

**Ponui Aquaculture Ltd**

**c/- Peter Bull, Paddy Bull Ltd and Laurie Beamish, Ngai Tai Ki Tamaki**

**Application No: CST60335843**

## **Response to s92 Requests**

**17 July, 2019**

**1. Introduction:**

This document and attachments is in response to the letter dated 1 May 2019 requesting further information in accordance with s92 RMA, in relation to the application for mussel farming off-shore from Ponui Island. A response is also made to the email dated 31/5/19 regarding landscape matters.

Attachments include:

- a science report (plus attachment) covering items from the above-mentioned letter: 1, 3, 4- 10, 12, 13, 15 and 17;
- a report on wave effects covering item 14 in the above-mentioned letter; and
- a report on landscape and natural character matters raised by the peer reviewer and referenced in email dated 31/5/19.

This document covers all other matters raised in the letter dated 1 May 2019, with some overlap drawing on the information in the attached reports.

**2. Item 2: Development approach & stocking density.**

It is proposed that two blocks would be installed in the first year (ie following approvals of consent and Ministry of Fisheries UAE test). Then one block installed annually, thereafter. This equates to a proposed staged development over a seven year period.

Auckland Council has also asked for an indication of how stock density will be managed in terms of mussel farming and spat catching. As stated in the AEE, *“The proposed marine farm is for the purpose of growing and harvesting Greenshell™ Mussels (Perna canaliculus) and mussel spat catching on conventional longline structures.”* The application area will be primarily used as a farming area. Spat catching is specifically mentioned in order to cover future opportunities at the site. However, the focus of this application area would be on full mussel farming.

**3. Items 3 & 16: Cumulative Effects Assessment**

Council has advised (5/6/19) that the farms being referred to in this item include:

- Westpac Mussel Distributors Ltd – Rangipakihi (171 ha)
- Westpac Mussel Distributors Ltd – Waitoetoe (128.2 ha)
- Western Firth Marine Farming Consortium (664 ha)

The following assessment has been based on the farm subject to this application in conjunction with the above-mentioned farms.

The farm on hold to the north of Waimango block of farms cannot be considered for the purpose of cumulative effects, as no application has been consented.

<b>Effects Considered</b>	<b>Commentary</b>
<b>Ecological Effects</b>	The cumulative effects on the ecosystem of the proposed farm together with the effects from other existing or consented farms at Western Firth and mid-Firth has been assessed by Dr Pete Wilson of 4Sight Consulting in the attached document. Dr Wilson concludes that overall there would be no significant depletion of phytoplankton, and that any benthic effects should have ‘minor ecological consequence’.

	<p>The conclusions reached by Mr Bone in the report “Ecological assessment of a proposed mussel farm site north-western Firth of Thames”, Jan 2019, which was submitted with the application are also relied upon in assessing cumulative effects. In particular:</p> <ul style="list-style-type: none"> <li>• effects on fish and fishing and seabirds are likely to be positive, neutral or at least not adverse.</li> <li>• The risk of entanglement of whales or dolphins is remote and effects on cetaceans are less than minor.</li> <li>• It is highly unlikely that adverse cumulative ecological or water quality effects will occur, taking into account the existing approved mussel farms in the Firth.</li> <li>• There are likely to be positive ecological effects associated with the mussel farm and spat collection structures</li> <li>• Ecological effects on the benthos and in the water column beyond the farm are not expected to be adverse or significant and are expected to be minor</li> </ul>
<p><b>Cultural</b></p>	<p>The application is a joint venture between Ngai Tai ki Tamaki - Mr Laurie Beamish and Mr Peter Bull. Mr Beamish has undertaken consultation with neighbouring iwi organisations. The area of the application is specifically within the rohe of Ngai Tai ki Tamaki and they hold mana moana over the area. There are no other marine farms within their rohe. In their opinion, there are no cumulative cultural effects with other marine farms in the Firth of Thames nor with any other marine-based activities within their rohe.</p> <p>This application does have a significant cumulative economic and cultural effect for Ngai Tai ki Tamaki, as it provides an opportunity to develop an economic base for the iwi, in a way which enables future training and employment opportunities for iwi members.</p>
<p><b>Economic</b></p>	<p>The size of the proposed farm was established in consultation between the two parties to the application. The size reflects the economic realities of farming so far from shore, and in deep waters. The location is also seeking to future-proof the industry by seeking to farm in cooler waters and cleaner waters that are not affected adversely by land discharges.</p> <p>Cumulatively with other farms in the area, it would enable the industry to grow economically within the Firth of Thames area, in accordance with Aquaculture New Zealand’s strategic planning directions and the Government’s Strategic directions<sup>1</sup>. This is a positive cumulative effect.</p> <p>There are also positive cumulative economic effects that flow-on to other support industries and to local and regional communities. There are also a positive effects on direct and indirect employment opportunities within Coromandel, for Ngai Tai ki Tamaki, and within the wider regions.</p>
<p><b>Landscape and Visual Effects</b></p>	<p>Hudson Associates Landscape Architects considered in the report submitted as a part of the application that the effect on the landscape, visual and natural character aspects, from granting the consents sought: a) <i>on the Firth of Thames overall will be very low</i> and b) <i>at the site and in its localised vicinity adverse effects</i></p>

