

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

**APPLICATION BY KUKU HOLDINGS LIMITED,
TO EXTEND MARINE FARM SITE 8217 BEING MARINE FARM
LICENCE U190088 TAWHITINUI BAY, CENTRAL PELORUS SOUND**

1.0 INTRODUCTION & CONSENT HISTORY

Kuku Holdings Limited is owned by Jeff Meachen and Caroline Farley who reside in Cissy Bay. They own two farms in Admiralty Bay and this site 8217 in Tawhitinui Bay.

The farm was originally granted and licenced to Marlborough Mussel Company Limited for a term of 14 years from 1 January 1992, and a further extension of time was granted by variation for a further 14 years from 1 January 2006 to 31 December 2019. Under section 10(8) of the Aquaculture Reform Act a deemed coastal permit is to be treated as if it had been granted for a term of 20 years beginning on the commencement of the Act. The Act commenced on 1 January 2005, therefore that licence was to expire on 31 December 2024.

In October 2012 the site was acquired by Kuku Holdings Limited who renewed the parent consent in July 2019 being U190088.

The company has since reviewed use of the existing site and adjacent CM22 and have concluded the site is appropriate for extension, hence this application.

2.0 THE PROPOSAL

s 9(2)(b)(ii)

[REDACTED]

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 will occur at harvest. Term of consent sought is for twenty years to 2039. Existing consents will be relinquished on confirmation of consent being issued.

This is an application by existing permit holders for the site and activities permitted by existing consent and as such must be processed under Section 165ZH. Further matters outlined in Section 165AJI also come into play 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.

The current applicants have owned the existing site since 2012. They have complied with the consent conditions.

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)).

The proposed activity has been assessed against the relevant provision of the:

- i) New Zealand Coastal Policy Statement 2010;
- ii) Marlborough Regional Policy Statement;
- iii) Marlborough Sounds Resource Management Plan; and
- iv) Proposed Marlborough Environment Plan;

at **Appendices A, B and C** of this Assessment of Environment Effects.

3.0 STATUS OF THE APPLICATION

The site is located within the Coastal Marine Zone 2 (CMZ2) in the Marlborough Sounds Resource Management Plan (the Plan). Marine farming at the site is currently authorised by resource consent U190088 and is a Discretionary Activity.

As the proposed farm extension extends beyond 200 m of the mean low water springs it is to be considered as a Non-complying Activity.

4.0 LOCATION

4.1. The Site

The site is depicted on the location plan and the site plan at **Appendix 1**. It was noted in the Davidson Report (6.1 page 20) attached as **Appendix 2** that:

“Davidson et al. (2018) measured the distance between low tide and the parent farm consent boundary at three positions along the adjacent shoreline. The distance to the inshore boundary at the position of low tide 1 was 43 m, at low tide 2 was 39 m, and at low tide 3 was 82 m (Plate 2, Figure 8).”

Based on these data and aerial photos, the inshore boundary of the presently proposed extension at the position of low tide at the north-eastern end was approximately 73 metres, at low tide 1 was 193 m, at low tide 2 was 189 m, and at low tide 3 was 232 m.

In that report, the authors also recommended an area along the inshore boundary be a structure exclusion zone due to the presence of rock substrate. This proposal also maintains that area.

The offshore boundary at Point 2 on the site plan is 340 m from the shore in the southwest and 315m from the eastern most shoreline fix by Davidson, while a distance plotted through the center of the site is 298m, and as such is a Non-complying Activity in the Plan. The site lies on the CMZ1 and CMZ2 boundary and at its western end is some 50 m from the adjoining marine farm to the south west

4.2. Site Dimensions

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4.3. Site Layout

The parent farm is licenced for 20 longlines in two blocks. The western block A has 9 longlines with a backbone length ranging from 105 m offshore to 164 m inshore. Warp lengths to anchors here range from 45 m (inshore) to 111 m (offshore).

Block B to the east, has 9 longlines ranging from 48 m to 105 m backbones, with warps to anchor distance ranging from 49 m to 100 m.

Between the two existing blocks is a 50 m gap accessway.

The exterior zone offshore, because of water depth and resultant anchor to warp ratios needs warp lengths to be ranging from 71 m 111 m. Screw anchors will be utilised which modifies the site characteristics. There is significant surface area free of structures at the outside of the extended site.

The details of the layout are illustrated on the layout diagram. This will mean total backbone length will be 3906 m with longlines spacing ranging from 17.5m to 18.5m in the extension area. There will be 13 longlines in the extended site and a total of 31 lines for the site as a whole

5.0 THE EXISTING ENVIRONMENT

5.1. The Existing Environment Assessment

Below in this AEE I consider my assessment of effects of this farm as part of this application. As this is an extension application to an existing site there is an existing farm which has operated, in this case since 1992. I briefly consider how the existence of the farm affects this assessment of effects for the new consent.

