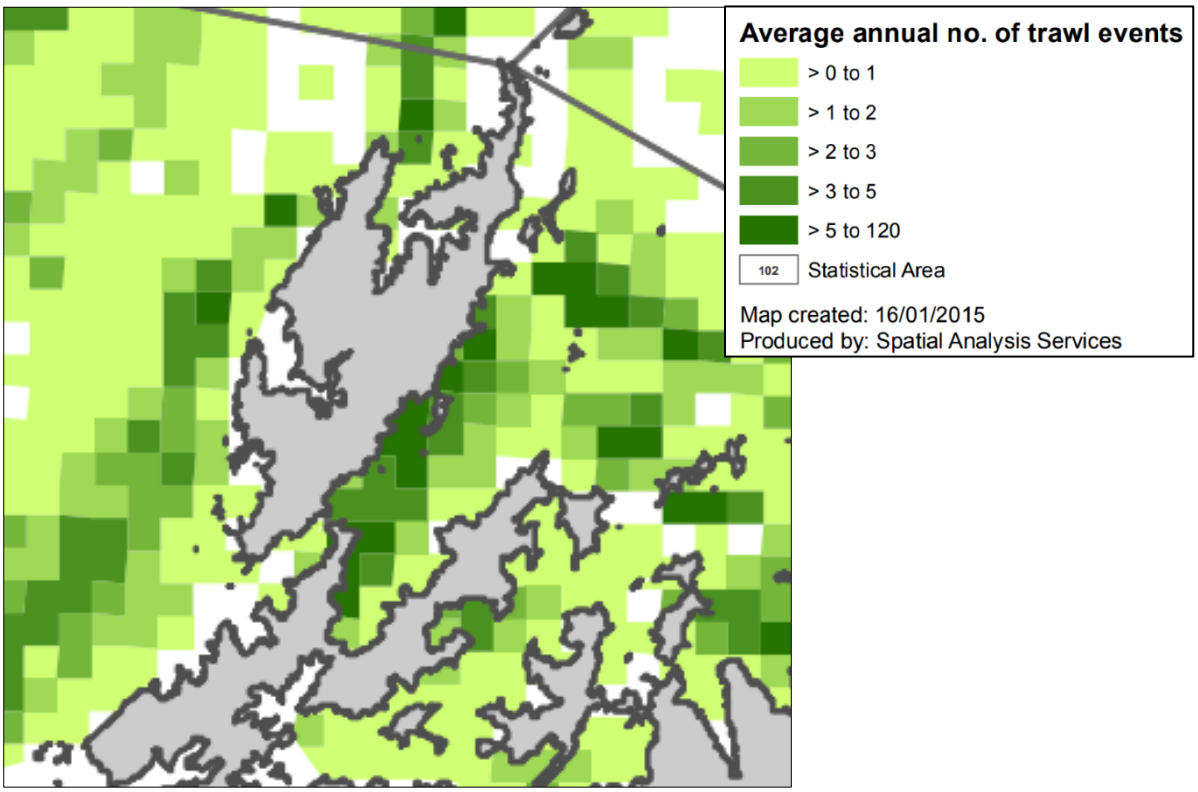

Figure 3a. Trawl fishing events: annual number of trawl events shown for the position where each trawl event started, averaged for all events starting in each 1 nautical mile grid cell and for six fishing years 2007-13.

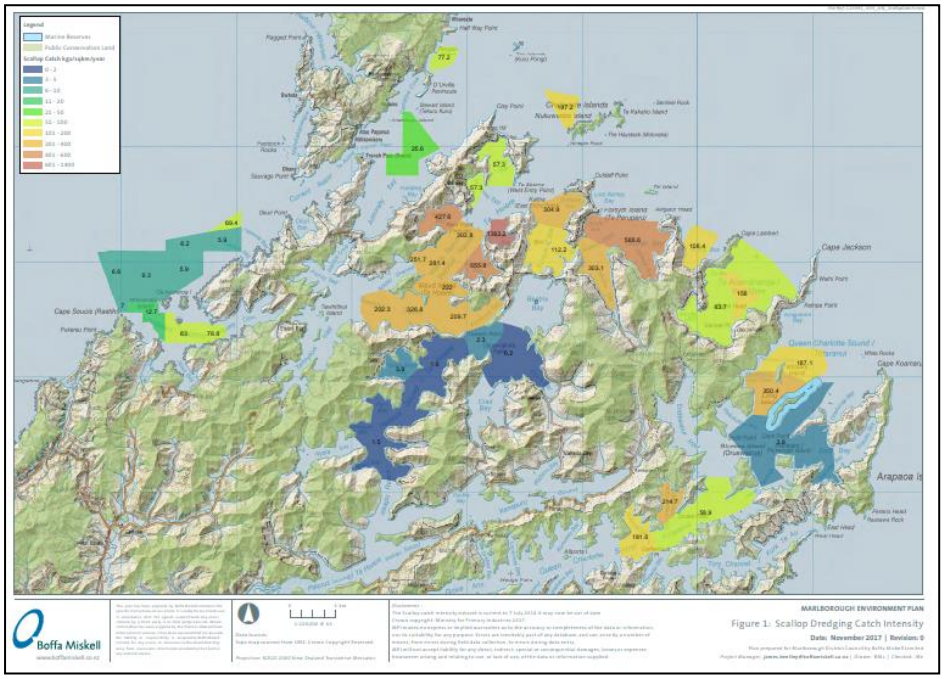

Figure 3b. Scallop catch data to July 2014 (from Boffa Miskell maps produced for MDC Coastal Plan).

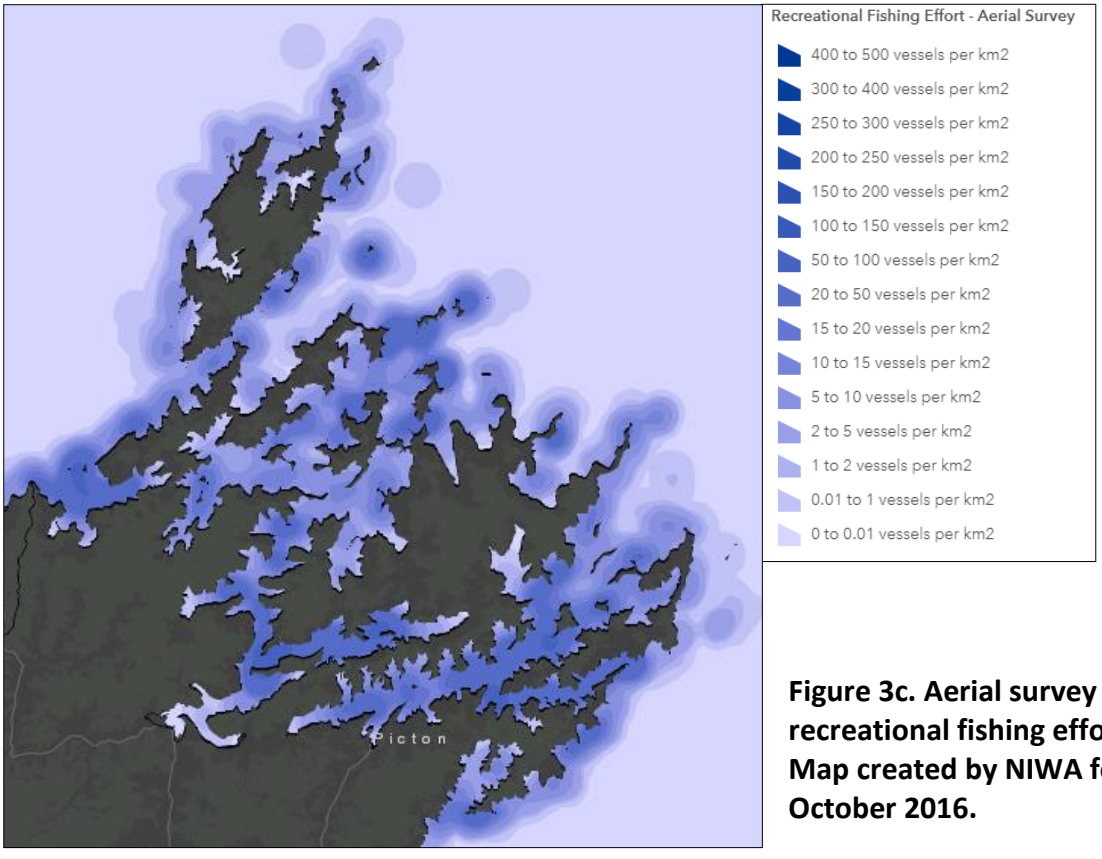

Figure 3c. Aerial survey of recreational fishing effort. Map created by NIWA for MPI, October 2016.

2.5 Existing biological studies and data

Many studies and investigations have occurred in Catherine Cove (Figure 4). Most data points have been commissioned by the marine farm industry, particularly in relation to new farms and extension applications. There are also a small number of species, habitat or community-based studies.

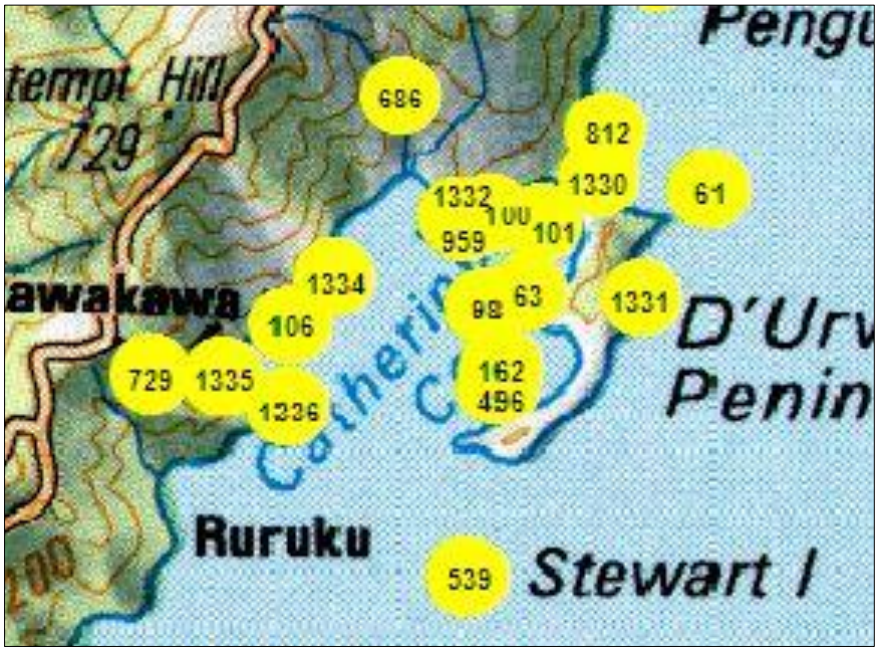

Figure 4. Summary of existing studies from Catherine Cove.

2.6 Significant sites (ESMS)

There is one significant site known from inside Catherine Cove, split into three sub-sites (Davidson and Richards, 2016). The authors reported on three areas occupied by dense rhodolith beds (Figure 5). Catherine Cove is also part of an 8,500 ha marine mammal area that covers Admiralty Bay up to French Pass and Catherine Cove.

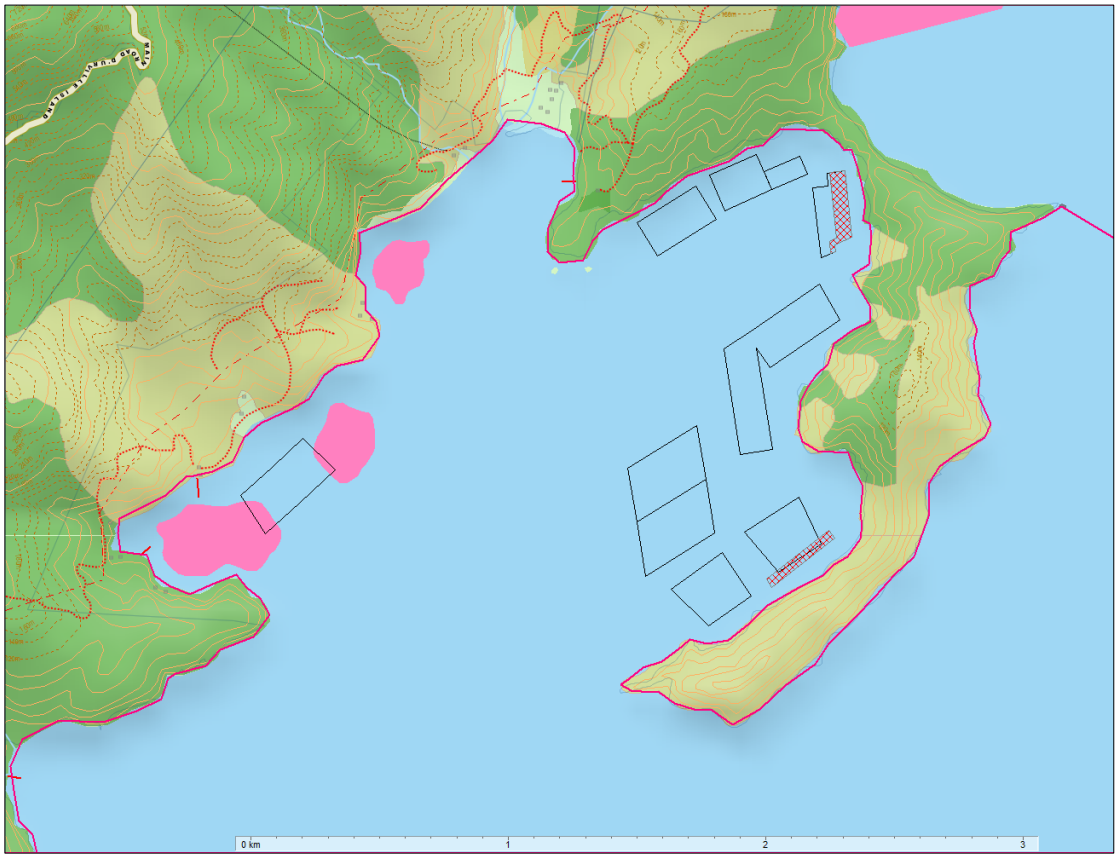

Figure 5. Known significant sites 2.13 in Catherine Cove (pink polygons).

Site 2.13(A, B, C) Catherine Cove

Davidson and Richards (2016) stated:

"Rhodolith beds were first recorded along the western shoreline of Catherine Cove on D'Urville Island by Stephen Brown of NIWA (pers. comm.). Davidson *et al.* (2011) surveyed this area and recorded three distinct beds. The present detailed survey recorded three distinct sub-sites, each separated by small distances (Figure 5). These sub-sites are characterised by dense beds of rhodoliths located in depths between 6.7 m and 27 m. These subsites are the only known rhodolith beds described for the northern outer Sounds biogeographic area (Davidson *et al.* 2011)."