<sup>1</sup> The New Zealand Aquaculture Strategy, 2006; Aquaculture Growth Strategy Phase II, (undated); Aquaculture NZ Research Strategy, 2009; and The Government’s Aquaculture Strategy and Five-year Action Plan to Support Aquaculture, 2012.

	<p><i>on landscape character will be low-moderate and effects on natural character and visual amenity will be low.</i></p> <p>This report further notes that: <i>The application site is sufficient distance from other marine farms and from the coastal edge, thus avoiding cumulative effects.</i></p> <p>There are no cumulative effects with other mussel farms in the area, due to the distance the proposed site is from the nearest existing farms (approximately 7.5km south of the application site). In addition, there are no cumulative effects from the lighting, due to the distance of the proposed farm from other existing farms and from land.</p> <p>I also rely on Mr Hudson's report submitted in response to the email dated 31/5/19.</p>
<b>Navigation Safety &amp; Recreational/ Commercial Boating</b>	<p>The farm would be lit and marked with lights and orange floats, in accordance with the Maritime NZ Guidelines, and as would be approved by the Auckland Harbourmaster. There are no adverse cumulative effects of lighting arising for the presence of other existing marine farms in the area. The cardinal marks would shine for a distance of 4nm and no other farms are located within this vicinity.</p> <p>One commercial vessel operates intermittently in general area of the proposed application. This is a barge (irregular on-demand service generally for aggregate) The barge would be able to navigate around the farm as there is sufficient room to manoeuvre, without obstruction from any other farm (or other structure). The ferry service Auckland – Coromandel – passes well to the north and does not result in any cumulative effects.</p> <p>For recreational boating, there would be a positive effect relating to fishing opportunities. Other powered recreational vessels would be able to navigate through and around the farm blocks. Yachts would be able to navigate around the area as there is sufficient room to manoeuvre, without obstruction from any other farm (or other structure).</p> <p>There are no cumulative restrictions on access (for recreational or commercial vessels), as vessels can still navigate around the proposed farm areas.</p>
<b>Land-based facilities</b>	<p>Sugar Loaf wharf can accommodate the land-based activities associated with this proposed farm operation.</p> <p>There are no cumulative adverse effects arising from the proposed farm as it will be operated in conjunction with existing farm operations. Mr Bull already operates an existing land-based facility for the storage of floats and ropes and there is sufficient space to accommodate the extra equipment required. Ngai Tai ki Tamaki may consider a separate land-based storage area, at some future stage, and would apply for any required land-based resource consents at that stage.</p> <p>There are no cumulative effects for this application in conjunction with other farms, on the land-based facilities.</p>
<b>Cumulative Areas</b>	<p>The Firth of Thames is a significant area of water space – approximately 500,000 ha. The cumulative area of all the existing consented farms remains small compared to the overall area. In terms of occupation of space (assuming some 2,500 ha of existing farms overall), this is estimated as being approximately 0.5 % of the overall area<sup>2</sup>. However it is also noted that the farms are not areas of</p>

<sup>2</sup> Both figures used in this calculation are my personal guesstimates.