I have used the existing farm to understand what the effects of a new farm might be. Practically, we do not need to guess what the effects of the farm are likely to be. The effects are likely to be those which occur from the presently installed farm (given that this application is for an extension offshore and to the east.

We can use the existing farm to gauge future effects.

5.2. The Land Environment

The surrounding land in Tawhitinui Bay is reverted farmland. It used to be pastoral land with some limited scrub reversion but is now well advanced on the privately owned land in the west and north. In the east, the Kenny Isle Scenic Reserve exists, which has original forest cover

Along the shore are steep but relatively short coastal cliffs with a cobble and boulder beach.

5.3. The Marine Environment

There is one previous benthic assessment of the parent farm undertaken by Davidson Environmental Ltd in 2018 that was prepared as part of U190088. In the assessment they found that:

“Most of the consent area was located over silt and clay substratum with or without a component of natural shell. Rocky substrata in the form of outcropping rock, boulders and cobbles was observed in the inshore area of the consent. GPS positions of two low tide locations showed the inshore boundary of the consent was located less than 50 m from low tide. The positioning of the consent close to shore has meant inshore farm structures are over shallow depths where hard substrata is common.”

The authors of the report recommend adjustments to the consent:

“The consent is located closer than 50 m from low tide (i.e. 39 m distance), with boulders and cobbles present within the consent boundary penetrating up to 18 m distance. Mussel shell debris was recorded in low to moderate levels on hard substratum. The inshore 18 m of the eastern farm block is unsuitable for mussel farming activities as it supports rocky substrata. One production line is located over this substratum and should be removed or used to farm low impact species. It is also recommended that the farm be shifted 10 m distance further from shore to achieve the 50 m separation distance.” (Page 18 of Davidson Report)

Davidson Environmental Limited undertook a further assessment in July 2019. Their full report is attached as Appendix 2 in which they noted the moderate to strong currents present in the area and that trawling for scallops occurs in the general vicinity of Tawhitinui Reach to Tawera Point, but that no recent trawling appeared in the offshore area proposed for the extension.

5.3.1. Significant Sites

The Davidson Report identified three significant sites in the general area of Tawhitinui Bay all were illustrated in figure 5 of their report.

“Significant site 3.11 (Tapapa Coast current swept community)

Davidson et al. (2018) surveyed this current-swept significant site. The fringing subtidal shores shelves steeply and are swept by moderate to strong tidal currents (Davidson et al., 2011). At this site, there is a wide variety of filter feeding organisms including biogenic habitat formers of sponges, ascidians and hydroids. Fish, particularly blue cod, are common and the benthic biogenic communities also provide habitat for juvenile blue cod. This site is regarded as one of the best examples of tidally swept habitats within the Pelorus Sound biogeographic area (Davidson et al. 2011).

Davidson et al. (2018) stated: “The present survey confirmed the presence of a range of current swept habitats with a variety of species including sponges, anemones, bryozoans, hydroids and ascidians. Adult and juvenile blue cod were numerous, especially in current-swept locations. The present survey provided improved resolution of biogenic habitats and resulted in amended boundaries.”

“Significant site 3.22 (Tawhitinui Bay King shag colony)

The 0.16 ha King shag site is located around the eastern coastline of outer Tawhitinui Bay (Figure 9, Plate 13). The establishment of this site has expanded the feeding range of birds as far as Kenepuru Sound (author, pers. obs.).

Davidson et al. (2018) stated: “Previously, this site was briefly visited on August 2016 and January 2017 and photos were collected. On those occasions, a total of 19 adults and chicks on nests were counted in August 2016, while only 7 birds were observed in January 2017. Both visits were conducted through the middle of the day. Prior to those visits, an aerial survey funded by New Zealand King Salmon, counted 43 birds and 16 active nests (Schuckard et al., 2015). In a more recent study of nesting, numbers were counted for the entire Sounds by Schuckard et al. (2018). The authors stated that nest

surveys were carried on 6th June (89 active nests) and 1st July 2016 (117 active nests) and 1st July 2017 (153 active nests) and previously 2015 (187 nests). Authors suggested that some of this variation was due to the timing with lower nesting in June to July, however, overall variation was within historic variation. Authors noted no nests were observed at the Trio site in 2017 compared to 34 and 29 nests in previous surveys. During the present survey, the site at Tawhitinui Bay was visited on 4 September 2017 and 25 January 2018. A total of 19 adults and one juvenile bird was observed in September 2017, while 55 adults were observed in January 2018. Both visits were conducted during the day and therefore should not be regarded as representing the total numbers of birds as individuals may have been away feeding.

More recently, this site has been the focus of a tagging study, however, results are presently not available.”