Site 2.17 Admiralty Bay (marine mammals)

Davidson *et al.* (2011) stated:

"Two areas of biological importance for dusky dolphins have been identified in Admiralty Bay. Inner Admiralty Bay (the area south of a line drawn from Clayface Point in the west and Whangapoto Point in the east) is the most frequently used winter habitat for dusky dolphins. The wider Admiralty Bay area including Current Basin and Catherine Cove is also utilised by dolphins but less so than inner Admiralty Bay. The number of dusky dolphins using this wider area can vary significantly within and between seasons.

Dusky dolphins are widespread in the Southern Hemisphere and are not regarded as endangered, nationally or internationally. However, Admiralty Bay has gained recognition as an important winter feeding ground for some of the dusky dolphins found off Kaikoura at other times of the year. Of particular interest is the way the dolphins work co-operatively to herd their food into bait balls while in Admiralty Bay."

2.7 Marine mammals

Excluding Cook Strait, at least five marine mammal species regularly and/or seasonally transit through the Marlborough Sounds (see Slooten *et al*. 2002, Markowitz *et al*. 2004, Merriman *et al.* 2009, Clement and Halliday, 2014). These species include the New Zealand fur seal (*Arctocephalus forsteri*), bottlenose dolphin (*Tursiops truncatus*), dusky dolphin (*Lagenorhynchus obscurus*), common dolphin (*Delphinus delphis/capensis*) and orca (killer whales - *Orcinus orca*). Low numbers of New Zealand fur seals (status = not threatened) can be observed year-round within Marlborough Sounds.

Other marine mammal species observed utilising the Cook Strait area include humpback (endangered), southern right (endangered), sperm, minke and blue (endangered) whales as well as orca (nationally critical), common, dusky, bottlenose (nationally endangered) and Hector's (nationally endangered) dolphins (Slooten *et al*., 2002; Patenaude, 2003).

Bottlenose dolphins (status = nationally endangered: Baker *et al*., 2010) is the species most consistently observed within the Marlborough Sounds (Authors, pers. obs.). A semi-residential population of animals is known to associate with the Marlborough Sounds region for most of the year, regularly and systematically moving from one end of the Sounds to another

(Merriman *et al*., 2009). Bottlenose dolphins within the Sounds represent one of three isolated subpopulations around New Zealand's coastline; the others are found along the northeast coast of the North Island and within Fiordland in the south-west of the South Island. This species nationally endangered status is due to their restricted ranges and the fact that the other two sub-populations have reported general population declines over the last decade. Such factors make this species potentially more vulnerable to disturbance or changes within their distribution range (D. Clement, pers. comm.). International studies investigating the interaction between bottlenose and marine farms have shown that this species can target aquaculture facilities where they forage for fish (Lopez, 2012; Methion and Lopez, 2019).

Starting in 1998, Markowitz *et al.* (2004) studied dusky dolphin (status – not threatened) presence within the Marlborough Sounds, and in particular Admiralty Bay. The authors found that the number of dusky dolphins increased significantly over the winter months and are periodically present throughout the outer Sounds east of D'Urville to Rarangi. No studies have focused specifically on the presence of common dolphins (status = not threatened) in the Sounds.

Clement and Halliday (2014) suggest that outer Sounds bays such as Admiralty may serve as important habitat for at least a proportion of the common dolphin population found around New Zealand. Common dolphins appear most abundant in the outer Sounds bays during mid- to late winter and early spring, often coinciding with dusky dolphins while in the region (Clement and Halliday, 2014). Seasonal trends and the high re-sighting rates of identified individuals within the area over consecutive seasons and years indicates that common dolphins are either seasonally migrating to this region (i.e. like dusky dolphins) or use it as part of a large home range, like bottlenose dolphins (D. Clement, pers. comm.).

Several studies have aimed at investigating marine mammal interactions with aquaculture in New Zealand and internationally (Markowitz *et al*., 2004; Merriman, 2007; Vaughn *et al*., 2007; Pearson *et al*., 2012; Díaz López, 2012; Clement and Halliday, 2014; Methion *et al*., 2019).

Some species such as NZ fur seals, may be attracted to mussel farms as hauling outs (Clement and Halliday, 2014; Davidson and Richards, 2017). Farm structures may also attract bottlenose dolphin and possibly killer whales, due to these species' curious natures and the associated aggregations of possible prey species under and near farms. Bottlenose dolphins have been frequently recorded 'sweeping' through mussel farms in the Sounds (D. Clement, pers. comm; Authors, pers. obs.).

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

There is also one record of a marine mammal becoming trapped or tangled in a mussel farm (i.e. a Bryde's whale) (Wursig and Gailey, 2002). The low incidence of mussel farm entanglements is probably related warps and backbones being under tension thereby reducing the chance of entanglement. This is in stark contrast to lobster pots that have a single line to the surface. This line is usually under little or no tension. Whales migrating up the east coast of the South Island pass hundreds of lobster lines that present a serious entanglement threat. A humpback first spotted by DOC staff near Banks Peninsula with a cray pot buoy line tangled around its tail stock and flukes then became entangled in mussel floats when it swam alongside a farm in Tory Channel several days later. This animal was cut free from the cray pot lines by a mussel farmer (Scott Madsen) and was released alive.

Wursig and Gailey (2002) stated that entanglements by larger whales in aquaculture facilities are relatively rare events. Several studies have aimed at investigating marine mammal interactions with aquaculture (Markowitz *et al*., 2004; Vaughn *et al.,* 2007; Pearson *et al.,* 2012; Díaz López, 2012; Methion *et al*., 2019), Department of Conservation (e.g. B. Lloyd, unpubl. data; Merriman, 2007) and aquaculture-funded research (Clement and Halliday, 2014).

2.8 King shag

King shag (*Leucocarbo carunculatus*) is one of the world's rarest seabird species. The species is endemic to the Marlborough Sounds and is seldom observed outside of this region. The species nests at a small number of colonies, usually on rock stacks that are separate from the mainland, however, there are two mainland colonies presently used by birds (Hunia and Tawhitinui Bay). Historical counts have usually been undertaken by boats; however, most recent surveys have been aerially surveyed and photographed during the breeding seasons of 2016 (2 surveys), 2017 and 2018 (Schuckard *et al*., 2015; 2018). The latter count showed a 24% decline in the

number of adult birds (Schuckard, 2018). The total number of nests range from 187 in 2015 to 89 (June 2016), 117 (July 2016), 153 nests June 2017 (Schuckard, 2018) and 274 active nests in 2019 (Bell, 2019). Roost counts also showed a decline in 2018 (633 birds) compared to 834 (2015), 789 (2019) and 815 birds in the most recent survey by Bell *et al*. (2020).

Diet studies have shown that king shags feed on a variety of fish. Lalas and Brown (1998) recorded 683 prey items of which flatfish accounted for 90% of items. Schuckard (2015) reported locations where he observed king shags feeding in Admiralty Bay (Figure 6).

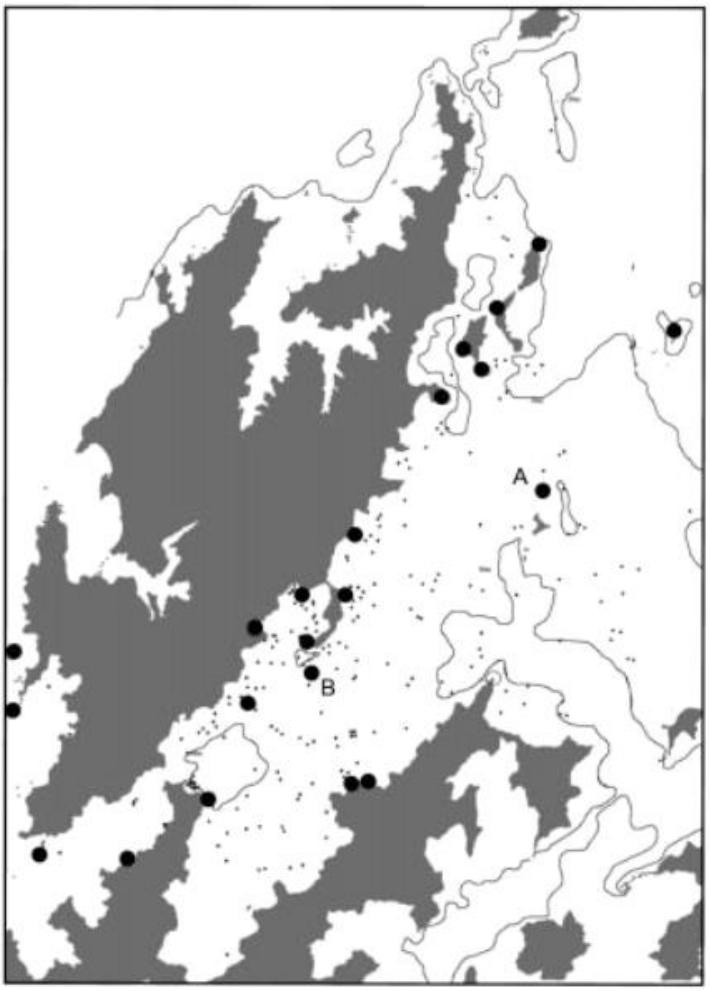

Figure 6. Distribution of foraging king shags in Admiralty Bay (small black dots) and roost site (large filled circles). A = Trio colony, B = Stewart Island colony. Figure from Schuckard (2015).

Fisher and Boren (2012) conducted boat line transects for king shags three times a month from February 2006 to March 2007 (Figure 7). In total, 38 surveys were undertaken with 131 sightings of birds foraging at sea, 65 in flight, 63 roosting in colonies, six resting on mussel floats, and two were foraging at sea within 200 m of a farm boundary. The authors reported that most sightings of king shags occurred in outer areas of Admiralty Bay (Figure 7).

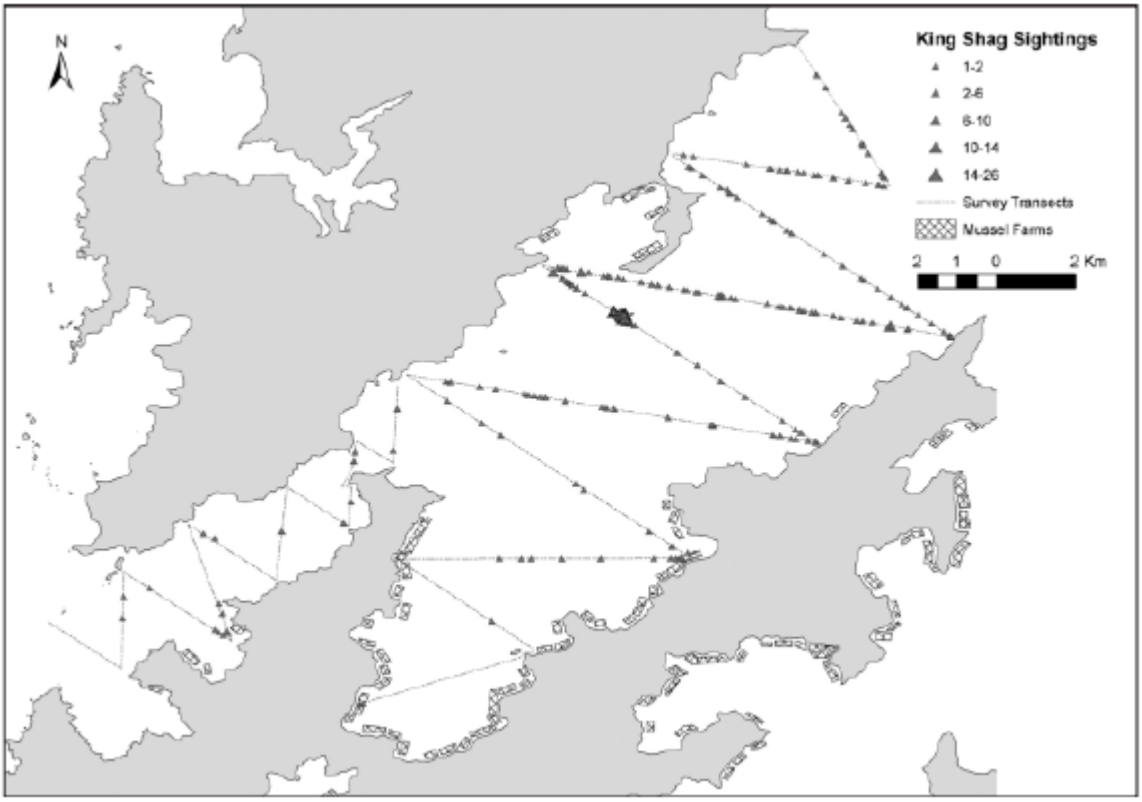

Figure 7. Distribution of king shag sightings in greater Admiralty Bay during boat transects.

2.9 Benthic

Gibbs *et al.* (2004) stated the seabed habitats in Catherine Cove can be characterised into three broad groups: the intertidal and shallow subtidal rocky shore, subtidal slope, and mud basin. Species associated with the intertidal and shallow subtidal zones were predominantly gastropods (e.g. cat's eyes, limpets, top shells, chitons, polychaetes and barnacles). Turret shells, echinoderms (e.g. 11-arm sea star), sea cucumbers, cushion stars, kina and polychaetes dominate the subtidal slope. Brittle stars (Ophiuroidea), polychaetes and opal fish *(Hemerocoetes monopterygius)* dominated the common mud basin habitat.

Duffy *et al.* (in prep) qualitatively described the biota from 360 sites around the Marlborough Sounds. Duffy *et al.* found most rocky reef sample sites in Catherine Cove were grouped with Groups 1 (inner Sounds), while soft-sediment sites grouped with Group 1.

Site Group 1 (Rocky)

This was the largest of the 11 sub-groups. Sites in this group were representative of much of the sheltered inner Sounds. They were located in Queen Charlotte (34 sites) and Pelorus (31) Sounds, Port Hardy (2), Admiralty Bay (8), Cherry Bay at D'Urville Island (1), Squally Cove in Croisilles Harbour (1), Catherine Cove (2), Guards Bay (2), Anakoha Bay (2) and Forsythe Bay/Island (5). Distance to open water was high and fetch is low. It was the deepest of the inner sounds site groups, and contained a high proportion of rocky outcrops when compared with the other inner sounds site groups. The most common habitat type was cobble banks. Although it had few indicator species, it was the most species-rich of the inner sounds site groups (average 31 species per site). The best indicator species were *Maoricolpus roseus, Galeolaria hystrix* and *Forsterygion lapillum. G. hystrix* and *F. lapillum* also occurred in over half of the non-group 1 sites. All three indicator species were from species group 2.