	<p>“exclusive occupation” – rather vessels can readily navigate between lines and around farm blocks.</p> <p>Neither the Auckland Unitary Plan nor the Waikato Regional Coastal Plan have identified “carrying capacity” triggers. However based on the information provided by Dr Wilson and Mr Bone in the attached ecological report, the cumulative effects of all existing farms will not trigger any ecological issues.</p> <p>The Hauraki Gulf Marine Spatial Plan – Sea Change – envisaged further growth for marine farming, both within the Firth of Thames and in the area of this application in particular.</p>
<p><b>Overall Assessment of cumulative effects</b></p>	<p>Taking into account all the above descriptions of adverse and positive cumulative environmental effects, in my opinion, there is no overall cumulative adverse environmental effects of the proposed application at the site or arising from the activities. The overall degree and magnitude of change is in my opinion appropriate and would not trigger adverse cumulative effects over time or space.</p>

The overall cumulative effects on the environment associated with this application and the other consented mussel and spat catching farms in the Firth of Thames, in particular those identified by the Auckland Council, are negligible. This is largely due to the minimal adverse effects that the proposed farm will have on the environment, the location of the proposed area well off-shore, the significant distance of the proposed area from other existing farms and the context of the Firth of Thames as having a historically high natural presence of mussels and spat which was associated with a significant dredge mussel industry in the past.

**4. Item 11: Boating and Recreational Activities (excluding navigational aids)**

The request was made for an assessment of effects of the proposal on boating and recreational activity.

**4.1 Commercial Vessels:** The effect of the proposed farm on commercial vessels was covered in the AEE under sections 4.7 and 4.8 . The conclusion was that provided the farm area is appropriately lit and marked with navigational aids, any competent skipper could navigate around the area. The commercial ferry service from Auckland to Coromandel passes well to the north of the proposed area. Therefore there would be no adverse effects on commercial vessels.

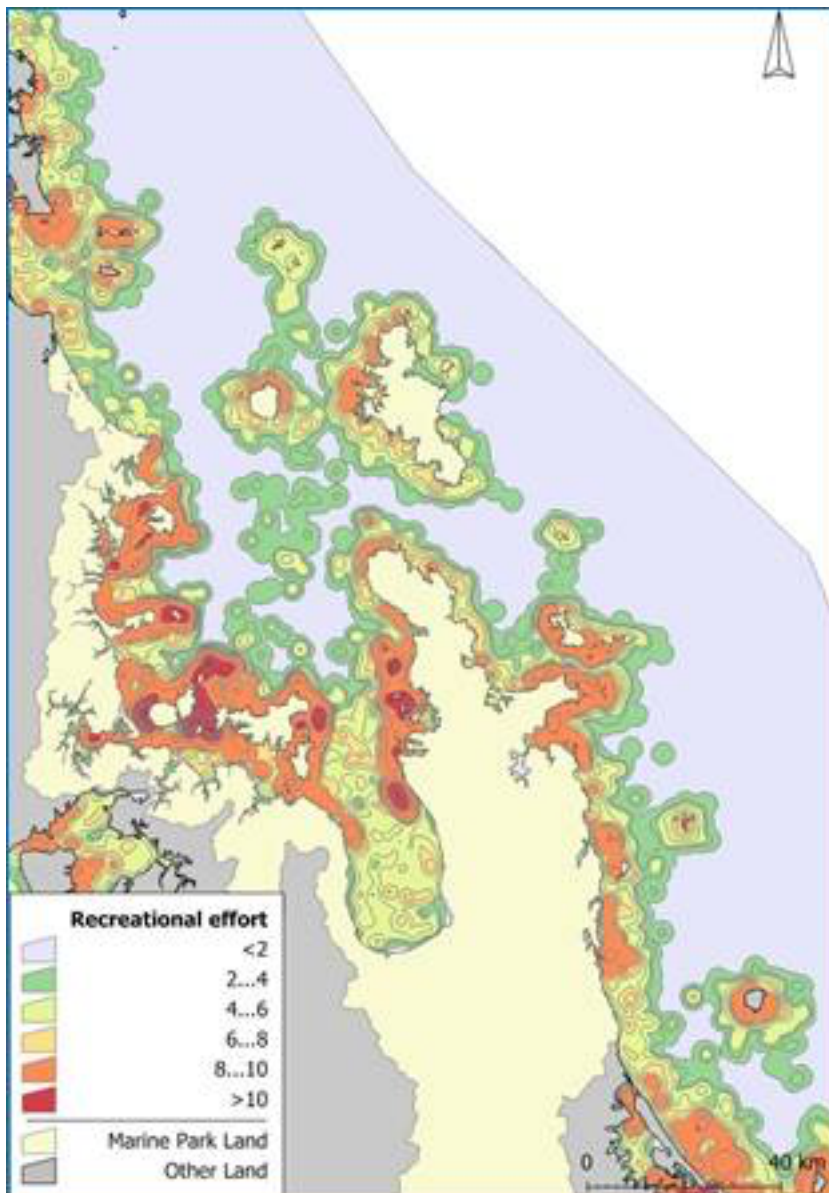
**4.2 Recreational activities:** The proposed farm is 1.6km (0.86nm) off-shore. Any recreational activities within this area would be related to the use of vessels. There would be no effect on close-shore boating or non-boating recreational activities, due to the distance from shore. Surf breaks are addressed in the following item.

