1. Submitter Details

Name of Submitter: John Davison

For and on behalf of the

Port Underwood Association

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2. Application Details

Application Number: U160067

Applicant: Marlborough Aquaculture Ltd

Site Address: Kaikoura Bay, Port Underwood

Description of the activity: To renew Consent U990824 (Marine Farm No. 8445) being a Coastal Permit to establish a 1.76 hectare marine farm to enable the cultivation of green shell mussels and blue mussels.

3. Submission Details

**We oppose all of the application.**

**The submission relates to the whole application.**

**We would like the Council to Decline the application**

The reasons for our submission in outline are:

* There is a lack of information on the environmental impacts;
* Kaikoura Bay is overcrowded with marine farms;
* The impact of marine farms should be considered in aggregate and not incrementally;
* There is insufficient research on the impact of marine farms and consents should not be granted until their environmental impact is properly understood;
* Research has found that mussel farms adversely impact fish stock levels and consequently there should not be any increase in marine farms in an already crowded area;
* The application does not consider the impacts on existing consents and is misleading or incorrect in its submissions.
* Despite the assertions, the addition of a marine farm is not a benefit to recreational fishermen;
* The proposed farm is within 50 meters of sensitive area. This is assuming that the farm is located exactly and that anchors for the farm and support boats do not stray from this area; the very presence of a marine farm will adversely effect water velocities and the seabed which is vital for the maintenance of this sensitive site. This is far too close to a sensitive area and for this reason alone the application should be rejected; and
* Residents object to any further marine farms and despite the assertion of the application there is significant public alienation.

The reasons for our submission, in detail, are as follows:

**Lack of information in the application**

There is a lack of information regarding the impact of more mussel farms upon the environment in Port Underwood. There is no information in this application concerning the nutrient depletion on Port Underwood caused by the significant growth of mussel farms in Port Underwood. It is noted that 42% of the consents for aquaculture sites in Port Underwood (renewals and new consents) have been made in the past ten years. It is submitted that this is an unprecedented growth; growth without consideration of the overall impact of these farms on the nutrients in Port Underwood. It is submitted that Marlborough District Council has an obligation to guarantee the sustainable management of the coastal marine area. This obligation is not being met by the continued growth of aquaculture and lack monitoring of the cumulative impact that aquaculture has on the marine.

Marlborough District Council has an obligation under the New Zealand Coastal Policies Statement 2010 to maintain water quality and gather adequate information regarding water quality and avoid adverse impacts upon ecosystems and habitats. In addition, the Marlborough Regional Policy Statement at 5.3.2 states ‘That water quality in the costal marine area be maintained at a level which provides for the sustainable management of the marine ecosystem’. It is submitted that no further consents should be granted, including this application, until there is adequate monitoring and it can be ascertain that the cumulative effect of aquaculture is not degrading the marine environment.

The MPI has noted that the ‘presence of high densities of filter feeders could reduce larval recruitment into fisher populations through consumption of fish eggs and larvae by farmed mussels and oysters.’ This is a fundamental concern to the Port Underwood Association. There are a large number of farms in Port Underwood, extending to over 217 hectares. This is a high density of filter feeders in Port Underwood and must be having an impact upon fish stocks. The anecdotal evidence of members of the Association is that fish stocks have reduced dramatically and aquaculture must have a significant impact upon the levels of fish stocks, as recognised by the MPI.

The Department of Conservation 2003 discussion paper on mussel farming noted several environmental impacts caused by mussel farming. These do not seem to have been taken into account in the application. The Department of Conservations 2003 discussion paper Potential effects of mussel farming on New Zealand’s marine mammals and seabirds noted the following impacts of mussel farming:

* Phytoplankton depletion;
* Modification of the benthic environment and species assemblages;
* Altering local hydrodynamics;
* Increases in marine litter; and
* Facilitation of the spread of unwanted organisms.

It is noted that none of these issues are addressed in the application. It is submitted that the application cannot be granted without these issues being addressed.

The application has not undertaken any study into the impacts of sulphides or ammonia nor the level of oxygen depletion caused by mussel farms. The Association suggestion that the application cannot be approved without research into these matters.