Site Group 1 (Soft)

Sites in this group were located in Port Underwood (6 sites), Queen Charlotte Sound (32), and the outer sounds including D'Urville Island (13). The group had the second-highest mean species richness (19 species per site) of the soft sediment site groups. Most sites covered a large depth range. The best indicator species for this group were the turret shell (*Maoricolpus roseus),* saddle sea squirt (*Cnemidocarpa bicornuata)* and the sea cucumber *Stichopus mollis.*

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3.0 Marine farm 8005

Catherine Cove is a large south-facing bay on the eastern side of D'Urville Island, at the northern extent of outer Admiralty Bay. Catherine Cove has a coastline length of approximately 8.9 km and covers an area of sea of approximately 400 ha. The present report provides biological information relating to reconsenting marine farm 8005 located along the northern shoreline (Figure 7, Plate 1). The adjacent steep hillside is clad in regenerating native trees and wilding pines.

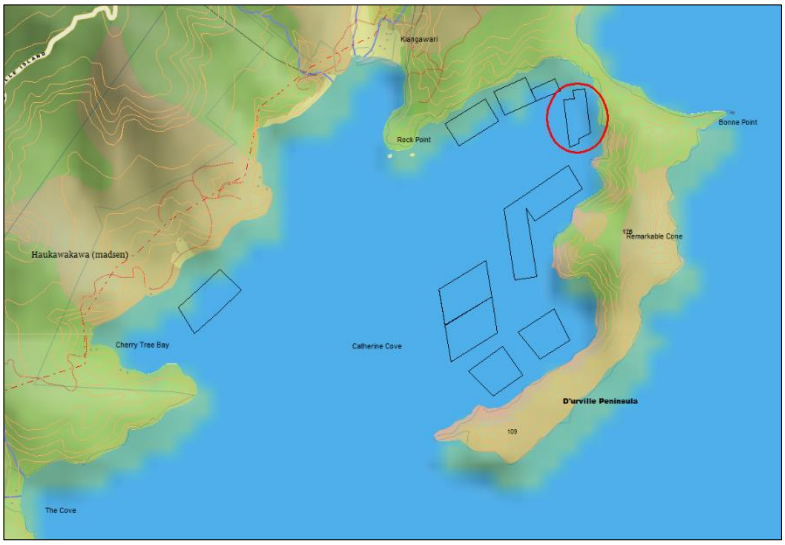

Figure 7. Marine farm 8005 in Catherine Cove (red circle) and all other marine farms in the area.

3.1 Summary

Marine farm number:	8005
Owner:	Kapua Marine Farms Ltd
Location:	Catherine Cove, D'Urville Island
MPI exclusion area present:	Yes
Consented size:	3.48 ha
Proposed size:	3.48 ha
Issues & recommendations:	Consent is <50m from low tide. Ensure backbones are not located over rocky substrata. Offshore areas are suitable should the farm be moved offshore to avoid rocky substrata.

Plate 1. Looking south across the existing backbone lines of farm 8005. The photo was taken from a position north of the inshore backbone.

3.2 Historical reports

Two previous ecological reports were found in relation to marine farm site 8005 (Davidson, 1996; Davidson and Richards, 2010).

Davidson (1996) conducted biological survey for the farm consent using SCUBA transects. Davidson described the location of benthic substrata types, including bedrock reefs with their associated biological communities:

"Subtidal shore profiles were initially dominated by hard substrata. At transect 2, the transect targeted a reef structure detected during the inshore sounding and scooter runs. This structure extended to approximately 140 m distance from shore and depths of 30 m. The reef consisted of relatively large outcrops of bedrock surrounded by dead whole shell and fine sand and silt. The deep reef area was dominated by encrusting organisms such as window oyster, ascidians, sponges and occasional tubeworms. The shallow reef was dominated by a greater diversity of species than the deep reef, being dominated by tubeworm mounds, invertebrate grazers, sponges and macroalgae. The reef was approximately 30 m across at 50 m distance from shore, 22 m across at 90 m distance from shore and 15 m across at 120 m distance from shore.

Brown macroalgae dominated by Carpophyllum flexuosum, C. maschalocarpum and Cystophora sp. extended offshore to approximately 20 m to 30 m distance at all transects. Beyond the algal zone, the reef areas were dominated by numerous invertebrates including topshells, limpets, chitons and starfish. At transect 1, these rock communities extended to approximately 60 m from shore; at transect 2, shallow reef communities extended to 60 m from shore and deep reef communities to 140 m from shore; while at transect 3, shallow reef communities extended to 60 m distance from shore. The benthos beyond these hard shores was dominated by soft bottom substrata. With increasing depth, the soft shores graded from sands through to silt and clay at approximately 28 m depth.

At transects 1 and 3, the soft shore zone was dominated by fine and medium sand to 90 m to 110 m distance from shore. Beyond, the benthos was dominated by silts and shell. By 130 m to 140 m distance from shore, the benthos was dominated by silt and clay material."

Davidson and Richards (2010) conducted a benthic survey for consent renewal of site 8005 using drop camera and scuba transect methods. Results and recommendations from their investigation include:

- *The substratum under and offshore of line 3 was characterised by silt and clay, some natural shell and variable levels of mussel debris (e.g. photos 15, 17, 18, 21 and 23). Two bedrock reef structures were recorded extending into the consent and under lines 1 and 2 (see red areas in Figure 2 and 3). Small cobbles and pebble substrata were also recorded along the inshore edge of the consent area (e.g. photos 1, 3, and 4).*
- *Most often, mussel shell was observed from drop camera photos close to or under backbones. Mussel shell debris immediately below the inshore backbone ranged from 55 to 100% cover. Shell debris dropped below 5% cover by 9 m distance from the backbone and was absent by 11 m distance.*

Due to the presence of two reef structures in the consent, Davidson and Richards (2010) recommended that either:

1. *For lines 1 and 2 only, no droppers should be placed over reef habitat; or*
2. *The consent area is revalidated further from shore and lines 1 and 2 should be removed and placed in an offshore position.*

4.0 Methods (present survey)

The area was investigated on 7th April 2021. Before 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 was used to pinpoint drop camera stations in the field. This GPS system has a maximum error of +/- 5 m.

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

4.1 Sonar imaging

Sonar investigations of the area were conducted using a Humminbird Solix 15 SI+ mega imaging unit. This unit provides right and left side imaging as well as down imaging. A Lowrance HDS 12

Gen2 unit fitted with a high definition 1kw Airmar transducer was used to collect traditional sonar data from the site.

Before 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 4.2).

4.2 Drop camera stations, mussel debris and low tide

A total of 31 drop camera photographs were collected from the farm (including alongside droppers and warps) and adjacent areas to the consent. At each drop camera station, a Sea Viewer underwater splash camera fixed to an aluminium frame was lowered to the benthos and an oblique still photograph was collected where the frame landed.

The cover of benthic mussel shell from drop camera photographs were ranked as: None = no mussel shell, Low = 1-30%, Moderate = 31-50%, Moderate to High = 51-75%, and High = 76-100% cover. Percentage cover of mussel shell was estimated by a trained observer viewing drop camera photographs.

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 strategic locations inshore of the consent. The survey vessel was positioned over the low water mark and the position plotted using the mapping software. Low tide was visually determined using the transition between intertidal and subtidal species. This process was also guided by the known state of the tide at the time of the inspection.

5.0 Results

On the day of the survey, the tide was high at 5.39 am (2m) and low at 12.01 pm (0.8 m). During fieldwork, the tide was incoming with no noticeable current observed.

5.1 Consent corners and surface structures

The consent offshore of the MPI exclusion was investigated. This benthos was gently sloping from 20 m to 26 m along the inshore boundary to the consistently deep offshore boundary around 30 m depth (Table 1, Figure 9).

The farm consisted of one block with 5 existing backbone lines, covering 1.4 ha surface area. All backbones were positioned within the existing consent, with two backbones present within the MPI exclusion area (Plate 3, Figure 9).

The distance between low tide and the consent boundary was measured at three positions along the adjacent shoreline. The distance to the inshore consent and MPI exclusion boundary at the position of low tide 1 was 43 m, at low tide 2 was 56 m and at low tide 3 was 44 m. The distance from low tide to the offshore boundary of the MPI exclusion area was 103 m at low tide 1, 116 m at low tide 2 and 104 m at low tide 3 (Plate 3, Figure 9).

Type	No. & Depth	Coordinates
Consent corner	1, 20.1m	1676265.9,5476440.8
Consent corner	2, 21.5m	1676255.9,5476439.6
Consent corner	3, 22.6m	1676261.7,5476390.1
Consent corner	4, 29.2m	1676202.1,5476383.2
Consent corner	5, 30.8m	1676233.2,5476109.5
Consent corner	6, 30m	1676271.5,5476127.0
Consent corner	7, 29.3m	1676266.2,5476173.7
Consent corner	8, 26m	1676294.8,5476186.7
Structure corner	A, 19.4m	1676263.4,5476424.2
Structure corner	B, 19.1m	1676294.5,5476245.5
Structure corner	C, 23.3m	1676278.2,5476220.8
Structure corner	D, 30.3m	1676236.7,5476196.2
Structure corner	E, 29.4m	1676218.4,5476332.1
Structure corner	F, 23.4m	1676275.5,5476348.4
Structure corner	G, 14.6m	1676321.6,5476264.7
Structure corner	H, 13m	1676301.6,5476435.1
Low tide	Low tide 1	1676369.8,5476435.6
Low tide	Low tide 2	1676391.6,5476360.3
Low tide	Low tide 3	1676390.7,5476263.3

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

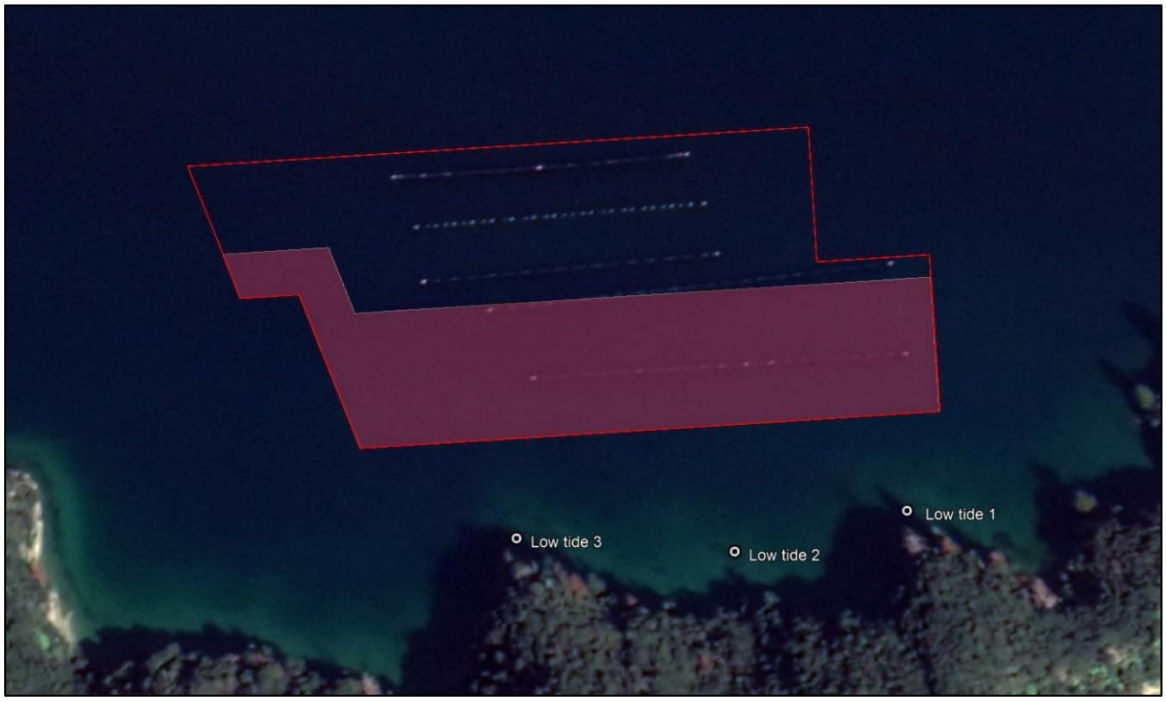

Plate 3. Aerial view of three low tide GPS locations relative to the farm consent boundary (red polygon).

5.2 Wildlife observations in the consent

During this site survey, one seabird species and one marine mammal species were observed within the consent area (Table 2). Only one spotted shag was observed sitting on a backbone float during the site survey. Two fur seals were observed resting on floats.

Table 2. Wildlife observations at farm 8005 in Catherine Cove.

BIRDS	Number	Floats (foraging)	Floats (roosting)	Flying	Water (swim)	Water (foraging)
Little shag						
Little black shag						
Pied shag						
Spotted shag	1		1			
King shag						
White fronted tern						
Caspian tern						
Black-backed gull						
Black-billed gull						
Red billed gull						
Skua						
Gannet						
Variable oyster catcher						
Mallard duck						
Paradise duck						
Little blue penguin						
MARINE MAMMALS		**Foraging**	**On floats**	**Travelling**	**Swimming**	
Fur seal	2		1		1	