The AC Deputy Harbourmaster (C Moss) commented that he was *“unaware of any specific boating and recreational activity in this area. You will have general boating activity, but it would not compare to the central Waitemata or Waiheke to Auckland marine traffic thoroughfare”*.

Mr Bruce Hartill, NIWA, undertakes aerial surveys of recreational vessels for Ministry of Fisheries and commented:

*“from aerial surveys, the Wilson Bay mussel farms are some of the most intensively fished areas per m<sup>2</sup> in New Zealand. The area east of Ponui Island is relatively quiet. A new farm in this area would have a hugely positive impact for fishers, as they wouldn't need to travel as far.”*

Mr Hartill also provided the following screen dump of data collected for the 2011-12 year, which also reflects the data from a more recent survey (which has not been prepared in map form as yet):



Kawakawa and Maraetai Boat Clubs were also contacted. Both clubs have high use of their local ramps and can have 400-800 boats launching per day in summer. Both Clubs indicated they would respond to my queries about recreational impacts. No responses have been received to date, but should any be sent in, I will then forward to A Wilkinson.

4.3 **Access to the area:** The nearest public boat ramps are located at:

- Kawakawa boat ramp – estimated distance to proposed farm 0.54nm/ 12 km

- Omana/ Maraetai/ Waitawa Beach boat ramp - estimated distances to proposed farm is 11.88 nm/22 km or more
- Coromandel (various) - estimated distances to proposed farm = 7 – 13.5 nm (13 - 25 km)

In all instances, the proposed farm is a reasonable distance to travel for fishing, for any vessel that would be launched from boat ramps. Not all vessels would be suitable for boating into this area due to the swell and winds, which can change rapidly in this open area. Therefore the area would have some limitations for some vessels.

- 4.4 **Yachting:** The area is located off-shore (closest point to land being 0.86nm/ 1.6km), which would enable yachts to pass either side of the proposed area. As mentioned above the area would be appropriately lit and marked for navigational purposes. The proposed farm is not located in any sheltered mooring/ anchoring area. The applicant understands that the area is not on any normal yachting routes from Auckland to the Coromandel.
- 4.5 **Sea Change:** Appendix 2 of the Hauraki Gulf: Sea Change: Marine Spatial Plan, notes recreational issues were considered in the context of a potential farm being appropriate in the area offshore from Ponui. The assessment of the area included the following:

<b>Criteria</b>	<b>Comment</b>
<i>Commercial fishing</i>	<i>Moderate level of commercial fishing, mainly longline and net fishing.</i>
<i>Recreational fishing</i>	<i>Moderate to low level of recreational fishing.</i>
<i>Commercial boat traffic</i>	<i>No commercial shipping traffic in this area.</i>
<i>Yachting routes and anchorages</i>	<i>Lies between recognised cruising routes. May cause some conflict with boating traffic.</i>
<i>Swell corridors for surf breaks</i>	<i>On swell corridor for Orere Point break.</i>

While there is no specific information in this Spatial Plan on the numbers of recreational vessels utilising the proposed area, or on the cruising routes referred to, the Plan's assessment is that the proposed area would generally have a low level of access. As mentioned above provided the area is appropriately lit and marked, any competent skipper should be able to navigate safely around (and in some instances through) the proposed farm area.

- 4.6 **Conclusion:** Based on the above information, it is considered that the effects on recreational activities (including boating) would be minimal, and based on the applicants' experiences of other marine farms, the effects on recreational fishing from vessels would be positive. The proposed farm is located in open waters, which have no identified features that cause it to be a particular destination. The area can be subject to rapid weather changes, making access to the area limited for some. The proximity to busy boat ramps will mean that traffic would randomly access this area. However it is my opinion that any competent skipper should be able to navigate safely in this area.