“Significant site 3.25 (Kauauroa coastline)

This stretch of coast is located near the western entrance to Kauauroa Bay in eastern Tawhitinui Reach. The subtidal sea floor shelves steeply and is swept by light to moderate tidal currents (Davidson et al., 2011). There is a wide variety of filter feeding organisms including biogenic habitat formers such as sponges, ascidians and hydroids present at this site. Fish, particularly spotty, are common, however, these biogenic communities also provide habitat for juvenile blue cod (Davidson et al., 2011).”

Davidson et al. (2018) stated: “This coast is a good example of tidally swept habitat adjacent to a stable protected catchment within the Pelorus biogeographic area. The present survey confirmed the presence of a range of current swept habitats with a variety of species including sponges, anemones, hydroids and ascidians (Plate 18). Adult and juvenile blue cod were common, especially in current-swept locations. The present survey provided improved resolution of biogenic habitats and amended boundaries for the significant site are suggested.” (Davidson report Page 10-11).

None of these sites are impacted by the positioning of the proposed extension.

5.4. Benthic Assessment Conclusions

The benthic assessment reported as follows under 7.0 pages 31-32 in the Davidson Report.

“7.0 Conclusions

7.1 Benthic habitats and substratum

Substratum and habitat distribution relative to the proposed extension area was based on drop camera stations and sonar imaging of the benthos. The consent area was located over a gently sloping benthos dominated by silt and natural shell.

Mud (i.e. silt) and mud with shell are 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 therefore considered a

suitable candidate for marine farming activities in the Marlborough Sounds (Forrest, 1995).

Unlike mud, rock substratum is not traditionally considered suitable for marine farming activities as it can be smothered by silt and shell debris and may no longer function as hard substratum habitat. No rock substrate was identified in the proposed extension.

7.2 Species and communities

Epibenthic species abundance and diversity from the consent area was low compared to high current locations in the Sounds but was higher than expected. Species composition and relative abundance in this area is likely influenced by moderate tidal flows that ensure natural shell remains on the surface of sediments. Shell provides a suitable surface for a variety of species including occasional small hydroids.

Observations confirmed the silt benthos supported two starfish species (11 arm and cushion star), scallop, horse mussel, hydroids and parchment worms.

Opalfish was the only fish that was observed from photos. This species is often dominant prey for King shag. Opalfish are widespread over much of the sheltered areas of the Marlborough Sounds and inhabit deep mud substrate.

Scallop were observed from several photos suggesting they are present over the extension area. Individuals were of moderate size but were below the legal size limit. Most of the proposed extension is deeper than areas traditionally favoured by recreational divers. The site is commercially dredged but data from 2011 (Plate 3a) suggest it was not an area intensively fished. The benthic community and sediments at this site appeared relatively stable also suggesting this area had not been dredged in recent years.

One horse mussel was observed from photos suggesting they are present but not common.

Parchment worm tubes were common at some photos in the proposed extension. Handley and Alock (1999) recorded parchment worms during a survey for a proposed extension located in Port Underwood. The authors stated "Spiochaetopterus sp. was mostly found on the sloping mud between 14-17 m. Authors stated this species could not fully be identified and it could be a new species endemic to New Zealand with a wide distribution (C. Glasby, NIWA, pers. comm.)." The authors also stated that "as this species appears to bind sediment together and produced elongated tubes, it is not expected that they will be significantly adversely impacted by marine farming activities unless they become smothered from mussel shell drop." Within the proposed extension in Tawhitinui Bay, parchment worms were common from five of the 24 photos suggesting they are not widespread over the site and instead patchily distributed. Further, their abundance was lower than sites known from Port Underwood where they can become dominant over the sea floor (Davidson et al., 2017). Overall, their abundance and extent at this site was not at a level that raises concerns should the extension be approved.

No habitats or communities regarded as ecologically significant (see Davidson et al., 2011) were observed during the present study.

The Davidson Environmental Ltd report (March 2020) is attached as Appendix 2 and is an integral part of this application.

5.5. Birdlife and Marine Mammals

The Davidson Environmental report outlines the presence of marine mammals which frequent the Pelorus Sound and generally discussion on birdlife including King shag.

Davidson noted the low number of bird species present noting that one gannet was observed flying past and a variety of shag and gull species are generally present in the area and noted potential risks and how they are managed.

“The mussel industries Environmental Management System (EMS), formally known as the Environmental Code of Practice seeks to minimise such risks, and they are likely to be minimal on well-maintained farms (Keeley et al., 2009).” (Davidson Report page 33)

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

5.6. King Shag

Rob Davidson has further commented on King Shags. He reviews work undertaken by Butler (2003) and Lloyd (2003) who reviewed effects on King Shag from mussel farming. He noted recent research on tagging King Shags and feeding patterns observed.

Mr Davidson advises that:

“King Shags have been observed feeding in the general area of the proposed extension and this extension is located close to a colony. This means King Shag foraging at this site would expend less energy flying there compared to foraging sites located further away. No data has been collected on the relative importance of feeding sites located close to colonies.