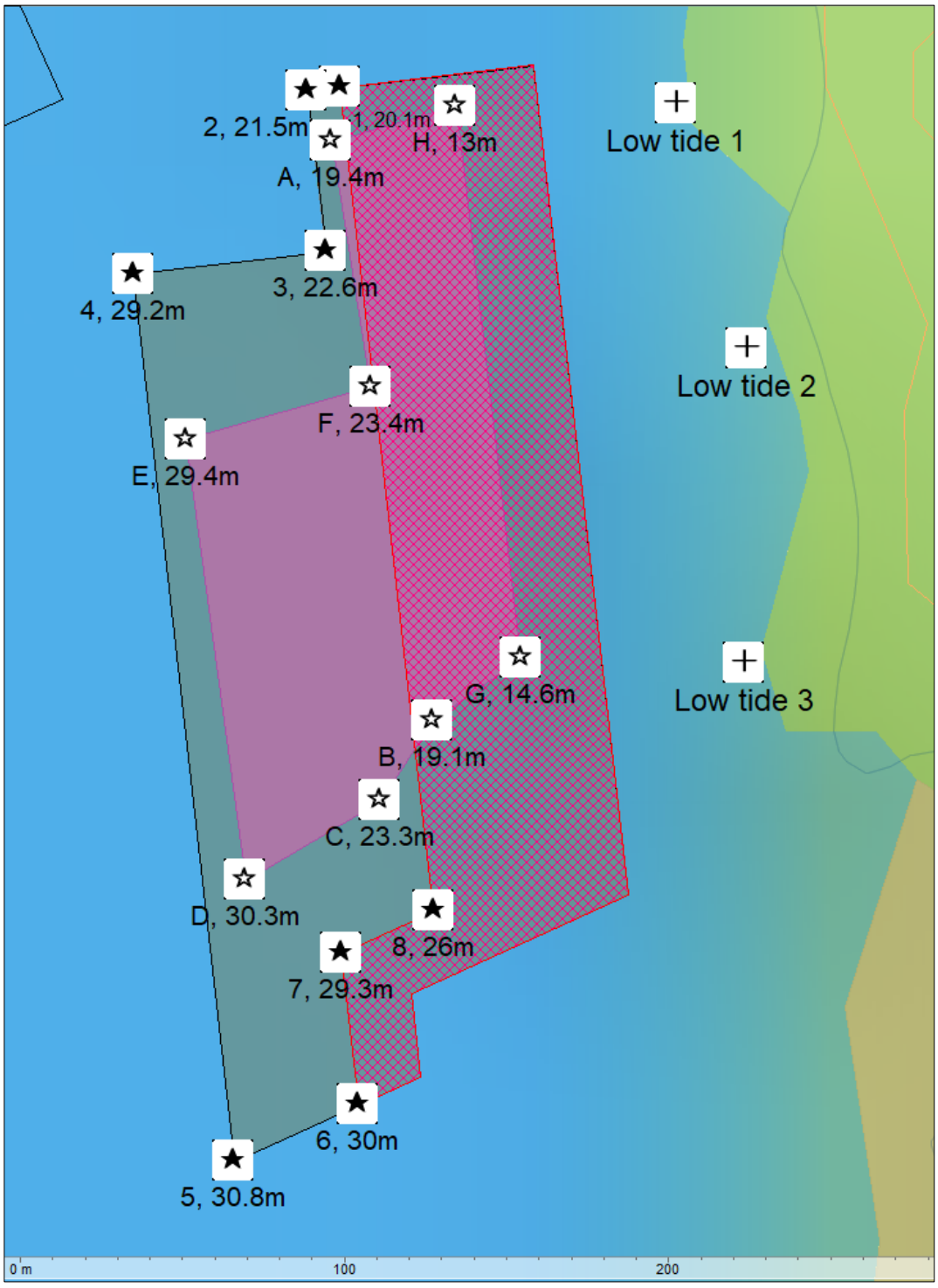

Figure 9. Depths of the existing consent area (grey), MPI exclusion area (red hatched) and existing marine farm surface structures (pink). Three low tide locations are also plotted (crosses).

5.3 Sonar imaging

The downscan transect ran along the offshore boundary of the MPI exclusion area. An upright area of rocky reef substrata was identified under the backbone towards the southern end (Figure 10).

The sidescan revealed the consent seafloor was characterised by soft sediment, with rocky reef structures present (Figures 11a, b). The northern reef structures were identified within the MPI exclusion while the southern reef structures extended beyond the MPI exclusion into the offshore consent area. This southern reef area was further investigated and ground-truthed using the drop camera.

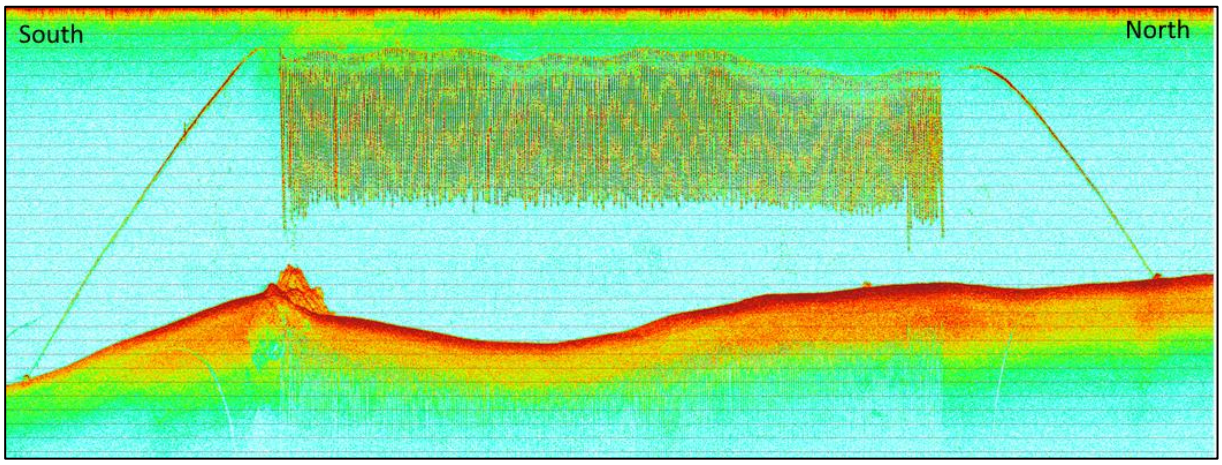

Figure 10. Downscan along the offshore boundary of the MPI exclusion within the consent (see track in Figure 11).

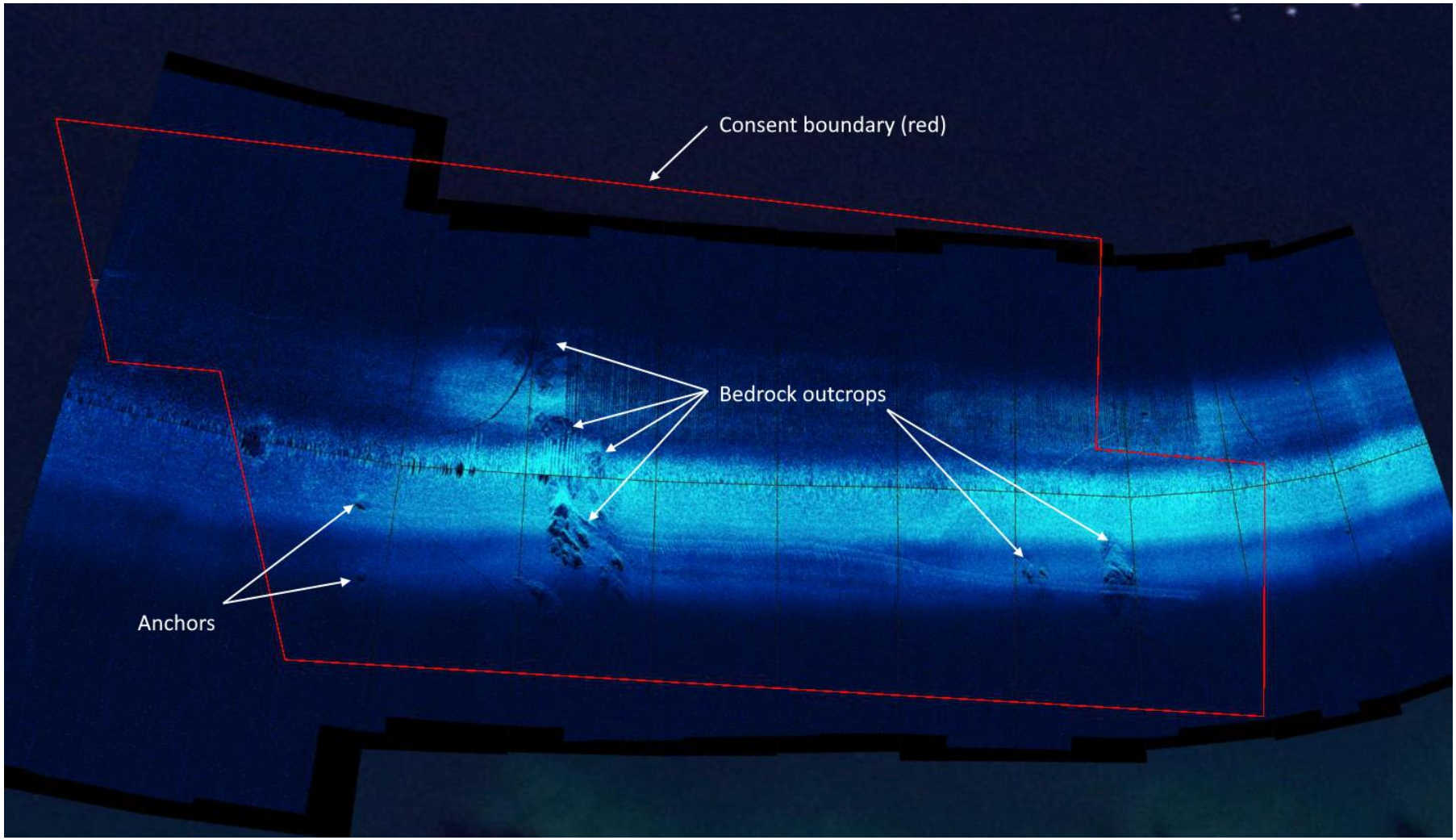

Figure 11a. Sonar run along the offshore boundary of MPI exclusion area of marine farm 8005. Red polygon = consent boundary, glow edge = sonar track. The shoreline is located at bottom of the image.

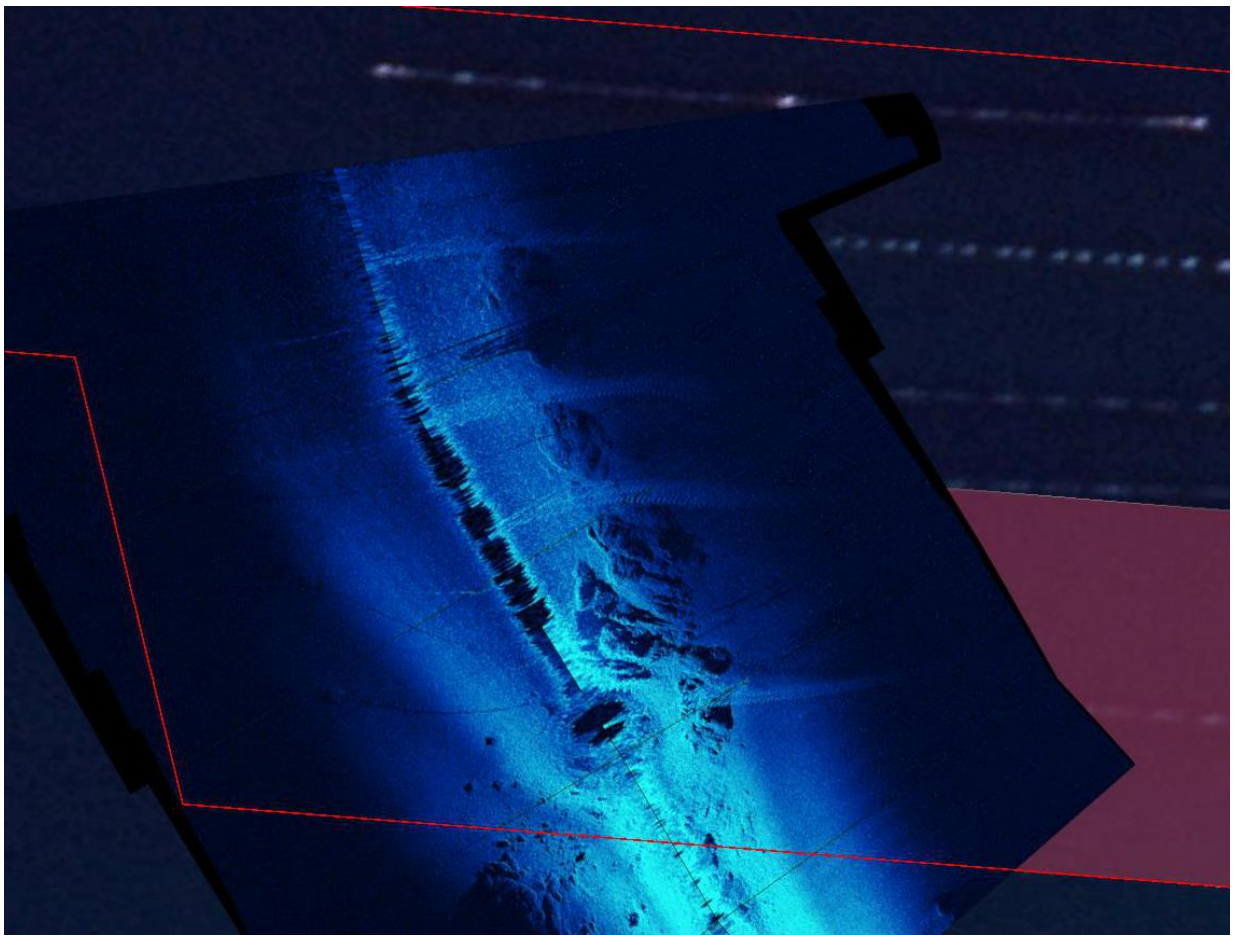

Figure 11b. Sonar run heading west (offshore) through marine farm 8005. Red polygon = consent boundary, glow edge = sonar track. The shoreline is located at bottom of the image.

5.4 Drop camera images

Drop camera photographs were taken throughout the consent area and areas offshore of the consent (Table 3, Figures 12 & 13, Appendix 1). Photographs were used to describe benthic substrata, mussel shell debris cover and the presence of biological characteristics.

Within the consent

The seafloor under the existing consent was dominated by silt and clay (Plate 3). Bedrock reef was also present in the offshore area of the consent to depths of 24 m and approximately 130 m distance from low tide, extending through the MPI exclusion area (Plates 4, 5 & 6). No boulders, cobbles or pebbles were recorded. No widespread areas of natural shell or macroalgae beds were recorded.

Conspicuous species observed on the soft benthos in the consent included macroalgae, cushion star, 11arm seastar, kina and sea cucumber. Rocky substrate supported some of these soft benthos species and sponge species. Spotty were seen over soft and rocky substrata (Table 3). Mussel shell debris was present under backbones within the consent.

Mussel shell

Mussel shell was present in 15 of the 20 photos collected from within the consent area and in 3 of the 5 photos taken in the MPI exclusion area (Table 3, Figure 13). Mussel shell debris was highly variable under backbone structures, ranging from 0 to 100% cover (Plates 5-8). Bedrock reef habitat under the backbones was impacted by the presence of mussel shell debris and silt (Plates 4, 5, 6).

No mussel shell debris was recorded under warps. Mussel shell was absent from the five photos collected offshore of the consent.

Outside the consent

The seafloor offshore and alongshore of the existing consent was soft silt and clay (Plate 9). No conspicuous species or mussel shell were observed outside the consent.

Plate 3. Silt and clay under backbones in the consent area (photo 28, 26.5 m depth).

Plate 4. Bedrock and silt under backbones in the consent area (photo 10, 20.3 m depth).