## 5. **Item 17: Mussel Reef Restoration Trust**

In addition to the response provided in the attached science report from Dr Wilson, it is noted that Mr Bull has previously worked with the Mussel Reef Restoration Trust and provided mussels to them, for restoration purposes. (Refer also to Sea Change Marine Spatial Plan p38, which includes a photo of the applicant assisting the restoration work). In addition Mr Beamish has also been involved with this group, and it is his understanding that there is no potential conflict with this group. The proposed farm area does not form part of their future plans.

AC has provided a map showing the restoration sites as being East Ponui 1 and East Ponui 2 (refer Appendix 2). Both sites are close to shore. The map also shows that the area of the proposed farm is located in an area that was historically identified as being dense mussel beds.

In my opinion, the application activities will have no impact on the activities of the Restoration Trust, nor on the exercise of their consent, due to the distances between the proposed farm and the restoration sites; and acknowledging that mussels were historically a part of this wider environment.

**6. Items 18 & 20: MACA**

Contact made with [rahari.takuira@gmail.com](mailto:rahari.takuira@gmail.com) 13/4/19 (rejected)

Further contact made with [rihari.takuira@gmail.com](mailto:rihari.takuira@gmail.com) 5/6/19 (when new address provided by Council).

Attached in Appendix 1 is the information as sent. To date, no response has been received.

**7. Item 19: Further confirmation from DOC**

A copy of the full application was forwarded to the Department of Conservation on 13/5/19, and followed up on 20/6/19. To date, no formal response has been received. However, staff have indicated that they are preparing a response. This will be forwarded to A Wilkinson once it is received.



## Appendix 1: Additional MACA Notification

(NB: I have removed my signature and company logo from these emails to shorten the string)

Begin forwarded message:

**From:** Robin Britton <[rbritton.coast@gmail.com](mailto:rbritton.coast@gmail.com)>  
**Subject:** Fwd: MACCA Notification to Te Kaunihera  
**Date:** 5 June 2019 at 3:03:49 PM NZST  
**To:** [rihari.takuira@gmail.com](mailto:rihari.takuira@gmail.com)  
**Cc:** Robin Britton <[rbritton.coast@gmail.com](mailto:rbritton.coast@gmail.com)>

Kia Ora Rihari

I was sending you the below message - but unfortunately I was given the wrong spelling. Can you please refer to the below email and attached documents.

This is in respect to an application for a mussel farm off-shore to the east from Ponui Island, which is a joint venture between Paddy Bull Ltd (Peter Bull) and Ngai tai ki Tamaki (Laurie Beamish)

I would appreciate receiving any response you have.

Many thanks  
Robin

Begin forwarded message:

**From:** Robin Britton <[rbritton.coast@gmail.com](mailto:rbritton.coast@gmail.com)>  
**Subject:** Fwd: MACCA Notification to Te Kaunihera  
**Date:** 13 May 2019 at 10:05:01 AM NZST  
**To:** [rahari.takuira@gmail.com](mailto:rahari.takuira@gmail.com)  
**Cc:** Robin Britton <[rbritton.coast@gmail.com](mailto:rbritton.coast@gmail.com)>, Laurie Beamish <[laurie.beamish@ngaitai-ki-tamaki.co.nz](mailto:laurie.beamish@ngaitai-ki-tamaki.co.nz)>, Peter Bull <[pmbull@xtra.co.nz](mailto:pmbull@xtra.co.nz)>

Dear Sir/Madam

We have lodged a consent application with Auckland Council and they have now informed us that I should also have contacted you in regards to the requirements of the MACA act. I apologise for this mistake and herewith forward you a copy of the covering letter and consent information provided to other parties.

If you have any queries on this please feel free to contact myself or Laurie Beamish.

we appreciate your response to this matter.

Yours sincerely

Robin Britton

Begin forwarded message:

