7.7.2 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 appear to be material but relatively small compared to major environmental drivers (Broekhuizen *et al.*, 2015).

Tidal flows through this part of Port Underwood were low during the survey and are expected to be relatively low on most tides. Winds are likely to be a driver of water movement in this area, especially during northerly and southerly weather events.

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 return to background levels as water leaves the consent. The present reconsenting application represents no change to the number of consented lines and therefore represents no change to phytoplankton predation and water flows in the bay.

7.8 Boundary adjustments, line adjustments and monitoring

The reconsent area was located over silt and clay. No rocky substrate was present. The level of mussel shell debris was low to moderate and was not recorded outside the consent area. Backbone structures were located mostly within the consent area but the edge backbones occasionally move a short distance outside the consent. It is noted that surface structures can move due to environmental variables such as tidal current and wind, creating variance from day to day and over the duration of tidal cycles. The current farm structures are located over habitats traditionally considered suitable for marine farming activities.

No biological communities of particular importance were found inside the reconsenting area during the present survey. Benthic species associated with the consent were low in diversity and abundance. No monitoring is suggested.

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Appendix 1. Drop camera photographs

Photo 1 silt, clay, mussel shell

Photo 2 silt, clay, mussel shell

Photo 3 silt, clay, mussel shell

Photo 4 silt, clay

Photo 5 silt, clay, mussel shell

Photo 6 silt, clay, mussel shell

Photo 7 silt, clay

Photo 8 silt, clay

Photo 9 silt, clay, mussel shell

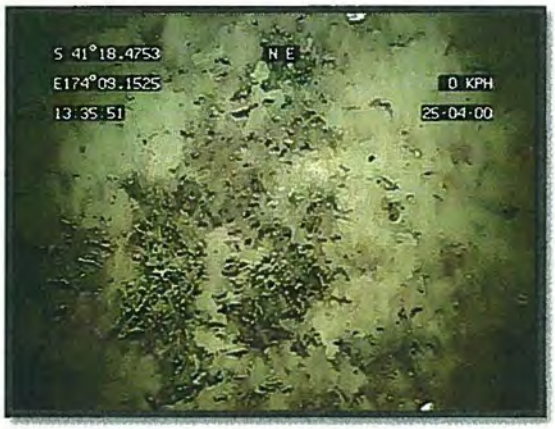


Photo 10 silt, clay, mussel shell

Photo 11 silt, clay, microalgal mat

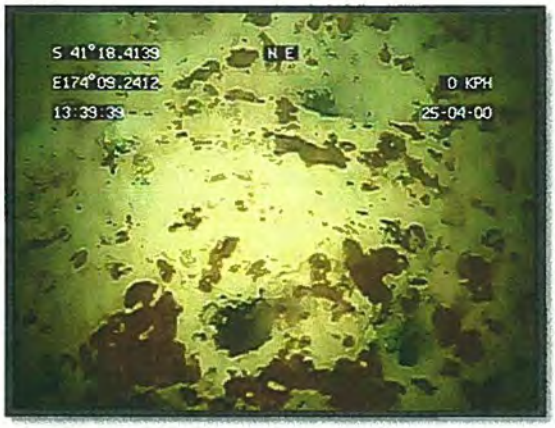


Photo 12 silt, clay, microalgal mat

Photo 13 silt, clay

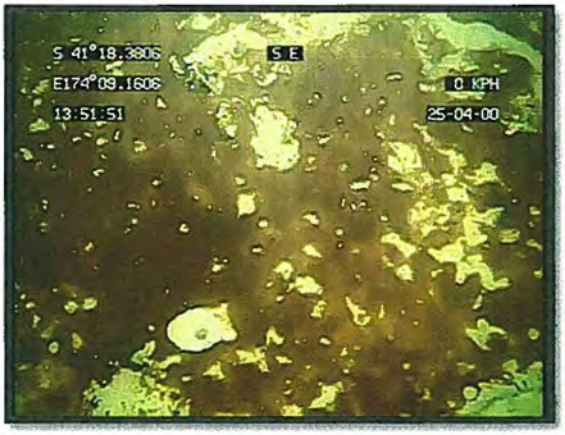
Photo 14 silt, clay, mussel shell

Photo 15 silt, clay

Photo 16 silt, clay

Photo 17 silt, clay, microalgal mat

Photo 18 silt, clay, microalgal mat



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.