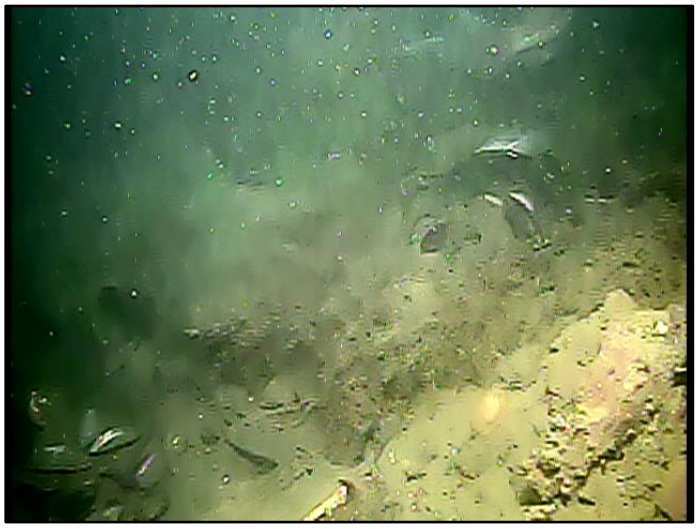

Plate 5. Bedrock, silt and mussel shell under backbones in the consent area (photo 12, 24.2 m depth). Note: 15% cover of mussel shell.

Plate 6. Bedrock, silt and mussel shell under backbones in the MPI exclusion area (photo 8, 19.2 m depth). Note: 2% cover of mussel shell and sponges.

Plate 7. Silt, natural and mussel shell under backbones in the MPI exclusion area (photo 7, 21.7 m depth). Note: 100% cover of mussel shell.

Plate 8. Silt, clay and mussel shell under backbones in the consent (photo 15, 28.2 m depth). Note: 65% cover of mussel shell debris.

Plate 9. Silt and clay offshore of the consent (photo 23, 30.9 m depth).

Table 3. Coordinates for drop camera stations relative to the marine farm area. Colours are: grey = within consent area, pink = under backbones, blue = outside consent area. Depth, substratum, shell debris and % cover are listed.

No. & Depth	Coordinates	Location	Substratum	Features	Shell debris	% mussel shell	% macroalgae	% natural shell
1, 19.5m	1676264.9,5476424.3	In consent, within backbones	silt, natural shell, mussel shell		low	5	0	5
2, 20.1m	1676268.3,5476386.5	In consent, within backbones	silt, mussel shell	cush	low	5	0	0
3, 19.9m	1676267.0,5476400.8	In consent, within backbones	silt, mussel shell		high	80	0	0
4, 20.6m	1676271.6,5476369.5	In consent, within backbones	silt, natural shell, mussel shell		moderate-high	70	0	2
5, 23m	1676278.3,5476332.1	In consent, within backbones	silt, clay, mussel shell	11arm	low	2	0	0
6, 22.7m	1676285.1,5476289.7	MPI exclusion, within backbones	silt, clay, mussel shell	spotty, cuc	moderate	40	0	0
7, 21.7m	1676290.7,5476258.6	MPI exclusion, within backbones	silt, natural shell, mussel shell	cuc, cush	high	100	0	1
8, 19.2m	1676295.9,5476245.6	MPI exclusion, within backbones	bedrock, silt, mussel shell	spotty, sponges, sol asc	low	2	0	0
9, 22.1m	1676278.1,5476241.1	In consent, within backbones	silt, clay, mussel shell		high	100	0	0
10, 20.3m	1676278.8,5476241.4	In consent, within backbones	bedrock, silt			0	0	0
11, 23.3m	1676278.9,5476221.2	In consent, within backbones	silt, clay, mussel shell		high	100	0	0
12, 24.2m	1676263.8,5476237.9	In consent, within backbones	bedrock, silt, mussel shell		low	15	0	0
13, 23.1m	1676265.7,5476238.9	In consent, within backbones	bedrock, silt			0	0	0
14, 26.8m	1676254.1,5476239.0	In consent, within backbones	silt, mussel shell	11arm, cush	high	90	0	0
15, 28.2m	1676254.5,5476225.8	In consent, within backbones	silt, clay, mussel shell	spotty	moderate-high	65	0	0
16, 29.6m	1676250.2,5476200.0	In consent, warp area	silt, clay			0	0	0
17, 29.8m	1676255.7,5476160.3	In consent, no structures	silt, clay			0	0	0
18, 28.7m	1676281.7,5476179.0	MPI exclusion, warp area	silt, clay			0	0	0
19, 29.3m	1676282.6,5476149.0	MPI exclusion, no structures	silt, clay			0	0	0
20, 27.6m	1676299.5,5476144.4	Outside consent, no structures	silt, clay			0	0	0
21, 30.8m	1676214.8,5476119.4	Outside consent, no structures	silt, clay			0	0	0
22, 31.2m	1676180.2,5476113.3	Outside consent, no structures	silt, clay			0	0	0
23, 30.9m	1676186.2,5476201.9	Outside consent, no structures	silt, clay			0	0	0
24, 30.2m	1676222.3,5476263.7	In consent, no structures	silt, clay			0	0	0
25, 30.6m	1676163.6,5476274.5	Outside consent, no structures	silt, clay			0	0	0
26, 30m	1676174.3,5476348.6	Outside consent, no structures	silt, clay			0	0	0
27, 29.4m	1676217.2,5476332.0	In consent, near backbones	silt, clay			0	0	0
28, 26.5m	1676255.8,5476341.7	In consent, within backbones	silt, clay	macroalg		0	20	0
29, 25.7m	1676249.5,5476372.5	In consent, warp area	silt, clay			0	0	0
30, 28.1m	1676247.3,5476303.9	In consent, within backbones	silt, clay, mussel shell	spotty	low	5	0	0
31, 26.9m	1676255.1,5476255.8	In consent, within backbones	silt, clay, mussel shell	kina	high	85	0	0

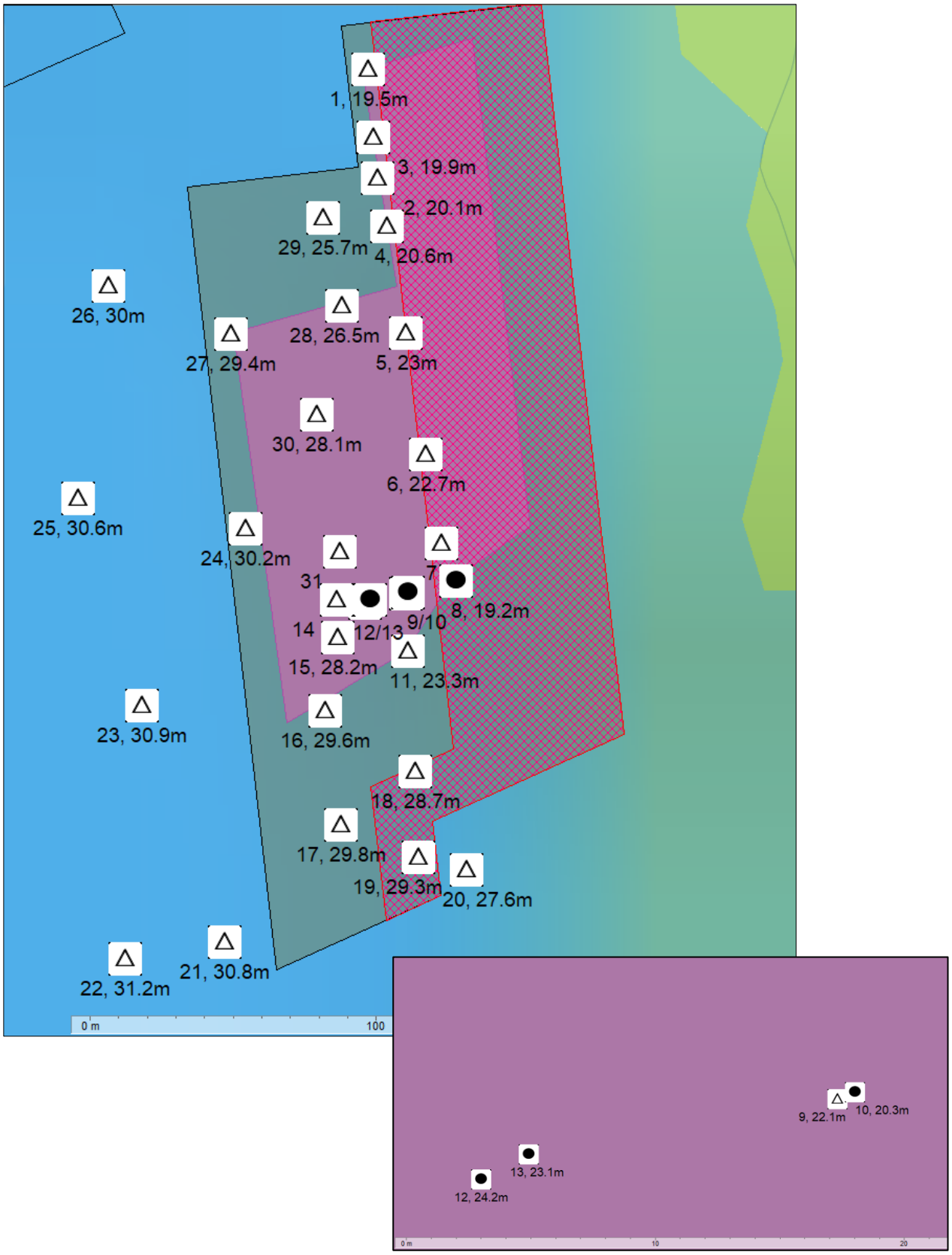

Figure 12 (and inset). Drop camera stations in the consent (open triangles = soft substrate, filled circles = rocky substrate), consent area (grey), MPI exclusion area (red hatched), surface structures (pink). Numbers are the photo number and water depth (m).

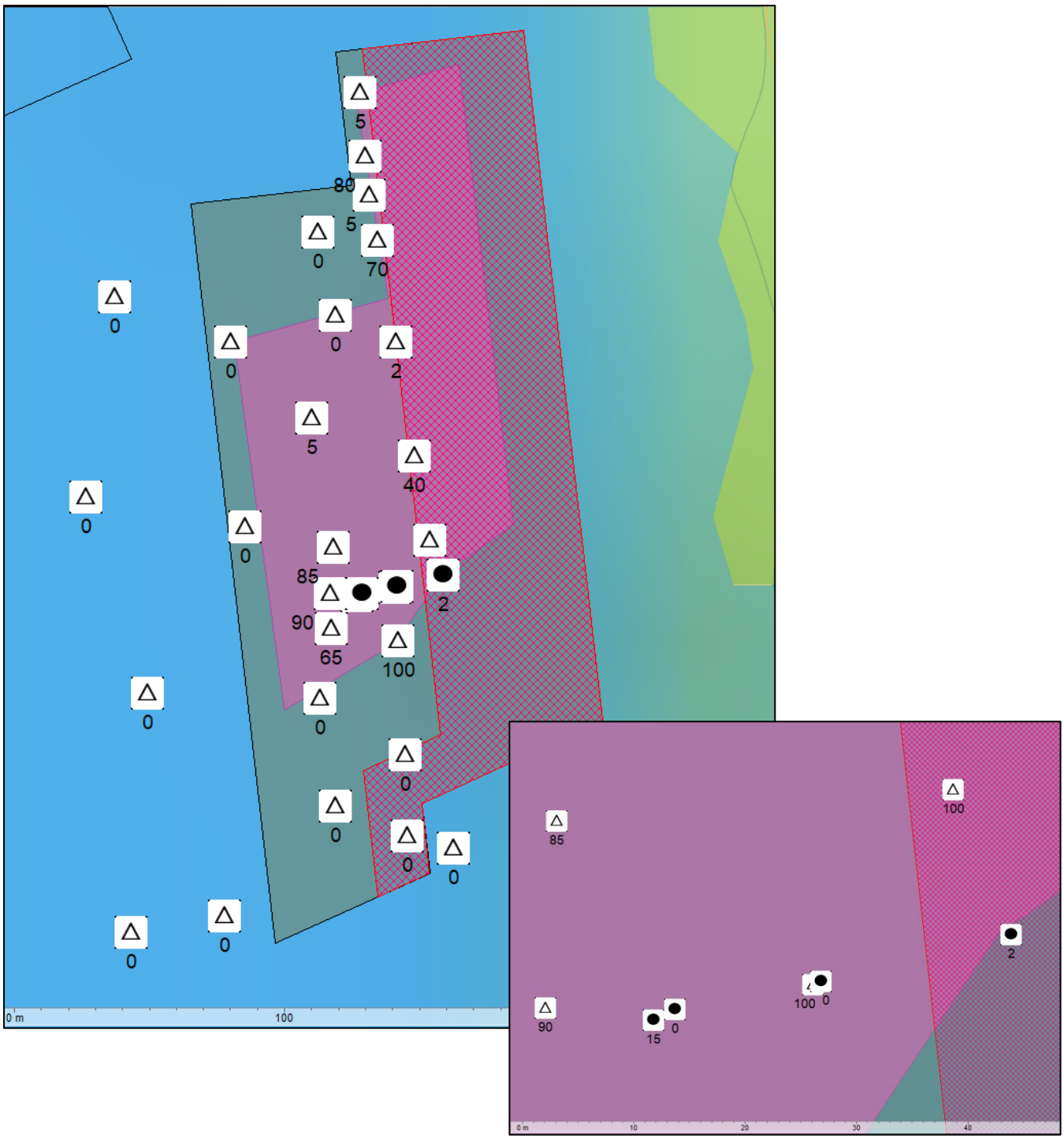

Figure 13 (and inset). Estimated percentage cover of mussel shell from drop camera stations (open triangles = soft substrate, filled circles = rocky substrate), consent area (grey), MPI exclusion area (red hatched), surface structures (pink). Numbers are the estimated % cover of mussel shell.