**From:** Robin Britton <[rbritton.coast@gmail.com](mailto:rbritton.coast@gmail.com)>  
**Subject:** MACCA Notification  
**Date:** 7 December 2018 at 2:25:20 AM NZDT  
**To:** James Brown <[james.brown@ngaitai-ki-tamaki.co.nz](mailto:james.brown@ngaitai-ki-tamaki.co.nz)>, [jkahukiwa@corbanrevell.co.nz](mailto:jkahukiwa@corbanrevell.co.nz), [darrell@tamakilegal.com](mailto:darrell@tamakilegal.com), [mark@fmlawyers.co.nz](mailto:mark@fmlawyers.co.nz), [charl@ranfurlychambers.co.nz](mailto:charl@ranfurlychambers.co.nz), [gsharrock@rightlaw.nz](mailto:gsharrock@rightlaw.nz), Janet Mason <[mason@phoenixlaw.expert](mailto:mason@phoenixlaw.expert)>, [ngatihako-maca@ranfurlychambers.co.nz](mailto:ngatihako-maca@ranfurlychambers.co.nz), [jrk999@yahoo.com](mailto:jrk999@yahoo.com), Mike Baker - Hauraki Whaanui <[mbaker@ngaatiwhanaunga.maori.nz](mailto:mbaker@ngaatiwhanaunga.maori.nz)>, [info@tamaoho.maori.nz](mailto:info@tamaoho.maori.nz)  
**Cc:** Robin Britton <[rbritton.coast@gmail.com](mailto:rbritton.coast@gmail.com)>, Peter Bull <[pmbull@xtra.co.nz](mailto:pmbull@xtra.co.nz)>, Laurie Beamish <[laurie.beamish@ngaitai-ki-tamaki.co.nz](mailto:laurie.beamish@ngaitai-ki-tamaki.co.nz)>, Lucy Steel <[lucy.steel@ngaitai-ki-tamaki.co.nz](mailto:lucy.steel@ngaitai-ki-tamaki.co.nz)>

Dear all

Please find attached a letter and supporting information re: resource consent application in the Firth of Thames.

Many thanks  
Robin

## **Robin Britton**

PO Box 7016  
Hamilton 3247  
Mobile 027 281 2969  
Email [rbritton@wave.co.nz](mailto:rbritton@wave.co.nz)



6<sup>th</sup> December 2018

**James Brown:** Ngāi Tai ki Tāmaki Trust: [james.brown@ngaitai-ki-tamaki.co.nz](mailto:james.brown@ngaitai-ki-tamaki.co.nz)

**Roimata Minhinnick:** Ngati Te Ata: [jkahukiwa@corbanrevell.co.nz](mailto:jkahukiwa@corbanrevell.co.nz)

**Jasmine Whakaarahia Cotter-Williams and Faenza Bryham:** Ngati Taimanawaiti Ngati Taimanawaiti: [darrell@tamakilegal.com](mailto:darrell@tamakilegal.com)

**Kenneth John Linstead:** Te Kupenga o Ngati Hako:  
[mark@fmlawyers.co.nz](mailto:mark@fmlawyers.co.nz); [charl@ranfurlychambers.co.nz](mailto:charl@ranfurlychambers.co.nz)

**Rihari Dargaville** on behalf of the New Zealand Maori Council members:  
[gsharrock@rightlaw.nz](mailto:gsharrock@rightlaw.nz)

**Maanu Paul** on behalf of All Maori: [mason@phoenixlaw.expert](mailto:mason@phoenixlaw.expert)

**John Linstead:** Te Kupenga o Ngati Hako: [ngatihako-maca@ranfurlychambers.co.nz](mailto:ngatihako-maca@ranfurlychambers.co.nz)

**Joseph Robert Kingi:** Ngapuhi Nui Tonu (Waitangi Marae): [jrrk999@yahoo.com](mailto:jrrk999@yahoo.com)

**Mike Baker:** Ngāti Whanaunga: [mbaker@ngaatiwhanaunga.maori.nz](mailto:mbaker@ngaatiwhanaunga.maori.nz)

**Dennis Raniera Kirkwood:** Ngāti Tamaoho: [info@tamaoho.maori.nz](mailto:info@tamaoho.maori.nz)

*sent by email*

Dear Sirs/ Madams

### **Re: RMA Consent Application for Mussel Farm in Firth of Thames**

I am a planning consultant acting on behalf of Ngai Tai ki Tamaki and Mr Peter Bull, who are applying for a mussel farm off-shore to the east of Ponui Island. This application is being led by Mr Laurie Beamish and Ms Lucy Steel of Ngai Tai ki Tamaki and Mr Peter Bull, in a joint venture partnership.

In light of the customary marine title applications that you have lodged and which may cover the area of the resource consent application, and in accordance with s62 of the Marine and Coastal Area Act, I am required to notify and seek your views.

Resource Management/Planning Consultant

I have enclosed a map of where this proposed farm is to be located, along with some background information.

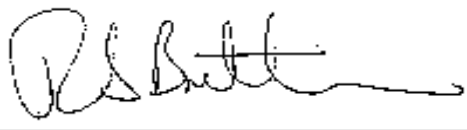
Before we can lodge an application we are required to notify and seek your views.