**Overall impact of marine farms requires consideration**

The application notes the already significant number of marine farms in Port Underwood. It is stated at page 12 that the proposed activity is of modest size. It is submitted that this is not the case as it is an overall increase of 0.8% in the whole of Port Underwood. It submitted, however, that the test should not be the incremental impact but the overall impact of all marine farms that should be considered. Large numbers of small increases will ultimately create an unsustainable size of marine farms. An increase of 0.8% cannot be considered insignificant and modest. It is a measurable and significant increase. It is submitted that the application should not be granted without there being an overall study into the impact of the current size of marine farms and specifically the effect of further increases of marine farms of this size. The application on page 13 states that there is no significant cumulative adverse effect of any significance. This is an assertion and there is no evidence to support this in the application. It is submitted, therefore, that the application should be rejected.

**Phytoplankton Depletion**

We put forward the results of a modelling of phytoplankton depletion (see attached U120642 notification package part 2 and part 3) for a mussel farm application, U120642, also in Port Underwood. It shows that depletion rates up to 30% can be expected near the mussel farm, depletion rates of 10% up to a kilometre away, and 5% depletion rates at 2 kilometres from the farm.

This study only includes three farms. It does not include the depletion caused by the many other farms located in Port Underwood including those in the immediate vicinity to the farms subject to the application.

What is notable about this modelling of the phytoplankton in the U120642 application is that there is a marked increase in depletion despite the reduction in mussels per square meter through the incremental increase in the total number of mussels. This clearly indicates the adverse effect of ‘incremental’ changes. Applications should not be permitted without considering the overarching impact of all marine farms in existence or proposed. The current application does not consider the impact of the farms in Port Underwood. Furthermore the impact of the farm in Kaikoura Bay is not considered or measured in sufficient detail.



We are not scientists but we would expect an equivalent rate of depletion from the Kaikoura Bay farms, and all other farms in Port Underwood, giving us grave concerns about the cumulative ecological effects of the existing farms and reinforces our stance that no new aquaculture areas should be approved until such time as a definitive study is made that addresses the broad range of cumulative effects arising from multiple marine farms in an enclosed area such as Port Underwood. In particular the impact upon the closely located sensitive site for tubeworms should be considered; no application in this area should be permitted until the impact on this site is considered.

**Overcrowding of Kaikoura Bay**

Of greater significance is that this application is for a further farm in Kaikoura Bay. It is an increase of 21.33% of the mussel farms in the bay. This bay is already overcrowded with mussel farms. It is suggested that this application will mean that well over 50% of the bay will be marine farms and this is unsustainable for a small area, and particularly for an area of ecological significance. It is submitted that no application can be granted for further farms in this overcrowded bay.

**Previous consents**

There is no cognisance of other consents granted in the area. Consents U140147 and U150185 permitted the subdivision of the peninsular immediately to the West of the proposed mussel farm. The purpose of this subdivision is for the sale of the various sites and the construction of residential dwellings. As the sites in the vicinity of Kaikoura Bay cannot be accessed by road it is inevitable that these sites will be accessed by boat and that there will be a need for several jetties in this area. The current application does not take any cognisance of these previous consents and the material changes this will make to the local environment. Indeed, the application incorrectly states that ‘nothing has changed in Kaikoura Bay since the original application was granted.’ The need for the purchasers of the subdivisions to access their properties will be impacted by the mussel farm and the application incorrectly states that “the proposed marine farm will not adversely affect any navigational route in Port Underwood.”

It is submitted that the current application should be rejected as it has not considered the impact of the previous consents and it misrepresents the impact of the mussel farm on these consents. For this reason the Association supports the submission submitted by New Zealand Forestland Ltd.

**Sensitive area adversely impacted**

It is submitted that no application can be granted for any farm in an ecologically significant area. The site between Whataroa and Kaikoura Bays has been identified as an ecologically significant area. The area has been identified (area 6.2) as being wholly intolerant of seabed disturbance. This area is colonised by large and healthy tubeworm mounds; such colonise being rare in Marlborough (see <http://www.marlborough.govt.nz/Environment/Coastal/Coastal-Ecosystems/~/media/Files/MDC/Home/Environment/Coastal/Ecologically%20Significant%20Marine%20Sites/Part3SitesArea59.ashx>).