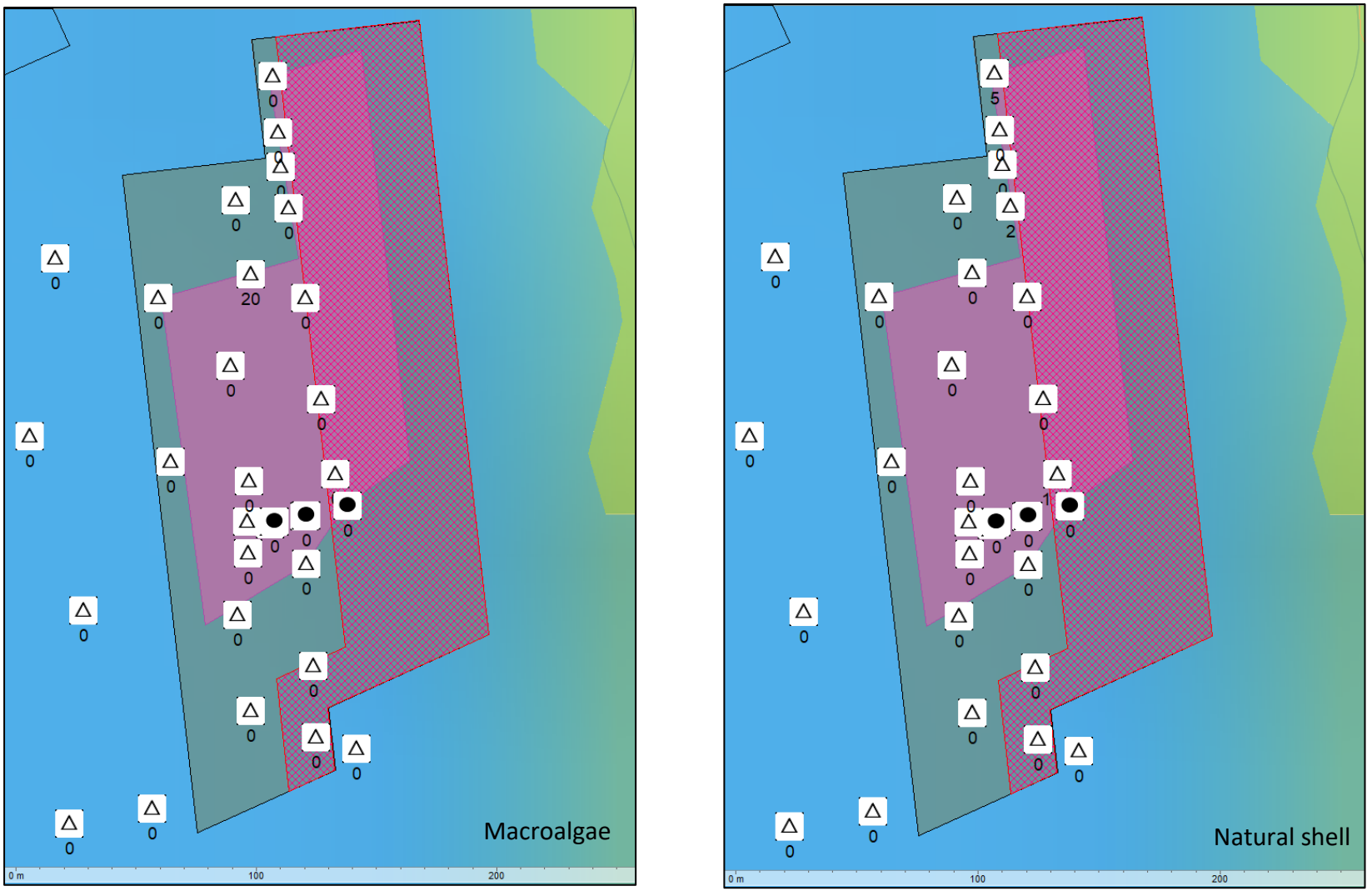

Figure 14. Estimated percentage cover of macroalgae and natural shell from drop camera stations (open triangles = soft substrate, filled circles = rocky substrate), consent area (grey), MPI exclusion area (red hatched), surface structures (pink). Numbers are the estimated % cover of macroalgae (left image) and natural shell (right image).

6.0 Conclusions

6.1 Seabirds and marine farms

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

Based on the few studies that have investigated the interactions between mussel farms and birds, mussel aquaculture can potentially affect seabirds by altering their food resources, cause physical disturbances (e.g. noise) and/or introduce possible entanglement risks. The structures associated with aquaculture may also provide benefits including additional perching and feeding opportunities.

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

Birds are potentially at risk from operational by-products of farms, including ties and plastics. Butler (2003) found young and adult Australasian gannets (*Morus serrator*) in the Marlborough Sounds entangled in discarded rope ties from mussel farms that had been incorporated into nests by parents. Gannet colonies are established at Farewell Spit and Waimaru Peninsula within Beatrix Complex. A variety of penguin, shag and gull species are also present in the area and may potentially use ties as nesting material. It is therefore important that marine farmers minimise the introduction of ties into the marine environment.

McClellan *et al.* (2020) conducted a pilot study comparing seabird use at paired sites with and without mussel farms. Each of eight paired sites in Pelorus Sound were observed for two days (approximately 14 hours), except for one paired site, which was only observed for one day, as a harvesting vessel arrived on the morning of the second day. Counts were made of seabird species present in the farm and control sites at 15-minute intervals throughout each two-day

period. General notes were made on the behaviours of those bird species at the sites, for example, foraging between backbone ropes, feeding on algae and other biota associated with backbone ropes, roosting on buoys, resting on the sea surface, etc. McClellan *et al.* (2020) found 11 species of birds used mussel farms (mean = 7.6 species per farm; standard error = 0.4) compared to five species of birds that used the associated control sites (mean = 1.0 species per control; standard error = 0.5).

Catherine Cove farm

During the present survey, only one individual seabird was observed resting on a backbone float, suggesting it may benefit from the farm structures. The number of bird species and their abundance was very low compared with many marine farms in the Sounds.

6.2 King shags and marine farms

A variety of authors have also outlined human activities that may impact king shags including aquaculture (Schuckard, 2006; Bell, 2019a; McClellan *et. al*., 2020); commercial fishing (McClellan, 2017), colony disturbance (Butler, 2003; Davidson *et al*., 2018), and hunting (Nelson, 1971). Apart from aquaculture, little research has occurred on these topics despite their potential importance on a high-status species.

Butler (2003) undertook the first review of the possible effects of marine farms on king shag. He described the potential effects in three categories: physical effects (structures of farms, lights, debris from farms, and shell waste); effects of activities (disturbance, noise and water pollution); and effects on marine ecology (hydrography, sediment and water column changes, creation of new habitat, exclusion of trawlers, unwanted organisms). Butler (2003) considered that most king shag feeding occurred in deeper water and that potential impacts resulting from mussel farms excluding king shag foraging may become apparent if deeper-water mussel farms were developed. Lloyd (2003) reviewed the effects of aquaculture on seabirds and cetaceans. He also appeared to believe the existing pattern of inshore mussel farms was less likely to affect king shag foraging compared to proposals for extensive mid-bay mussel farms in Admiralty Bay. Fisher and Boren (2012) undertook a rigorous study of king shag foraging distribution in Admiralty Bay and concluded that deep water marine farms posed a greater threat compared to inshore sites.

Sagar (2013) conducted a general review of the ecological effects of aquaculture and only specifically mentioned king shag in relation to disturbance but discussed the main effects of

'filter feeder species' farms on seabirds in general, and their significance. The author stated the eight key effects were: entanglement with farm structures, habitat exclusion, smothering of benthos, changed abundance of prey, provision of roosts, disturbance by farm activities, ingestion and entanglement with farm debris, and attraction to lights. Sagar (2013) considered that the potential effects of habitat exclusion and smothering of benthos were, in general, insignificant to seabirds given the small area occupied by filter feeder farms. However, he qualified this, noting that the significance of effects "will depend on the spatial scale of the aquaculture facility in relation to the distribution and abundance of prey species", and concluded that effective management could be achieved by avoiding locating farms in key foraging areas of species with restricted habitat requirements (see Sagar, 2013). The review listed "home ranges or location of important feeding and breeding habitats for most populations of seabird species" as being a key information gap for every one of the eight key potential effects.

Recent work on king shag has focused on a variety of aspects including foraging related behaviour (Bell 2019, 2019a; 2020; McClellan *et al*., 2020). These studies have been funded by the MFA, Seafoods Innovations Limited and MPI. In the first year of a three-year study, Bell (2019a) attached GPS transmitters on birds from two Pelorus colonies located at Tawhitinui Bay and Duffers Reef. For the six tagged birds, between 7 and 13 days of data were recorded. Birds conducted between 7 and 20 foraging bouts over this period. Bell analysed the 42 complete foraging data sets to assess foraging behaviour and reported the average foraging trip duration was 4.5 hours (range: 23 minutes to 9 hours and 28 minutes). GPS data from the 42 complete datasets revealed birds spent on average 20 minutes flying to a foraging site. An average of 2 hours 59 minutes was spent foraging. Birds spent an average of 43 minutes resting or swimming on the water and 25 minutes roosting on mussel floats outside foraging bouts. Overall, birds spent 20% of each trip not foraging. Bell (2019a) reported that all six birds spent some time roosting on mussel floats including one bird that overnighted on a float. None of the birds visited land while away from the colony. The author also reported that the average foraging distance from the colony was 6.2 km (range: 0.4 km to 16.2 km).

Bell (2019a) reported that birds appear to have favoured foraging areas, with birds returning to broadly similar areas. Some birds foraged outside marine farms while some foraged within marine farms (Figures 14 & 15). Bell reported one bird foraged almost exclusively within mussel farms.

Bell (2019a) also reported birds had preferences for diving depth, with one bird having a mean maximum depth of 12.6 m (i.e. shallow preference), while one bird preferred deep diving with a mean maximum depth of 26.9 m.

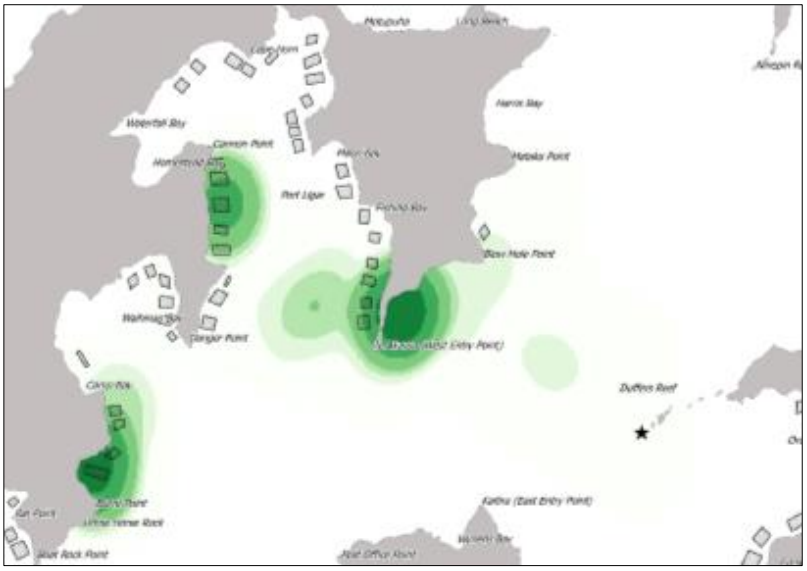

Figure 14. Heat map of foraging location of king shags from Duffers Reef colony (from Bell, 2019). Note marine farms are depicted as grey shapes and the king shag colony as a star.

Figure 15. Duffers Reef king shag individual who preferred to forage in marine farms.

McClellan *et al.* (2020) conducted a pilot study comparing king shag use at paired sites with and without mussel farms. Each of eight paired sites in Pelorus Sound were observed for two days (approximately 14 hours), except for one paired site, which was only observed for one day, as a harvesting vessel arrived on the morning of the second day. Counts were made at

the farm and control sites at 15-minute intervals throughout each two-day period. General notes were made on the behaviours at the sites, for example, foraging between backbone ropes, feeding on algae and other biota associated with backbone ropes, roosting on buoys, resting on the sea surface, etc. McClellan *et al*. (2020) reported that king shags were present at five of the eight study farms and four of the control sites. Birds were not observed at two of the eight paired sites. King shag roosted (no foraging) at two farms and roosted and foraged at three farms. In evidence before the Waikato Regional Council, McClellan (2019) stated "it has long been thought that mussel farms may exclude king shag from feeding in and around the structures of mussel farms due to benthic habitat changes under the farms and/or the structures themselves. The results from both this pilot study and from Bell (2019a) which involved attaching GPS loggers to six breeding adult king shags for 6-12 days, indicate that king shags do forage in mussel farms, sometimes for long periods of time and sometimes exclusively over that period."

In the second year of the three-year programme, Bell (2020) reported on the results of tagging studies. The author tagged seven birds with results showing birds regularly returned to the same foraging sites on repeat foraging trips. The author stated there appeared differences in male and female foraging behaviour with males foraging for longer, further from the colony, diving deeper and forage later in the day compared to females. Pooling data from both years, 4 of 11 king shag tracked who foraged in areas with mussel farms, foraged within mussel farms. All 11 birds roosted on farms and all foraged immediately adjacent or close to mussel farms.

Catherine Cove farm

King shags have been observed foraging in Catherine Cove. The closest colonies are the Trio Islands and Stewart Island. If the consent is moved offshore to avoid bedrock habitat, the inshore area will be available as foraging space while the offshore area may or may not be avoided by foraging birds. The total space for this consent will remain the same thereby minimising any impact on king shag.

6.3 Marine mammals and marine farms

International research demonstrates that the nature and scale of any direct displacement or avoidance vary greatly between culture methods and marine mammal species (MPI, 2013). While particular species of whales or dolphins will be highly sensitive to disturbance, other

species (such as bottlenose dolphins) and pinnipeds may be attracted to the structures (Lopez, 2012; Clement and Halliday, 2014; Davidson and Richards, 2017; Methion and Lopez, 2019).

For mussel farming, occupied farm areas may be perceived by some marine mammals (particularly those that echolocate) as a physical, visual or acoustic obstruction within their habitat. Based on research to date in Admiralty Bay, dusky dolphins appear unable to cooperatively herd schooling fish when adjacent to or within mussel farm structures (see Pearson *et al*., 2012). Clement and Halliday (2014) also noted the reluctance of common dolphins to enter or feed near farm structures within the Admiralty Bay region. Over the course of five consecutive winters between 1998 and 2002, Markowitz *et al.* (2004) found that dolphins spent significantly less time in areas occupied by mussel farms than other parts of the inner bay. Pearson *et al*. (2012) also reported similar findings from tracking dolphin groups both inside and outside of mussel farms across all of Admiralty Bay during the winters and springs of 2005-2006. To test specifically whether these results were due to the fact that dusky dolphins might not use habitats closer to shore in general, rather than avoiding the farm areas themselves, Markowitz's study looked at the amount of time groups spent near farms (<200 m) and Pearson's study looked at time spent within the nearshore zone (<400 m of the shoreline) around inner and all of Admiralty Bay, respectively. Both studies found dolphins frequented areas occupied by mussel farms significantly less often than similar areas near farms or within the general nearshore zone.

The significance of such 'disruptions' to their foraging and feeding success over time may range from minor, (i.e. they simply employ other foraging strategies or move to other sources) to major implications (i.e. the loss of a primary food source begins to have population-level effects, such as reduced reproduction rates). It is difficult to assess whether these foraging limitations are impacting on the survival and reproduction of these dolphins at the population level and research can take several decades to determine and population dynamics (e.g. closed versus open structure) can affect the efficiency with which data can be collected (D. Clement, pers. comm.).

Displacement

Some species such as NZ fur seals may be attracted to mussel farms as hauling outs (Clement and Halliday, 2014; Davidson and Richards, 2017). Farm structures may also attract bottlenose dolphin and possibly killer whales, due to these species' curious natures and the

associated aggregations of possible prey species under and near farms. Bottlenose dolphins have been frequently recorded 'sweeping' through mussel farms in the Sounds (D. Clement, pers. comm; Authors, pers. obs.).