I would appreciate a response from you, as soon as practical so that we can attach this formally to the application before it is lodged with Auckland Council.

If you have any queries about this application please contact me.

Thank you.

Yours sincerely

A handwritten signature in black ink, appearing to read 'R. Britton', enclosed within a thin black rectangular border.

Robin Britton

## Summary of Proposal for Mussel Farm off-shore from Ponui Island

I am currently preparing a resource consent application for a proposed mussel farm to be located off-shore from Ponui Island. This summary has been prepared for the purpose of consultation and provides some initial information on the project.

**Applicant:** Takutai Ltd, jointly owned and operated by Ngai Tai ki Tamaki and Peter Bull.

**Location & Size:** The farm of 221 ha is proposed to be located approximately 3.6 km off-shore from Ponui (refer attached overview map). The farm has been positioned off-shore (to minimise visual effects) and away from common boating routes. The application is not seeking exclusive occupation of space and it is envisaged that boating traffic will still be able to utilise the area

The area was identified in the Hauraki Gulf Marine Spatial Plan as being suitable for aquaculture growth.

**Species:** The area will be used to farm greenshell mussels (*perna canaliculus*).

**Structures:** The farm will use current mussel farm methods: backbone lines, buoys, lights, screw anchors and growing rope. The area would be set up in 8 blocks, with each block holding approximately 30 lines, with accessways between the blocks.

Navigation lighting along with orange buoys at the ends of the lines and on the middle of the seaward most side and the landward most side are required by Maritime NZ.

**Biosecurity:** all ropes and lines and screw anchors would be new. Therefore there is no risk of “importing” any “new species from another farmed area. The vessel to service the farm would be based in Coromandel.

**Landscape/ visual effects:** a landscape report is currently being prepared as part of the application material.

**Benthic and ecological issues:** a scientific report is currently being prepared of the seabed and ecological matters, also to submitted as a part of the application.