It is of note, however, that the establishment of the Tawhitinui Bay breeding colony occurred after mussel farms were established in the area. This suggests mussel farms are not actively avoided during the colony selection process. The effect of mussel farms on the foraging success of these birds is unknown. Most foraging occurs offshore of farms; however, birds have been observed diving within farms in Port Gore and Port Ligar (author, pers obs.). The present recent programme being undertaken in the Sounds may address these issues in due course.

Davidson et al. (2018) recommended that the farmer at this site adopt a 100 m exclusion zone around the nearby colony for any vessel servicing this site. The closest distance between the proposed extension and the Tawhitinui Bay colony is 697 m. This is well outside the zone of disturbance for these birds.”

5.7. Productivity

Productivity drivers for the Sound are discussed including the work of Zeldis. Sanford have operated the sites for many years and have found the site to have high water flow.

Further work was commissioned from Neil Hartstein a specialist in modelling productivity. Dr Hartstein has undertaken an investigation into productivity of the water of Tawhitinui Bay and the effect of the site.

He reviewed phytoplankton production and consumption by mussels and the literature on hydrodynamic impacts likely for the area. Other researchers work in the Sounds was also reviewed to compliment his modelling and to seek some correlation between the different approaches adopted. They have been used to gauge the likely outcomes from the current flows and seston transport likely through the farm and the sphere of influence of this proposal and existing farms in the vicinity

His main findings at p12 are:

- (a) Several numerical models indicate the proposed site and across the wider Tawhitinui Reach has moderate (5-15cm/s mean current flow).
- (b) Based on the number of lines, distance between lines, current speed and direction at the proposed farming site, peer review publications examining hydrodynamic implications of mussel farms indicate this proposed farm will have very limited if any observable impact on the hydrodynamic regime of Tawhitinui Reach or wider Pelorus system.
- (c) Loss of phytoplankton due to consumption will be localised around the farm. There is sufficient space between farms to mitigate cumulative impacts. Which is assisted by moderate current flows.
- (d) The CT/RT ratio for Tawhitinui reach and nearby the proposed farm was calculated to be approximately 1.8 using the KCRSA 2017 method while with the Cawthron methodology the Ct/RT is approximately 6. Both values are over 1.0 that is suggested as the ratio where there is the potential to exceed water column carrying capacity.
- (e) The addition of the proposed farming area will not exceed the carrying capacity of Tawhitinui Reach and the surrounding water body.

Dr Hartstein's report is presented in full as **Appendix 3**.

6.0 NAVIGATION MATTERS

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.

Access all around the farm, including to the shore, will be retained. Structures will be lit to promote safe navigation past and through the farm. They will be maintained in a secure and functioning condition.

There are less than minor effects on navigation in and around Tawhitinui Bay from this farm.

6.1. The Shoreline

The inshore boundary of the proposed farm is within 50 m of the mean low water mark, as shown by Davidson report page 21 Table 1 and plate 2. That distance is less than the current standard in the Plan, however that is consistent with its consented location. There are no recorded or known incidents regarding navigation effects from the existing farm. In any event, access to the shoreline around the farm is preserved.

6.2. Headlands

The site inside the two headlands at the entrance at either end of Tawhitinui Bay.

6.3. Navigational Routes

The area lies inside of the navigational route past Tawhitinui Bay.

Vessels can navigate between the site and the shore, through the farm and on the outside of the site into the head of Tawhitinui Bay.

6.4. Anchorages or Mooring Areas

There are no moorings or jetties in Tawhitinui Bay.

6.5. Water Ski Lanes

There are no water ski lanes in the vicinity.

6.6. Sub-Aqueous Cables

There are no sub-aqueous cables in the vicinity.

6.7. Indirect Effects-Servicing Vessels at the site

The applicant estimates farming and harvesting vessels will visit the site on an average of 50-60 days of a year, for periods of 0.5 to 8 hours to undertake farm maintenance, seeding and harvesting.

The total number of hours spent on these activities for the extension is estimated to be 85 hours annually.

6.8. Biosecurity

Given the applicant belongs to the mussel industry's Environmental Management System (EMS), the applicant complies with the Code of Practice and as such effects from biosecurity risks are considered to be suitably managed.

6.9. Navigation Conclusions

The conclusion on effects on navigation is that the proposed farm is unlikely to have any adverse effects on navigation within or around the Bay.

7.0 LANDSCAPE AND NATURAL CHARACTER

7.1. Land Zoned for Residential Use or Proximity to Residences

There are no residences in the vicinity of the farm site. The land has not been subdivided and is zoned Coastal Environment Zone in the Proposed Marlborough Environment Plan (PMEP). On the land immediately adjacent to the water and on the Kenny Isle Scenic Reserve to the east the land is zoned Open Space Three. There are no coastal living areas in the area.