Entanglement

Globally, 15 whales have been recorded as being entangled and/or damaging marine farms but only six of these have been in mussel farms with the remainder interacting with salmon farms (Clement & Elvines, 2019). There are two reported incidences of dolphin entanglement and death at a salmon farm in New Zealand, both from the Marlborough Sounds (M. Aviss, MDC). In one, an unidentified dolphin species became trapped while a predator net was being replaced, and in the other case, a Hector's dolphin became trapped under a predator net. Internationally, fatal entanglements of dolphins in predator nets on finfish farms have been reported from Australia (Kemper and Gibbs, 2001; Kemper *et al*., 2003) and Italy (Díaz López and Bernal Shirai, 2007). This may reflect the attraction of dolphins to a food source (Kemper and Gibbs, 2001) although such interactions between finfish farms and cetaceans have not been proven (Kemper *et al*., 2003).

There is also one record of a marine mammal becoming trapped or tangled in a mussel farm (a Bryde's whale; Wursig and Gailey, 2002). The low incidence of mussel farm entanglements is probably related to warps and backbones being under tension thereby reducing the chance of entanglement. This is in stark contrast to lobster pots that have a single line to the surface. This line is usually under little or no tension. Whales migrating up the east coast of the South Island pass hundreds of lobster lines that present a serious entanglement threat. A humpback first spotted by DOC staff near Banks Peninsula with a cray pot buoy line tangled around its tailstock and flukes then became entangled in mussel floats when it swam alongside a farm in Tory Channel several days later. This animal was cut free from the cray pot lines by a mussel farmer (Scott Madsen) and was released alive.

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

Catherine Cove farm

For dolphin species, the existing farm could represent an area lost as a foraging habitat, however, these species are only occasionally seen in this area of Catherine Cove. The marine

farm will not change in size if reconsented, however, it may be moved further from shore to avoid bedrock habitat. This marine farm is located in inner Catherine Cove, while dolphins are usually observed in the open water of western Catherine Cove (authors, pers.obs.). Any impacts on dolphin species will likely remain low.

Based on the location of this farm in inner Catherine Cove and known whale migratory patterns and behaviour, it is unlikely this farm represents a threat for migrating whales.

The present marine farm utilises standard mussel farming structures that are under tension and therefore present a low risk of entanglement to marine mammals. Two fur seals were observed utilising the consent area, suggesting they may benefit from the farm placement.

6.4 Biosecurity issues

Most major marine farm contactors, harvesters and major companies are members of the A+ programme (http://www.aplusaquaculture.nz/farmers-information). The A+ programme promotes good environmental practices. In particular, the A+ programme has a major objective that "farming activities do not cause an unacceptable biosecurity risk". All A+ members are also required to recognise the Biosecurity Act 1993, as well as the Hazardous Substances and New Organisms Act 1996.

6.5 Benthic habitats and substratum

Substratum and habitat distribution relative to the proposed reconsent area was based on drop camera stations and sonar imaging of the benthos. The consent was located over deep (> 20 m) benthos of silt and clay. Mud (i.e. silt and clay) is the most common subtidal habitat in sheltered areas of the Marlborough Sounds (McKnight and Grange, 1991) and has been traditionally targeted for marine farming activities. This substratum type is suitable for consideration for marine farming activities in the Marlborough Sounds.

Unlike mud, rocky substratum is not traditionally considered suitable for marine farming activities as it can be smothered by silt and shell debris and therefore may no longer function as hard substratum habitat. Bedrock reefs were identified at two locations in the existing MPI exclusion area. The southern reef extended through the MPI exclusion into the offshore consent area at a distance of approximately 130 m from low tide. The reef was impacted by silt and mussel shell due to existing backbones positioned directly over the reef.

In previous reports, Davidson (1996) also identified this southern reef structure extending to approximately 140 m distance from shore and depths of 30 m. Davidson and Richards (2010) also documented "*two bedrock reef structures were recorded extending into the consent and under lines 1 and 2"*.

Due to the presence of bedrock reef within the consent and directly under growing backbone structures, Davidson and Richards (2010) recommended no droppers should be placed over reef habitat along lines 1 and 2; or, the consent area is revalidated further from shore and lines 1 and 2 should be removed and placed in an offshore position.

6.6 Species and communities

Species abundance and diversity from the consent area was lower than high current locations in the Sounds. Soft substratum habitats traditionally have a reduced epibenthic species diversity and abundance compared to hard substrata. The soft seafloor under the consent area supported common species in relatively low abundance, including macroalgae, sea cucumber, kina, cushion star and 11arm seastar. The rocky reef habitat featured sponge species, which are uncommon on silt benthos. Spotty were observed throughout the consent, regardless of habitat type.

No species, habitats or communities at densities likely to be regarded as ecologically significant (see Davidson *et al*., 2011 for criteria) were observed during the present study.

6.7 Mussel farming impacts

6.7.1 Benthic impacts

Five backbones occupied the consent and part of the MPI exclusion area. Mussel shell debris was was widespread under backbones, recorded in 15 of the 20 photos within the consent and 3 of the 5 photos taken within the MPI exclusion. Rocky reef habitat was identified within the consent and MPI exclusion, with backbones present over the reef. Mussel shell debris impact on reef habitat in the consent reached up to 15% cover, while shell debris reached up to 100% on silt and clay benthos. Silt was observed on reef substratum near backbones. No mussel shell was observed from photos taken under warps or offshore of the consent.

Impact at this site is moderate-high due to the presence of silt and shell debris on bedrock reef under backbones compared to other production farms in the Sounds. From this present

survey, it is evident the backbones in the MPI exclusion have not been moved and still overlay reef habitat. The impact of continued shellfish farming at this site will probably result in the deposition of more shell and fine sediment under and near backbone droppers, including the reef habitat. Based on the literature and assuming the present level of farming activity remains consistent, it is likely the redox layer will be shallower compared to sites away from the farm (Hartstein and Rowden, 2004; Keeley *et al*., 2009).

Recovery of the benthos takes approximately 5-7 years on deep soft substratum as shell is often smothered by silt thereby reducing recovery times compared to inshore coarser substratum areas (Davidson and Richards, 2014). This survey identified the bedrock reef extends further into the proposed reconsent from the MPI exclusion area, suggesting the reconsent be moved further offshore. This would allow backbones to be repositioned away from reef habitat to minimise silt and shell debris impact.

6.7.2 Productivity

Mussel farms can influence adjacent farms by slowing water flow to farms located in downstream positions (Ogilvie, 2000). This is particularly pronounced in quiescent areas of the Sounds. However, published work by Zeldis *et al*. (2008, 2013) suggests that the major factors influencing productivity in the Marlborough Sounds relate to cyclical weather patterns in the summer (El Nino and La Nina) and river-derived nutrient inputs in winter. Slow crop cycles in some years are therefore a reflection of a weather cycle and much less about the number of farms.

No data has been presented to show the ecological carrying capacity of the Sounds has been reached, however, this topic is not well researched. There is considerable evidence showing the major drivers of the Pelorus system, for example, naturally leads to large within and between year variability. Relative to this, the impact of mussel farms appears to be material but relatively small compared to major environmental drivers (Broekhuizen *et al*., 2015).

Tidal flows through Catherine Cove are low for most tides (Hopkins *et al.*, 2004; authors, pers. obs.). Winds are likely to be a driver of water movement in this area, especially during northerly and southerly weather events. The location of the farm site in Catherine Cove means water turnover times are likely to be shorter compared to farms located further from main reaches in the Marlborough Sounds and greater Cook Strait (eg. Hallam Cove, Kenepuru Sound).

Based on these considerations and the existing literature, it is probable the site will likely cause phytoplankton depletion inside its boundaries; however, these are expected to slowly return to background levels as water leaves the farm backbones. The present reconsenting application proposes no change to the number of consented lines and therefore represents no change to phytoplankton predation and water flows in the bay.

6.8 Proposed Marlborough Environment Plan (pMEP)

Following two years of work between MARWG (included members of the marine farming industry, Marlborough Sounds' community organisations and central government agencies) and MDC, the proposed plan variations for managing marine and finfish farming in the Marlborough Sounds was released for public submission in December 2020. In the variation, the MARWG and the Council produced a spatial allocation for the majority of existing marine farms (Figure 16). It is proposed that existing marine farms will have to be located within the AMA when they re-consent. The MDC website states "it may involve moving lines or, in some cases, farms to relocate into a relevant AMA".

Farm-proposed MEP aquaculture variations AMA area for farm 8005 aligns with the existing consent which does not include the existing MPI exclusion (i.e. at present, no changes to the farm boundaries were suggested as part of this planning process).

Figure 16. The PMEP AMA (red) is directly over the existing consent.
Note: two backbones located within the MPI exclusion area (inshore of AMA) are visible.

6.9 National Environmental Standards – Marine Aquaculture (NES-MA)

According to Fisheries NZ (2021), the NES-MA provides a nationally consistent set of provisions to provide a more certain and efficient process for considering applications for replacement coastal permits of existing marine farms and for realignment and change of species applications, while ensuring farms meet best environmental practice.

From 1 December 2020, applications for replacement coastal permits that fall under the NES-MA are processed under the NES-MA.

The study area or "area of interest" for subtidal marine farms with no feed is defined as the consent and an area of 20 m distance around the consent boundary. Within this area, an assessment of effects on reefs, biogenic habitat, and regionally significant benthic species is required. The assessment of biological effects is based on existing data and/or new site survey data.

In section 18(g) of the Fisheries NZ (2021) paper, a variety of aspects of how the NES deals with impacts are outlined. It includes the effects of the activity on reefs, biogenic habitat, and regionally significant benthic species within the area of interest. Regulation 18(g) provides for the effects to be considered when making decisions on resource consents. It states reefs, biogenic habitats and regionally significant benthic species within the "area of interest" may not be adversely affected by marine farming. It does explain, however, that the NES recognises biogenic habitats or regionally significant benthic species may have established in the area of interest as a result of the presence of a marine farm and consent conditions may not be needed to manage effects. Conversely, the NES records that if adverse effects are considered too significant, conditions can be set to avoid them (for example by requiring the relocation of longlines away from areas of reef habitat) or in extreme situations, consent applications could be declined (Fisheries NZ, 2021).

6.10 NES-MA assessment of effects for 8005

"Reef", "biogenic habitat" and "regionally significant benthic species" are defined in NES-MA regulations 7 – 9, and criteria for applying the "biogenic habitat" and "'reef" definitions are contained in NES-MA Schedule 4.

Known reef, biogenic habitats and regionally significant species within 8005 and the area of interest are listed below and in Table 4.

1. Macroalgae were present at > 10% cover at one photo location under backbones in the consent. No macroalgal bed was identified indicating macroalgae is sparse at this site.
2. Reef habitat was identified extending through the MPI exclusion into the offshore consent area. Rocky reef was impacted by farming activities due to backbone growing structures placed over this rocky substrate.
3. The marine farm is located in a marine mammal significant site. The area is a low use part of the significant site.

6.11 Boundary adjustments, line adjustments and monitoring

The seafloor under the consent at depths > 20 m was dominated by silt and clay, supporting low diversity and abundance of surface-dwelling species. The inshore area of the consent is designated as an MPI exclusion zone due to two reef structures identified in previous surveys. Hence the inshore boundary of the consent area is positioned as far as 116 m from low tide. During the present survey, backbone structures were located within the MPI exclusion area.

This survey identified reef habitat extended into the consent up to approximately 130 m from low tide and under existing backbones. Reef habitat was impacted by shell debris and silt. It is recommended backbones not be placed over rocky reef substrata. Options include:

1. Add a new area to the MPI exclusion and remove another at the southern end of the consent. Remove production backbones from the MPI area (Figure 17).
2. Relinquish the existing MPI exclusion area in favour of an area offshore of the consent where the benthos is silt and clay.

Provided the backbone exclusion area is implemented no monitoring is recommended.

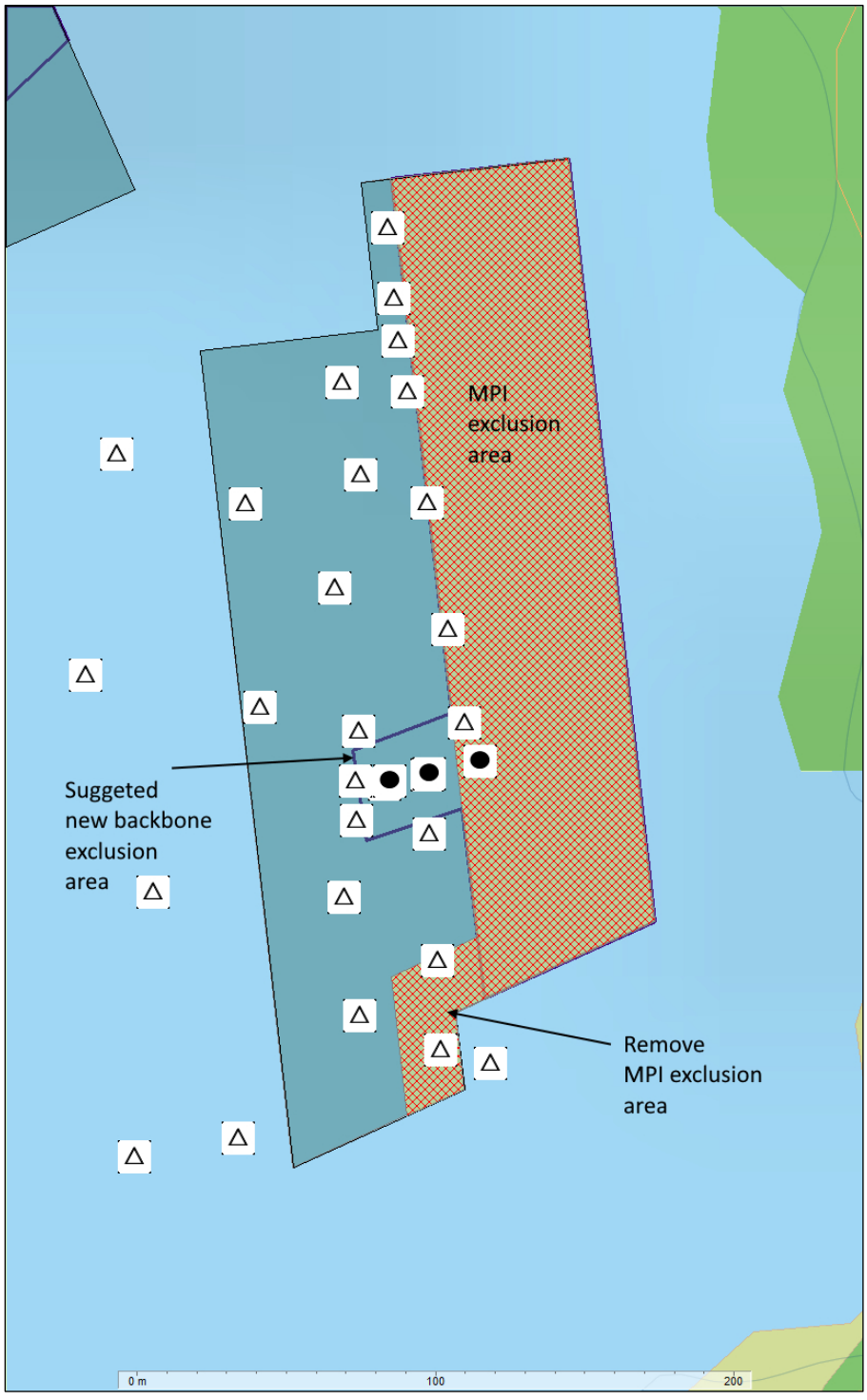
MPI
exclusion
area
Suggeted
new backbone
exclusion
area
Remove
MPI exclusion
area
0 m
100
200

Figure 17. Existing consent (teal) and MPI exclusion (yellow hatched). Image shows suggested new production structure exclusion (purple line) and an area of MPI exclusion that could be removed.

