

Our reference: APP-20181316
Enquiries to: Matt Hoffman
Email: matt.hoffman@es.govt.nz

5 June 2018

Bonisch Consultants Limited
C/- John Engel
PO Box 1262
Invercargill 9840

Dear John,

***Request for Further Information under Section 92(1) of the Resource Management Act 1991 -
Application to establish three new marine farming sites for shellfish at Big Glory Bay,
Stewart Island***

Thank you for lodging an application to establish three new marine farming sites for shellfish at Big Glory Bay (BGB), Stewart Island.

I require further information before a decision regarding notification of your application can be made.

Please provide^[1], in accordance with Section 92(1) of the Resource Management Act 1991 (RMA), the following information:

Description of the Activity

1. In order to establish the full nature and extent of the proposed marine farming activities, please confirm the likely density of shellfish to be grown on each proposed marine farming site;

General Description of Effects

2. please provide an overview of the general impacts of the shellfish farming, including references and relevant supporting extracts;
3. page 9 of the AEE outlines that monitoring has not detected adverse effects of marine farming that extend significantly beyond the boundaries of each site. Please include a reference from the relevant monitoring reports within BGB, including relevant supporting extracts, and restricting the commentary to shellfish sites;
4. please provide a brief summary of existing shellfish farm monitoring to date in BGB. The summary should take the form of a table outlining what monitoring has been conducted, where the monitoring has been conducted, and the overall finding for each instance of monitoring. This is requested to assist the reader to obtain an overall view of water quality and the benthic environment in BGB;



Biosecurity

5. page 4 of the assessment of environmental effects (AEE) states that new materials will be 'favoured' for biosecurity purposes. Please confirm that the Applicant will utilise entirely new materials in the installation and repair of marine farming structures;

Carrying Capacity

6. page 9 of the AEE states that the model used by the then-Ministry of Agriculture and Fisheries (MAF) as grounds not to permit Sites 2 and 3 has been disputed and shown to be flawed, and that additional carrying capacity is available within BGB. Please include: references from relevant studies/reports within BGB, including relevant supporting extracts, explicitly highlighting how the conclusions about the MAF model and the additional carrying capacity were reached. Please restrict your commentary to shellfish sites;

Water Column

7. page 11 of the AEE discusses water column issues, including:
 - (a) nutrients;
 - (b) restrictions on water movement; and
 - (c) wave attenuation.

The Cawthron report referred to provides an overview of the effects listed in 4(a) to (c) in a generic sense. In order that these effects can be adequately assessed in relation to BGB specifically, please include references from relevant studies/reports within BGB, including relevant supporting extracts, which address the effects of the release of nutrient levels (including effects on phytoplankton), restrictions on water movement, and wave attenuation arising from the proposed activities. If this information is not available, additional desktop commentary may be sought from a water column expert;

8. water movement and residence time is discussed on page 12 of the AEE. Please provide a reference that supports these comments, including any relevant extracts;

Benthic Effects

9. page 13 of the application discusses benthic effects. Please provide an overview of the potential benthic impacts of shellfish farming, including references and relevant supporting extracts;
10. page 13 discusses copper concentrations in benthic sediments under salmon farm lease sites LI338 and LI339. Please also discuss zinc concentrations in benthic sediments, including references from relevant studies/reports within BGB and relevant supporting extracts;
11. Sites 2 and 3 were formerly used to store salmon farming cages. Please comment, with reference to any available studies/reports within BGB, including relevant supporting extracts, on:
 - (a) the extent to which zinc and copper are enriched under this site; and
 - (b) the likely effects on the Applicant's proposed activities which may result from any existing zinc and/or copper enrichment;
12. please comment on the likelihood of, and extent to which, the proposed shellfish farms may give rise to zinc and copper enrichment in benthic sediments within the proposed sites, and the likely adverse effects of this enrichment on benthic ecology. Commentary around Sites 2 and 3 should also focus on the likelihood of cumulative enrichment due to the historical use of these sites for storing salmon cages. Please include references to relevant studies/reports, including relevant supporting extracts;

Discharges

13. in order to clarify the nature and extent of the proposed activity, please describe the discharge to water outlined on page 3 of the AEE in more detail, including:
 - (a) a description of the nature, volume, contents and frequency or rate of the proposed discharge;
 - (b) a description of the procedure for discharge;
 - (c) a description of the presence of biological matter (for example pseudofaeces, shell fragments and other biological debris); and
 - (d) a description of the procedure for preventing the discharge of inorganic materials (for example ties, fragments of mussel ropes, baskets, and trays);
14. with regard to discharges arising from the proposed activities, please provide comment on:
 - (a) the sensitivity of the receiving environment;
 - (b) the nature of the contaminants to be discharged, the particular concentration of contaminants needed to achieve the required water quality in the receiving environment and the risks if that concentration of contaminants is exceeded; and
 - (c) the capacity of the receiving environment to assimilate the contaminants; and
 - (d) avoiding significant adverse effects on ecosystems and habitats after reasonable mixing;
 - (e) using the smallest mixing zone necessary to achieve the required water quality in the receiving environment; and
 - (f) minimising adverse effects on the life-supporting capacity of water within a mixing zone.