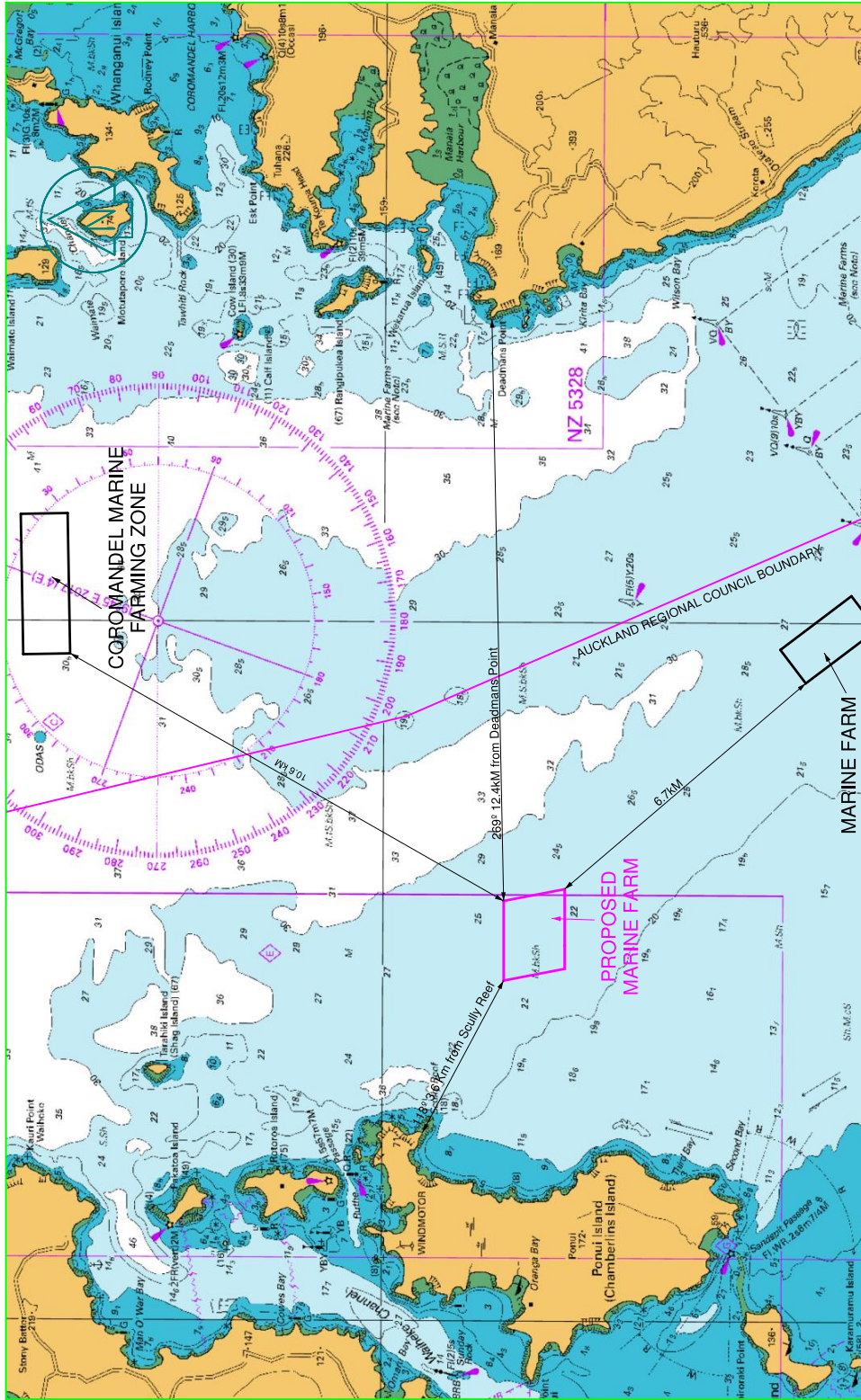
*December 2018*

*Robin Britton*

*Resource Management Consultant*

*027 281 2969*

[rbritton.coast@gmail.com](mailto:rbritton.coast@gmail.com)



**OVERVIEW OF  
PROPOSED MARINE FARM**  
PADDY BULL LTD - PONUI

<p>DATE INITIAL AMENDMENT 23.3.18 SG MARINE FARM</p>	<p><b>DUNWOODIE &amp; GREEN SURVEYORS LTD</b> LAND DEVELOPMENT SPECIALISTS 541 POLLEN ST THAMES PH (07) 868 7587 FAX (07) 868 8252 MO 05945</p>
<p>SCALE 1:75000 (A3) DATE MAY 2017 SHEET 3 FILE: 5297/5 MO 05945</p>	<p>NZ 5328 41 Kiriwa Bay</p>

## Appendix 2: Mussel Restoration Sites

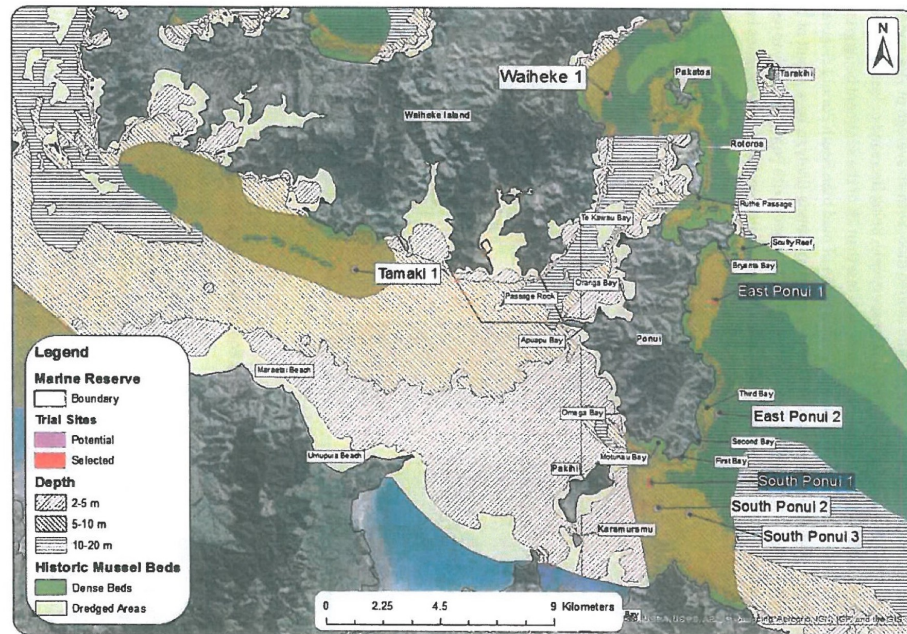


Figure 1. Potential sites around Waiheke Island and Ponui Island that were considered for the mussel shell trial, and the selected sites (East Ponui 1 and South Ponui 1). The dark green areas show the former location of dense subtidal mussel beds that occurred prior to the commercial dredging of the beds (Paul, 2012).