7.2. Existing landscape character, natural character, and visual amenity

John Hudson has undertaken a comprehensive assessment of landscape character, natural character and visual amenity, his report is attached as **Appendix 4**.

It is his view that that the existing landscape character in both the broader context and the site's localised vicinity is high. This assessment has been made with the existing modifications in the bay including the two existing marine farms, illustrating the area has a level of resilience and lower vulnerability to certain activities including aquaculture.

In terms of existing natural character, it is Mr Hudson's view the existing natural character in the broader context is medium and the site's localised vicinity as moderate to high. Again, this assessment has been made with the existing modifications to the bay. At 2km distant from the site, Mr Hudson has assessed the existing visual amenity to be very high.

7.3. Effects on Natural Character

There are no natural character overlays in the Plan. The 2014 Boffa Miskell study *Natural Character of the Marlborough Coast*, which is reflected in the natural character maps in the PMEP, does not map the waters of the area as having high natural character.

The adjacent land in the PMEP is identified as having high natural character. The relevant natural character values of the area are broken down into the key abiotic, biotic and experiential values in Appendix 2 of the PMEP, to explain why the overlay was imposed. These matters are still subject to challenge during the appeal process.

In the broader context, it is Mr Hudson's assessment natural character effects will be very low, with the existing natural character of the context having the capacity to absorb the proposed extension.

At the site's localised vicinity, it is Mr Hudson's view the natural character effects will be low-moderate on the landscape scale, but minor adverse effect in RMA terminology. He acknowledges the high natural character rating of the adjacent land in the PMEP and concludes that the proposed extension is consistent with the existing natural character attributes of the area and will not reduce their value. It is Mr Hudson's view that the proposal will not have more than minor cumulative adverse effects on natural character.

7.4. Effects on Landscape

The site is within or adjacent to an Area of Outstanding Landscape Value (AOLV) in the Plan. The area forms part of the high amenity value Marlborough Sounds Coastal Landscape, which includes all of the Marlborough Sounds.¹

The waters of the area were mapped as ONFL in the 2009 Boffa Miskell Marlborough Landscape Study and the PMEP identifies the adjacent land and inshore water as being an ONFL.

The site lies within the working environment of Tawhitinui Bay where marine farming and farming have been practiced in the past and continue to this day. The marine farm site extension is consistent with the scenic values of this part of the Tawhitinui Bay given its present use.

In his report, Mr Hudson is of the view that this proposal will not perceptibly compromise the existing landscape character and that the broader context will continue to be appreciated for its sensory attributes. The effects will be very low. The proposal will not have an impact on a high amenity landscape of the scale mapped by the MEP. Cumulative effects will also be very low.

At a localised scale it is Mr Hudson's opinion that the proposal will have low effects on the landscape character. The landscape/seascape has the capacity to accommodate the change in use. Cumulative effects will also be low. The values that underpin the AOLV in the Plan and the ONFL in the PMEP will not be compromised and adverse effects on these areas are avoided.

7.5. Visual amenity effects

As set out in Mr Hudson's report, low numbers of recreational fishers and commercial vessels are likely to be the main viewing audience. As there are existing mussel farms in the area, the proposal will not be an unexpected element.

It is Mr Hudson's opinion the buoys of the proposed extension will be barely noticeable and not detract from the character of the scene or disrupt a person's ability to appreciate the landscape's prominence. Effects on visual amenity will be low.

7.6. Conclusion

Mr Hudson concludes in his assessment as follows:

“Adverse effects on landscape and natural character at the broader context will be very low. For the site's localised vicinity landscape character effects will be low and low-moderate for natural character. Adverse effects on visual amenity has been assessed as low. Cumulative effects will be no more than low-moderate.

Mitigation measures include the reduction in the proposal's eastern boundary as suggested in the ecological report, reduced visibility of the farms due to the backdrop of the Tawhitinui Bay headland, the use of recessive, black coloured buoys where orange

¹ Based on the 2015 Boffa Miskell Marlborough Landscape Study.

buoys are not mandatory, the prominence of the surrounding landform, and the discreet location of the proposal in a moderately enclosed bay which is not within an ONFL or area of ONC or HNC. As effects will be no more than low-moderate, no other mitigation measures or recommendations are suggested.