Table 4. Reef, biogenic habitats and regionally significant species summary for marine farm 8005.

NES	NES biotic and abiotic features	NES criteria or definition	Marine farm	Comments
7	Biogenic habitat	Section7	None seen or known	
8	Reef	Section 8	Present	Bedrock within consent and under backbones, mussel shell and silt impact observed.
9 (a, b, c)	Status or significant species	Section 9	None seen or known	
9 (d)	Council significant site	Section 9	Marine mammal site	Low use area, impact expected to be minor.
S4 1	Rhodolith	1 seen	None seen or known	
S4 2	Council recognised important dead shell	Present	None seen or known	
S4 3 (a, b)	Biogenic prominent or raised (0.5m)	Present	None seen or known	
S4 4 (a) (i)	Biogenic (colony forming)	≥ 10%	None seen or known	
S4 4 (a) (ii)	Biogenic macroalgae or seagrass	≥ 10%	Macroalgae at 1 location	Not habitat forming.
S4 4 (a) (iii)	Biogenic tubeworms, brachiopods, natural shellfish	≥ 10%	None seen or known	
S4 4 (b)	Natural shell	>40% cover	Not seen or known	
S4 4 (c)	Biogenic large habitat-forming species (e.g. horse mussel, hydroid tree)	Mean = ≥1 per m^2	None seen	

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Appendix 1. Drop camera photographs

Photo 1 silt, natural & mussel shell

Photo 2 silt, mussel shell

Photo 3 silt, mussel shell

Photo 4 silt, natural & mussel shell

Photo 5 silt, clay, mussel shell

Photo 6 silt, clay, mussel shell

Photo 7 silt, natural & mussel shell

Photo 8 bedrock, silt, mussel shell

Photo 9 silt, clay, mussel shell

Photo 10 bedrock, silt, mussel shell

Photo 11 silt, natural & mussel shell

Photo 12 silt, clay

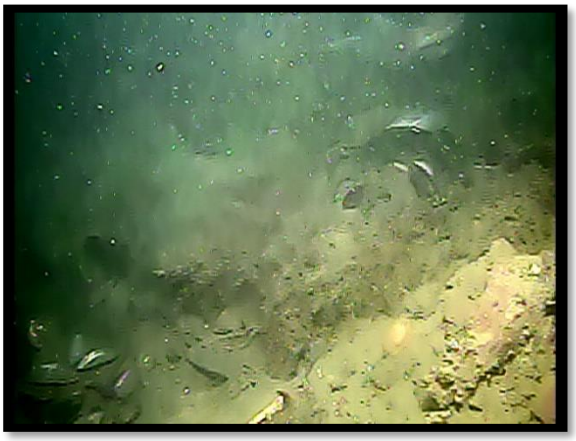

Photo 13 bedrock, silt

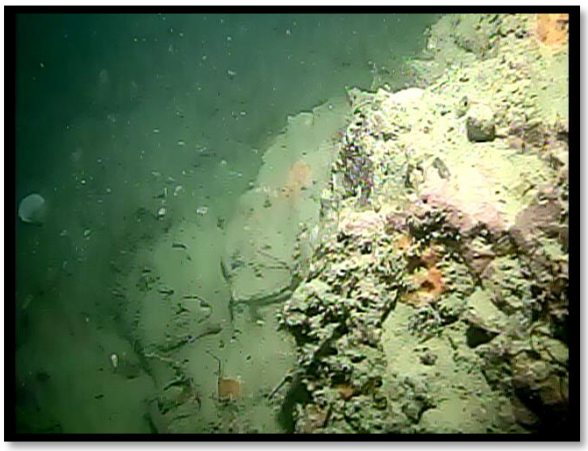

Photo 14 silt, mussel shell

Photo 15 silt, clay, mussel shell

Photo 16 silt, clay

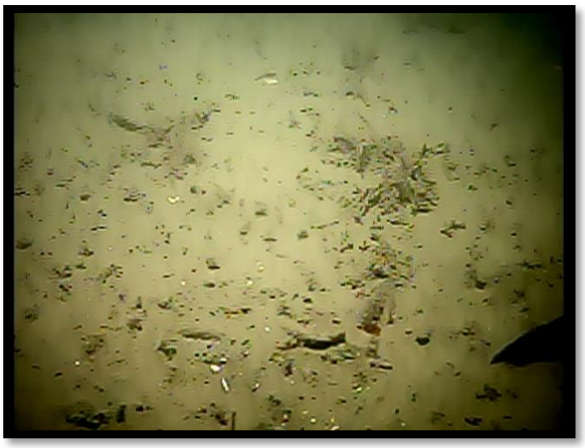

Photo 17 silt, clay

Photo 18 silt, clay

Photo 19 silt, clay

Photo 20 silt, clay

Photo 21 silt, clay

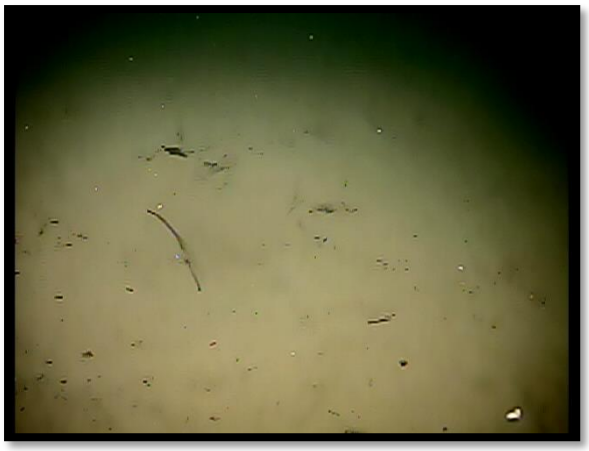

Photo 22 silt, clay

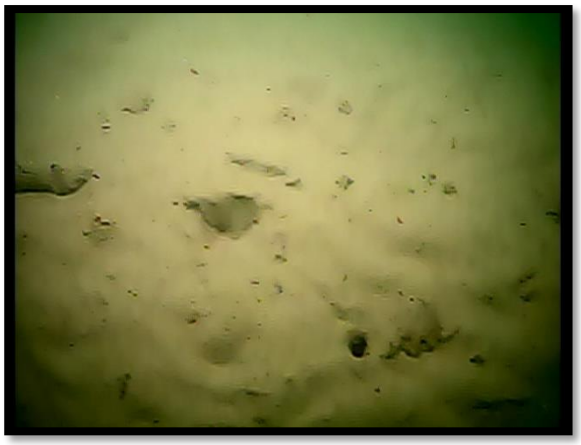

Photo 23 silt, clay

Photo 24 silt, clay

Photo 25 silt, clay

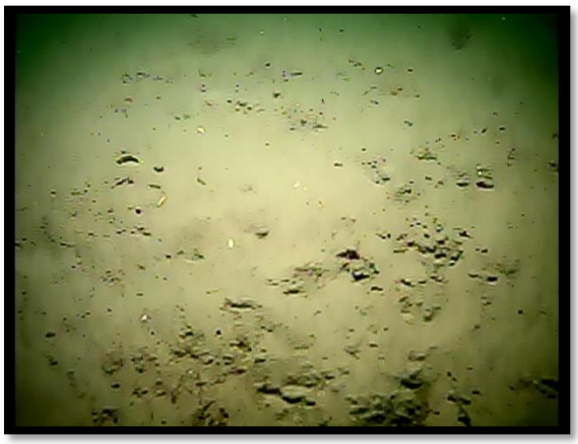

Photo 26 silt, clay

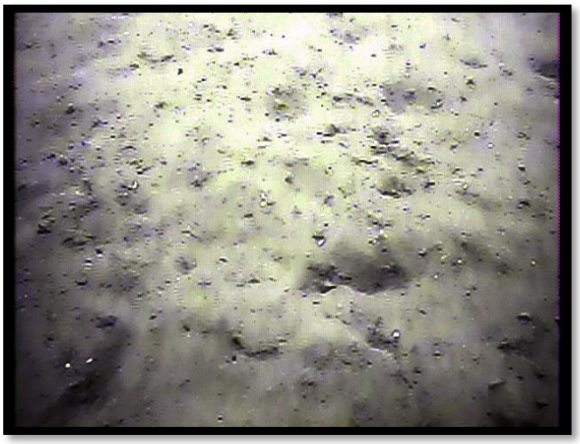

Photo 27 silt, clay

Photo 28 silt, clay

Photo 29 silt, clay

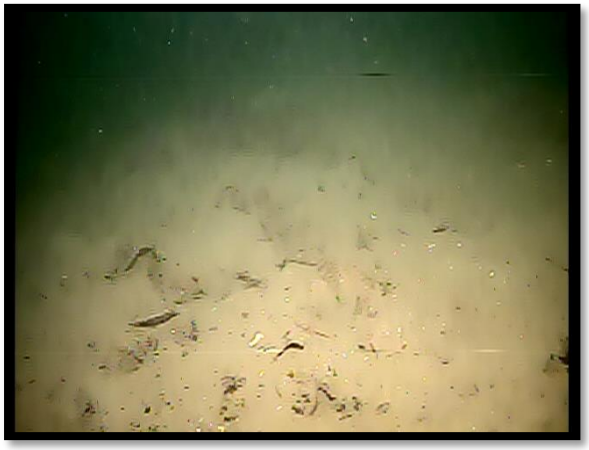

Photo 30 silt, clay, mussel shell

Photo 31 silt, clay, mussel shell

To: Marlborough District Council
PO Box 443
Blenheim 7240

MARLBOROUGH DISTRICT COUNCIL

ISO 9001:2008
Document Number:
RAF0010-CI1921

SUBMISSION ON APPLICATION FOR A RESOURCE CONSENT

1. Submitter Details

Name of Submitter(s) in full .....

Electronic Address for Service *(email address)* .....

Postal Address for Service *(or alternative method of service under section 352 of the Act)* .....

.....

.....

Primary Address for Service *(must tick one)*

Electronic Address *(email, as above)* ☐ or, Postal Address *(as above)* ☐

Telephone *(day)* ..... Mobile ..... Facsimile .....

Contact Person *(name and designation, if applicable)* .....

.....

2. Application Details

Application Number U.....

Name of Applicant *(state full name)* .....

Application Site Address .....

Description of Proposal .....

.....

.....

3. Submission Details *(please tick one)*

I/we support all or part of the application ☐

I/we oppose all or part of the application ☐

I/we are neutral to all or part of the application ☐

☐ I am a trade competitor for the purposes of section 308B of the Resource Management Act 1991

☐ I am directly affected by an effect of the subject matter of the submission that:

a) adversely affects the environment; and

b) does not to relate to trade competition or the effects of trade competition

☐ I am NOT directly affected by an effect of the subject matter of the submission that:

a) adversely affects the environment; and

b) does not to relate to trade competition or the effects of trade competition

☐ I am NOT a trade competitor for the purposes of section 308B of the Resource Management Act 1991

The specific parts of the application that my/our submission relates to are *(give details, using additional pages if required)*

The reasons for my/our submission are *(use additional pages if required)*

The decision I/we would like the Council to make is *(give details including, if relevant, the parts of the application you wish to have amended and the general nature of any conditions sought. Use additional pages if required)*

4. Heard in Support of Submission at the Hearing

I/we wish to speak in support of my/our submission ☐

I/we do not wish to speak in support of my/our submission ☐

OPTIONAL: Pursuant to section 100A of the Resource Management Act 1991 I/we request that the Council delegate its functions, powers, and duties required to hear and decide the application to one or more hearings commissioners who are not members of the Council. *(Please note that if you make such a request you may be liable to meet or contribute to the costs of commissioner(s). Requests can also be made separately in writing no later than 5 working days after the close of submissions.)* ☐

5. Signature

Signature ..... Date .....

Signature ..... Date .....

6. Important Information

- Council must receive this completed submission before the closing date and time for receiving submissions for this application. The completed submission may be emailed to mdc@marlborough.govt.nz.
- The closing date for serving submissions on the consent authority is the 20th working day after the date on which public or limited notification is given. If the application is subject to limited notification, the consent authority may adopt an earlier closing date for submissions once the consent authority receives responses from all affected persons.
- You must serve a copy of your submission on the applicant as soon as is reasonably practicable after you have served your submission on the consent authority.
- Only those submitters who indicate that they wish to speak at the hearing will be sent a copy of the section 42A hearing report.
- If you are making a submission to the Environmental Protection Authority, you should use form 16B.
- If you are a trade competitor, your right to make a submission may be limited by the trade competition provisions in Part 11A of the Resource Management Act 1991.
- If you make a request under section 100A of the Resource Management Act 1991, you must do so in writing no later than 5 working days after the close of submissions and you may be liable to meet or contribute to the costs of the hearings commissioner or commissioners. You may not make a request under section 100A of the Resource Management Act 1991 in relation to an application for a coastal permit to carry out on activity that a regional coastal plan describes as a restricted coastal activity.
- Please note that your submission (or part of your submission) may be struck out if the authority is satisfied that at least 1 of the following applies to the submission (or part of the submission):
  - it is frivolous or vexatious;
  - it discloses no reasonable or relevant case;
  - it would be an abuse of the hearing process to allow the submission (or the part) to be taken further;
  - it contains offensive language;
  - it is supported only by material that purports to be independent expert evidence, but has been prepared by a person who is not independent or who does not have sufficient specialised knowledge or skill to give expert advice on the matter.

7. Privacy Information

The information you have provided on this form is required so that your submission can be processed under the Resource Management Act 1991. The information will be stored on a public file held by Council. The details may also be available to the public on Council's website. If you wish to request access to, or correction of, your details, please contact Council.