There is significant scientific research (see <http://www.tandfonline.com/doi/pdf/10.1080/00288330.2005.9517394>) that states that the carbonate structure produced by tubeworms is “important in enhancing subtidal biodiversity, providing habitat for other organisms and influencing local hydrology and sedimentation.” Furthermore, these “mound communities …… require clean sand and high current velocities.”

 It is submitted that the close presence of a mussel farm will adversely impact the environment and reduce water velocities.

It is submitted, therefore, that the application cannot be granted in the vicinity of a significant and sensitive site.

The document ‘Ecologically Significant Marine Sites in Marlborough’ issued by the Department of Conversation and the Marlborough District Council states that Port Underwood is a significant site for Rough Skate, Tubeworms, Scallops and particularly for Rock Lobster. The association submits that no further consents for marine farms can be granted in sites identified as ecologically significant without a complete environmental impact survey. The application states there is no outstanding natural feature or landscape on page 7. As noted above, this is incorrect. It is submitted that the application should not be granted as there are outstanding natural features.

The application at page seven states that the proposed farm is ‘separated almost twice the distance from the shore and further offshore than either of the other three marine farms in the Bay.’ The proposed farm is further distance from the south western arm of the bay, but it is closer than any other farm to the headland and the ecologically sensitive area. It is submitted, therefore, that this proximity is a reason for not granting the application. The Davidson report states that the marine farm is only 50 meters from the tubeworm sites. It is submitted that this is far too close to the tubeworm sites. This is assuming that the farm is located exactly and that anchors for the farm and support boats do not stray from this area. Furthermore, this close proximity will cause adverse impacts on water velocity through litter debris. This is far too close to a sensitive area and for this reason alone the application should be rejected

There appears to be encroachment on the headland area (where the ecologically sensitive site is located). This headland is referred to in the application as a promontory rather than headland. It is submitted by the Association that this encroachment cannot be permitted due to the hydrological impacts as well as the impact upon the ecologically sensitive area.

**Other matters**

The application at page 7 in ‘Other Matters’ states:

“(d) The alienation of public space

Marine farms in Port Underwood in reality do not alienate the public anymore.”

The Association submits that this is not correct. A survey of members found that 85% objected to any further consents being granted and 80% objected to any extensions being granted. It is, therefore, clear that there is a significant alienation of the public most directly impacted by the marine farms. It should also be noted that recreational fishing is undertaken in the area (contrary to the view expressed on page 12 of the application). Furthermore, whilst there may not be easy access from the land in this area, the Council has recently granted consent for residential development in the area and the granting of further marine farms in the area would be contradictory to the needs of the developers.

The application on page 7 states ‘At sea level, anything over 1.25 km has no visual effect’. It is assumed that this means that anything at sea level will not be seen further than 1.25 kilometres away; the horizon is 1.25km. Unless a person is swimming there will be no-one at sea level. A person standing on the beach has a horizon of 5 kilometers. A person on the hillside at 100 meters can see over 35km to the horizon. The formula is d = Sq root of h(2R+h) where d is the distance seen, R is the radius of the earth and h is the height of the observer above sea level. Thus, to suggest that there is no visible impact is incorrect.

Page 8 of the application states that there is a benefit to recreational fishermen to be able to tie up to the marine farm. It is not understood how the loss of 1.76 hectares can be regarded as beneficial and how an ability to tie up compensates for this when in Port Underwood people do not repeatedly fish within a mussel farm as the recreationally targeted fish are no longer found there. In addition the loss of amenity should not be considered in isolation, the 1.76 hectares, the cumulative impact needs to be considered, the loss of over 217 hectares is significant in any body of water and it is submitted that this increase in a sensitive area in an already overcrowded area should not be permitted.

Repeated reference to the previous application and the statement that nothing has changed since that application ignores the large increase in the number of mussel farms in Port Underwood since that time and ignores the change of usage of the adjacent land.

4. Submission at the hearing

The association does wish to speak in support of our submission subject to it being at a suitable time.

5. Signature



24 March 2016

6. Submitted on 24 March 2016 1400

Copy sent to the applicant at david@wmp.co.nz same time