In addition to the above mitigation measures, it was considered that adverse effects from the proposal were reduced as a result of the reasons listed below (these were considered in the assessment of effects):

- The ecological assessment found that benthic effects were expected to be low to moderate.***
- Ecological effects of mussel farms are reversible.***
- The location of the proposal is not in an ecologically sensitive area and the seabed has already been modified.***
- Marine farms can provide positive benefits by creating habitat and food resources for marine life.***
- The proposal is in-keeping with existing modifications in Tawhitinui Reach and Tawhitinui Bay.***
- The prominence of the setting is capable of visually absorbing the proposed extension.***
- The low-lying and permeable nature of the proposal.***
- Avoidance of adverse effects on ONFLs, ONC and HNCs.***
- Only a small number of viewpoints afford full scale views of the proposed extension.***
- The proposal is consistent with existing modification patterns and is co-located with existing farms, constraining the spread of potential cumulative effects.***

Overall, it is concluded that taking into account the landscape/seascape's resilience, sensitivity and vulnerability to change, the existing character of the area (both at the scale of the broader context and at the site's localised vicinity) has the capacity to accommodate the effects of this proposal. As such, it is assessed that the proposed extension is appropriate from a landscape character, natural character, and visual amenity perspective."

8.0 AMENITY VALUES

In terms of amenity, potential effects from a marine farm are generally related to the visual effect of the farm structures and operation, and noise effects. Visual and noise effects are considered to be minor. Vessels will visit the area to service the farm on an

irregular basis. Because this is a remote location and is accessed by water only vessels which will be working on this farm are unlikely to detrimentally affect visual and noise effects on the environment.

Noise and visual effects are considered to be minimal. In terms of noise and visual effects of the farm on users of the Bay tourists, given the existing developments in this area the visual effects of the farm are lessened. Noise and amenity effects will also be transitory for visitors to the Bay and depending on whether they visit during a time where the farm is being harvested/worked on, there could be no noise effects at all.

The buoys to be on the site would have only a minor additional impact on visual amenity, and the rest of the structures will be below the water surface. The site blends with the strong coastal bluffs behind. A photograph showing how the farm blends in with the landscape is found in the Davidson report. Hudson report

The site will not have an effect on the Marlborough Sounds Coastal Landscape in the MEP, which is vast compared to this very small area in Tawhitinui Bay where it has been part of the landscape since 1992.

9.0 ECOLOGICAL VALUE

There is no ecological value identified in the MEP for the immediate area. Ecological values that have been identified are described in the Davidson Environmental Ltd Report, particularly for those areas inshore of the proposal. These areas will not be adversely affected by this proposal.

10.0 RECREATIONAL VALUE

In terms of recreational use, there is boat access only to the area.

The visual impact of the marine farm will not cause any significant alteration to the physical environment in what is essentially already a commercial marine farming area. This marine farming site is consistent with the productive character of this part of Tawhitinui Bay.

10.1. Recreational Fishing

It is the applicant's view that the marine farm at the site enhances opportunities for recreational fishing, as marine farms generally tend to create an ecosystem which is conducive to the presence of both reef fish, and other fish species such as cod and snapper. The Davidson Report confirms sightings of such fish during the benthic survey undertaken as part of that Report. Access to the coast and all around the farm is maintained.

Recreational fishing does take place along the coastline utilising the small reefs and rubble shore which is inhabited by fish targeted by recreational fishers. Recreational fishing is an activity encouraged by the applicant.

11.0 HISTORICAL OR CULTURAL VALUES

The New Zealand Historical Places Trust Inventory has been consulted to identify any sites of significance in this location. None appear in published information.

I have also looked at the Archsite online database. There are no sites recorded on land of Tawhitinui Bay.

From the applicant's knowledge no sites of historical or traditional value are present in the area of the proposed farm.

12.0 COMMERCIAL FISHING

Commercial fishing is known to occur in the area beyond the site and it is unlikely in this part of Tawhitinui Bay. Trawling for scallops occurs along the Tawhitinui Reach though this farm would not prevent such nor have any effect on such. Commercial long line fishing may occur and in terms of commercial net fishing this is infrequent.

13.0 EFFECTS ON WATER QUALITY AND ECOLOGY

The water quality of the area is high. The site relies on excellent water quality to enable the process of marine farming to flourish. It is a large area with good capacity for mixing of water with tidal current, wind and wave action.

Consent is required for the amount of organic waste matter which is discharged during the harvesting process and for the take and use of coastal water. No significant historical adverse effects have been recorded from the existing farm nor they anticipated from this application, and any visual evidence of harvesting quickly dissipates in the coastal environment.

14.0 EFFECTS ON PRODUCTIVITY

Water quality is unlikely to be a problem to marine farming. The activity in itself is unlikely to create any significant detrimental effects on water quality. The extension has no effect on the productivity of existing marine farms indicated by Mr Hartstein.

15.0 ALIENATION OF PUBLIC SPACE

This Bay has had this marine farm since 1992. Recreational and commercial boat owners are aware of the marine farm in this area and recreational fishermen have the opportunity to transit through the longlines and fish all around the farm or from shore. Data, such as for recreational fishing occurrences, shows that other activities such as recreational fishing occur in and around the farm. Access all around the farm is retained. The only "occupation" is to be from the physical space the structures will occupy. That is part of the nature of operating a marine farm, i.e. that structures are required to be installed.