This information is a requirement of Policy 23(1) of the NZCPS, and also feeds into our consideration of Section 105 and 107 of the RMA;

Codes of Practice

15. please confirm, that the Applicant intends to follow both the New Zealand Greenshell™ Mussel and the New Zealand Oyster Environmental Codes of Practice (2007) in carrying out the proposed marine farming activities. In your commentary, please provide evidence of how on-farm practices will comply with these Codes of Practice;

Wildlife and Habitats

16. please provide additional commentary around wildlife interactions, focusing on the issues of (1) entanglement and (2) displacement, with reference to relevant scientific studies and reports, and providing supporting extracts. Please also discuss the findings of these studies in relation to measures taken by the Applicant to avoid, remedy or mitigate the effects of possible wildlife interactions;
17. page 17 states that no specific habitat areas will be impacted by the proposed sites. Please provide a reference, including supporting extracts, that supports this;
18. in order to address the effects of the proposal on indigenous biological diversity, please provide an assessment of the adverse effects on the matters listed in Policy 11(a)(i)-(vi) of the New Zealand Coastal Policy Statement 2010 (NCPS), in particular whether these effects are '*avoided*' as required by the policy;
19. in order to address the effects of the proposal on indigenous biological diversity, please provide an assessment of the adverse effects on the matters listed in Policy 11(b)(i)-(vi) of the New Zealand Coastal Policy Statement 2010 (NCPS), in particular whether significant adverse effects are '*avoided*'; and whether other adverse effects are avoided, remedied or mitigated; as required by the policy;

Hazardous Substances

20. in order that we may assess the risk of unintentional, though possibly catastrophic, discharges to coastal waters, please describe any oil spill equipment, procedures and oil/chemical spill management plans that will be implemented and used by any vessels servicing the marine farm sites;

Biosecurity

21. please describe, in more detail, biosecurity procedures to be followed on-farm, including:
 - (a) biosecurity procedures followed when introducing mussel, scallop, or oyster spat onto the site;
 - (b) a description of how biosecurity inspections of the marine farming structures are carried out, their frequency, and by whom they will be carried out; and
 - (c) a description of the procedure followed in the event a pest or unwanted organism is found during an inspection of the marine farming structures, including methods of removing pest or unwanted organisms, and disposal of pest or unwanted organisms;

Maintenance

22. please provide a maintenance schedule and procedures adhered to in order to maintain the marine farming structures in good repair, appearance, and condition;

Draft Conditions

23. in order to gain a full assessment of: the extent of the activity; the measures proposed by the Applicant to avoid, remedy or mitigate the adverse effects of the proposal; and how adverse effects will be monitored, and responded to; please provide a proposed set of draft conditions, including (but not limited to):
 - (a) a description of the activities;
 - (b) measures taken to avoid, remedy, or mitigate the effects of the activities;
 - (c) a description and justification (with relevant references) of environmental benchmarks or standards for water quality and benthic sediment quality that will be adhered to;
 - (d) proposed monitoring of the water quality effects and benthic effects of the three sites, with justification of the proposed monitoring programme; and
 - (e) a description of any proposed measures to ensure compliance with the benchmarks or standards referred to in 23(c), in the event that they are exceeded.

Technical Review

24. Rob Davidson of Davidson Environmental Ltd has carried out a review of the technical report supplied with the application. His comments on the technical report are appended to this letter. Please have your technical expert respond to Mr Davidson's comments.

Please note that where reference to existing reports and studies is required, but it is not possible to obtain this information, or the information requested does not exist, further desktop or field study may be required.

Further consideration of your application is postponed until receipt of this information.

Under Section 92A of the RMA you have until 15 working days from the date of this request, which we calculate to be 26 June 2018, to either provide the information, tell the Council, in

writing, either that you agree to provide the information or that you refuse to provide the information.

If you refuse to provide the information requested, or if you do not respond to this request, the Council may decline the application on the grounds that it has inadequate information to determine the application.