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

16.0 ON SHORE FACILITIES

The applicant does not require onshore marine farm facilities. The farm work is undertaken by existing marine farming contractors.

17.0 VALUE OF INVESTMENT

s 9(2)(b)(ii)



18.0 SOCIAL, EMPLOYMENT AND ECONOMIC BENEFITS

This application will enable the continuation of production from the sites, contributing to the social and economic benefits of aquaculture to the local community. This farm is operated by Sanford Limited as part of a portfolio of sites managed by the company. Sanford has two management vessels and seven mussel barges working out of Havelock. The farming on water staff provides employment for 90 people while 200 staff working in the processing factory at Havelock over two shifts.

The plant produces about 100 tonnes of mussel per day and product is sold both in New Zealand but primarily internationally as frozen export product.

The Sanford powder plant ENZAQ is currently processing 45-50 tonnes of product per week and a 24/7 shift pattern. Construction of a new extract plant at Riverlands currently underway and will double through put through this facility.

19.0 PART II RESOURCE MANAGEMENT ACT ISSUES

19.1. Section 5

Section 5 provides the overarching purpose of the Act and provides a definition of sustainable management. In terms of the enabling provisions in Section 5 of the Resource Management Act (the RMA) the marine farm 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 of 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 resource.

In analyzing the effects of the proposal on natural or physical resources, the farm is proposed over an environment of predominantly 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 number. This is confirmed in the Davidson Report for this site. There is a reef at the site, but this is a controlled activity application to extend the farm.

The site can be farmed sustainably, and management of environment criteria can be achieved. It is in an area of the Sounds which has been developed or changed from its natural state, such as through pastoral and fishing. The site position and distances from other facilities are not detrimental to other uses of the area and access all around the farm, including to the shore, is retained. Section 5 of the RMA is given effect through the New Zealand Coast Policy Statement 2010 ("NZCPS"), the Marlborough Regional Policy Statement and the Plan. The relevant policies in the MEP do not yet have legal effect and the aquaculture provisions of the MEP have not yet been notified, and as such this is an application under the Plan. The application is assessed against the relevant provisions of these documents below, and in **Appendix A, B and C**.

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 Plan.

The proposal recognises the:

- (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. I have also assessed effects on natural character above in this AEE. My conclusion is that the natural character of this Bay will be little changed by this proposal, and the farm will not have an effect on the values that make this area outstanding.

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

The site does lie in an area identified as AOLV in the Plan and is adjacent to an outstanding natural feature and landscape overlay in the MEP. The adjacent land is reverting farmland. See my assessment above in the AEE, where I outline why the farm will not have an effect on the values that make this area outstanding.

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

The vegetation is reverting farmland adjacent. The marine farm will not impact on the adjoining land. There are no ecologically significant marine sites mapped in the Plan or the MEP where the farm is proposed. There may be some shell drop and deposition within the farm. This area may be a foraging habitat for the King shag, although no incidents are known to have occurred with the present farm, and there should not be any material differences between the offsite location of the installed farm and the proposed new farm, in terms of King shag. The risks to marine mammals such as Dolphin, are considered low, and there have been no incidents with this farm operating since 1992.

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

Public access is maintained with good separation from the coast and main navigational routes. Access to the three moorings in this Bay is to be retained.

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

There are known associations with iwi for the Pelorus Sound, and there are several recorded sites on Archsite's in the Sound. The farm is not considered to be likely to cause adverse effects on cultural and historical values and associations. This application will be circulated to iwi for their consideration.

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 Sounds. The proposal has been developed to avoid offending the guardianship and protection of resources valued by Iwi. There are no known concerns of iwi in relation to the

existing farm at this time. 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. This location is considered to be appropriate for a marine farm. It is therefore efficient to enable the positive economic, social and employment effects associated with this proposal.

(c) The maintenance and enhancement of amenity values:

The existing amenity values of this area, that being of not wholly natural environment given developments such as reverting land is considered to be retained. This Bay has a remote character, and this application is therefore in keeping with the amenity values of this area.

(d) Intrinsic values of ecosystems:

The values of the ecosystems have been identified in the Davidson Report. Importantly no significant resources have been identified on the site. The structures are situated primarily over a mud benthos that is widespread in the Marlborough Sounds and is identified as the environment most suited to have aquaculture over it

(f) Maintenance and enhancement of quality of the environment:

The quality of the environment will not be compromised 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 that being the physical space of the structures. Access all around the farm will be retained. 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.

This 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. No matters of concern were raised at that time.

20.0 NEW ZEALAND COASTAL POLICY STATEMENT 2010 (NZCPS)

The NZCPS 2010 is of general relevance 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, 6, 8, 11, 13, 15, 18, 22 and 23. I consider 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 mātaihai in the area of the application. There are also no established areas of protected customary rights or customary marine title within the meaning of the Marine and Coastal Area (Takutai Moana) Act 2011.

The applicant has provided a copy of this application to all 8 Marlborough iwi.

20.2. 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 an existing farm having been operated in the Bay since 1992 and the effects of mussel farms are generally well understood.

20.3. 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 a developed environment in that part of Tawhitinui Bay. The farm will not have any effect on land-based historic sites identified on the land around this Bay in terms of subpart 1(j). The farm is not sited near any Ecologically Significant Marine Site

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.

20.4. 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. No changes to the impact on water quality are anticipated. This application satisfies the requirement of Policy 8.

20.5. Policy 11

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

The farm is located over mud habitat. There will be some shell deposition on that habitat. Marine mammals are known to periodically frequent the Sound. No adverse effects on dolphins or other mammals has been reported from the existing farm. The site is not within a dolphin or whale mapped area under the Plan or under the MEP.

20.6. 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 effects and avoidance, remediation and mitigation of other adverse effects on natural character in all other areas of the coastal environment.

As discussed above in this AEE, adverse effects on the relevant values will be avoided, particularly given that the farm is proposed in a location which has been developed by other activities.

20.7. 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 discussed above, the farm is proposed in a location which has been developed by other activities (such as dwellings, tracks, farming, fishing, etc) and even though there is an overlay for outstanding natural landscape over the land, the particular values underlying that island-wide overlay are not considered to face adverse effects from this application.

20.8. 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.

There is access by sea only. The site of the proposed farm has a low viewing audience and the view is transitory. The area is not normally a destination. Access to the coast and all around the farm, 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.

20.9. 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.

20.10. Policy 23

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

21.0 REGIONAL POLICY STATEMENT/MARLBOROUGH SOUNDS RESOURCE MANAGEMENT PLAN

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

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

Conclusion

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

22.0 PROPOSED MARLBOROUGH ENVIRONMENT PLAN

Rules applying to marine farming have been specifically excluded from the PMEP at this stage, hence consideration of the proposal under the operative Plan. However, some

recognition does need to be given to the relevant policies in the MEP. An analysis table assessing the proposal against the relevant provisions is included at **Appendix C**.

The site is located in the Overlay Marlborough Sounds Coastal Landscape. The terrestrial landscape has been classified and graded as a Marlborough Sounds Coastal Landscape.

MEP objectives and policies relevant to the proposal include:

- Chapter 4 – Natural & Physical Resources
- Chapter 5 – Allocation of Public Resources
- Chapter 6 – Natural Character
- Chapter 9 – Public Access and Open Space
- Chapter 15 – Resource Quality

Note that the provisions of Chapter 13, Use of the Coastal Environment, specifically do not apply to marine farms.

All are considered to be relevant to such applications as this and have been generally outlined in this AEE. In my view the proposal provides for the needs of primary production and tourism.

Infrastructure is protected. The nature and character of the Sounds is protected. Access to coastal water is maintained and exclusive occupation of water space is minimized allowing access between lines and the shore.

Adverse effects in areas of outstanding natural character, outstanding natural landscapes, and outstanding natural features have been avoided, as has any effect on ecosystems and biodiversity.

Heritage values are recognised, and are unaffected, including Maori Culture and traditions.

23.0 CONSULTATION

This application has been sent to all iwi listed below, pre-lodgement.

Name	Address	Phone
Ngati Koata Trust	s 9(2)(a)	s 9(2)(a)
Te Runanga a Rangitane o Wairau	s 9(2)(a)	s 9(2)(a)
Te Runanga O Ngati Kuia	s 9(2)(a)	s 9(2)(a)
Ngāti Apa ki te Rā Tō	s 9(2)(a)	s 9(2)(a)
Te Atiawa Manawhenua Ki Te Tau Ihu Trust	s 9(2)(a)	s 9(2)(a)
Ngati Toarangatira Manawhenua Ki Te Tau Ihu Trust	s 9(2)(a)	s 9(2)(a)
Ngati Rarua Trust	s 9(2)(a)	s 9(2)(a)
Ngati Tama ki Te Waipounamu Trust	s 9(2)(a)	s 9(2)(a)

24.0 CONCLUSION

It is my view the use of this area for aquaculture is appropriate. The proposal is not inconsistent with the values that make this area outstanding. The farm is located over habitat that is considered appropriate for marine farming.

Based on the reports by Messrs Davidson, Hartstein and Hudson, it is my view the proposal meets both gateway tests under s104D(1) of the RMA. Its effects will be no more than minor and it will not be contrary to the objectives and policies of the NZCPS, the RPS, the Plan or the PMP.

The proposal enables people and communities to provide for the social, economic and cultural wellbeing, while ensuring the principles of sustainable management are met.

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