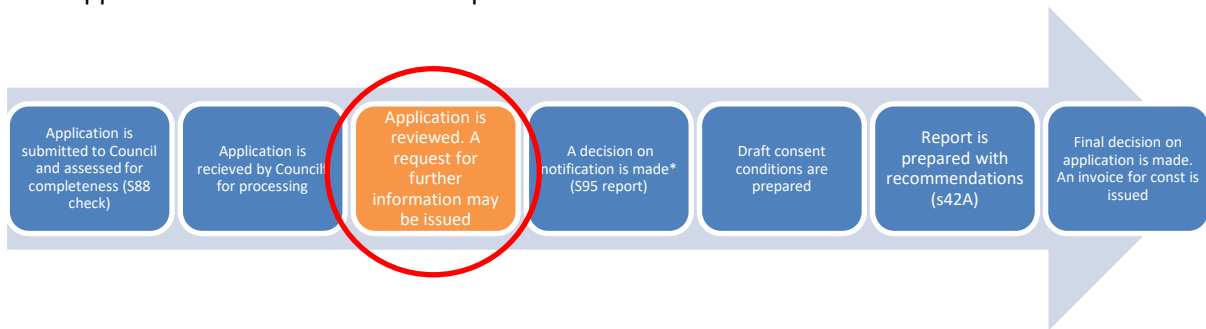
Please contact me if you have any questions regarding this request.

Yours sincerely



Matt Hoffman
Senior Consents Officer

Your application is here in the consent process:



*If your application is assessed as needing to be limited or publically notified, you will be contacted regarding the process for these pathways.

cc: Zane Morgan Smith & Terrence James Maass-Barrett, PO Box 129, Oban, Stewart Island 9849

Appendix 1: Rob Davidson's Comments on the NIWA Technical Report

All three sites are in relatively deep offshore positions. It is therefore unlikely rocky habitat is located within the three applications. It is suggested the authors comment to reassure the reader these sites are dominated by soft bottom substrata. This is important as no sonar or video sled tows of the seabed were collected to confirm the entire area of the applications was composed of soft substratum.

Descriptions of species present from within and on top of the sediment are provided for each application. It is suggested that comment is provided on their representativeness for (1) the application sites and (2) the wider Big Glory Bay. Questions such as: (A) are these application sites likely to be characterised by the soft-sediment dwelling communities found at the sample stations or could other substrates or species possibly be present? (B) are these habitats representative of the wider bay, inner bay or outer bay. There have been a number of studies describing the wider Paterson Inlet subtidal environment. These studies would be useful when placing the applications sites into perspective (e.g. Richardson 1981b, Willan 1981, Grange and McKnight 1987, Costello and Hare 1991, Department of Conservation 1991, Hare 1992, Elliot 1995a, 1995b, Davidson 2002). It is suggested these studies are utilized and those aspects are made clearer in the NIWA report.

The number of replicates used to survey the benthos in the proposed sites were low and there is a possibility epibenthic features present within each site have been missed. However, based on each application sites offshore position, depth and data available from other studies, it is possible the NIWA description applies to the total area of the application sites. It is suggested, however, that NIWA provide some discussion and draw on other studies to justify the accuracy of their study considering their low number of epibenthic samples and lack of data from wider ranging sample techniques such as video sleds or more drop camera stations.

It is unclear where sample stations were located within each application site. A Figure showing the sample stations would assist the reader.

Based on NIWA and other data presented in the present report, there appears to be a biological pattern from inner to outer Big Glory Bay. This trend appears to influence grain size as well as surface and within sediment dwelling invertebrates? An overview of bay-wide patterns based on a variety of reports and data would be helpful. Questions such as: are the application sites like inner low diversity epifaunal sites or more like higher diversity epifaunal sites in the outer bay?

*Of note is the presence of *Neothyris lenticularis* (giant lampshell). This species is negatively impacted by mussel farming activities (Davidson and Richards, 2014). This species is however, widespread over many areas in Paterson Inlet (Richardson 1981; Davidson, 2002). Some discussion about the relevance of adversely impacting this species should the farms be approved is suggested (i.e. how does their decline in abundance under the farms relate to the bigger picture of Big Glory Bay and Paterson Inlet). Would the loss be regarded as significant to this species in the Inlet or are they so common and widespread it would represent a small or minor loss?*

*It would be helpful to know how far the *Galeolaria* tubeworm beds in Big Glory Bay are from the application sites. A brief comment on whether these farms if approved would impact that tubeworm feature would be helpful.*