



Kathryn Schicker

MSc (Hons) PG Dip REP

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P O Box 213 | Morrinsville 3340

25 March 2019

DIGITALLY DELIVERED

Manager: Resource Use
Waikato Regional Council
Private Bag 3038
Waikato Mail Centre
Hamilton 3240

ATTENTION: CHRISTIN ATCHINSON

Dear Madam,

RESOURCE CONSENT APPLICATION: COASTAL PERMIT FOR SPAT CATCHING, COLVILLE, HAURAKI GULF

Please find attached a resource consent application on behalf of Legal Shellfish Limited for a Coastal Permit for a marine farm site for the purposes of catching Greenshell Mussel Spat in the coastal marine area off Colville in the Hauraki Gulf.

Legal Shellfish Limited will pay the application deposit fee of \$1000.00 by internet banking for the processing of this application with the reference identifying the payment being the applicant's name.

I wish to advise that I will be on annual leave from 29 March through to the 9 April 2019 and will respond to any correspondence on my return.

If you require any further information, please contact me directly.

Yours faithfully

Kathryn Schicker
RMA Planner

Achieve Environmental Planning Limited
PO Box 213
Morrinsville 3340

Ph: 027 473 2014
Email: kathryn.schicker@actrix.co.nz

Encls: Part 1 - WRC Application Forms A, B & C
Part 2 - AEE
Appendices 1 – 8



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RESOURCE CONSENT APPLICATION

AND

ASSESSMENT OF EFFECTS ON THE ENVIRONMENT

OF A

SPAT CATCHING AREA

COLVILLE, HAURAKI GULF

FOR

LEGAL SHELLFISH LIMITED

Prepared by:

Kathryn Schicker

Resource Management Planner

Achieve Environmental Planning Ltd

March 2019

Part 1:

WRC – APPLICATION FORMS

APPLICATION FOR RESOURCE CONSENT

FORM A: ADMINISTRATION

NOTES

- You must fully complete both this cover form and all other related forms. Provide as much detail as you can. We request that, where possible, you provide electronic copies of any supporting information (for example, on CD). Doing so may reduce administrative costs charged to you.
- Unless we advise otherwise, you should also consult with any person or party who may be interested in or affected by your proposal. You should provide details of this consultation, including written approval from these parties if possible. A form is available to help you with this, available on our website or by contacting our office.
- Failure to provide the required information and payment will delay the processing of your application. If you do not provide adequate information then we will not be able to process your application, and will return it to you. If you do not pay the required fees, we may stop processing your application until payment is received.
- If Purchase Order numbers are required for any future invoicing relating to monitoring and annual charges then this is the responsibility of the Consent Holder to provide.
- Remember to sign and date all forms and email to RM.Requests@waikatoregion.govt.nz or by post to Waikato Regional Council, Private Bag 3038, Waikato Mail Centre, Hamilton 3240.

FOR OFFICE USE ONLY

File:	
Client ID:	
Project:	

Please make sure you read and understand the information section at the end of this form. If you need any further help, please phone our Resource Use staff on 0800 800 402.

CONTACT DETAILS

1. Applicant details

For **individuals**, you must provide the full names of all individuals (such as John Robert Smith and Mary Jane Williams).

For **companies and other incorporated entities** you must provide the company name and registration number. You must also provide the name of a person or persons who will represent your company and be responsible for the application.

For **partnerships and unincorporated entities** (such as private or family trusts or unincorporated societies) we must have the details of all authorised partners, trustees, members or officers. We may also request a copy of your society's rules to verify your status as a formal body or society.

Full name/s of applicant <i>This is the name/s that the consent will be issued to.</i>	Legal Shellfish Limited	
Director / Minister / Chief Executive	Peter Bull	
Company registration number <i>We will not accept applications made in the name of unregistered companies.</i>	1695485	
Applicant's postal address	P O Box 184 Coromandel 3543	
Applicant's residential address <i>If different from postal address.</i>		
Primary contact person/s		
Email address	pmbull@xtra.co.nz	
Phone number/s	Home:	Business:
	Mobile: 027 497 2295	Fax:



NEW ZEALAND
COMPANIES OFFICE

COMPANIES
REGISTER

Certificate of Incorporation

LEGAL SHELLFISH LIMITED

1695485

NZBN: 9429034541128

This is to certify that LEGAL SHELLFISH LIMITED was incorporated under the Companies Act 1993 on the 28th day of September 2005.

Registrar of Companies
29th day of January 2019



2. Application consultant/agent details *(if applicable)*

Name/company name	Achieve Environmental Planning Limited	
Contact person	Kathryn Schicker	
Postal address	P O Box 213 Morrinsville	
Email address	kathryn.schicker@actrix.co.nz	
Phone number/s	Home:	Business:
	Mobile: 027 473 2014	Fax:

3. Partnership/Unincorporated entity details

For **partnerships** or **unincorporated entities** (such as private or family trusts or unincorporated bodies or societies) you must provide details of all authorised partners, trustees or members. Any consent granted will then include these names, and all individuals will be legally responsible for the consent and any associated costs. Should these persons change, then you must notify us.

Name of person	
Status <i>(such as partner or trustee)</i>	
Residential address	
Name of person	
Status <i>(such as partner or trustee)</i>	
Residential address	
Name of person	
Status <i>(such as partner or trustee)</i>	
Residential address	

Include details of any further partners/trustees/members on a separate page if necessary.

4. Who should we send application correspondence to?

☐ Applicant ☒ Consultant/Agent

Preferred address for service: ☐ Residential address ☐ Postal address ☐ DX number ☒ Email ☐ Fax

Note: all costs will be invoiced directly to the applicant

**5. Provide a brief description of the activity to which your application(s) relates
marine farm application for spat catching purposes**

6. Tick the type/s of resource consent/s you are seeking from Waikato Regional Council

If you are replacing any existing or previous consents, please also record the consent number(s) in the space below. Remember that for each consent application you must complete the relevant 'activity form' (Form B). Depending on the scale and complexity of your application(s), you may also be required to prepare a further supporting assessment of environmental effects (AEE).

	RESOURCE CONSENT	PREVIOUS CONSENT NUMBER/S
<input checked="" type="radio"/>	Coastal permit For activities that are within the coastal marine area (CMA).	
<input type="radio"/>	Discharge permit For activities outside the CMA that may discharge contaminants into the air, water and onto or into land.	
<input type="radio"/>	Land use For activities and structures outside the CMA that are on land, or in, on or over a river or lake bed, or may result in nitrogen discharges within the Lake Taupo catchment area.	
<input type="radio"/>	Water For activities outside the CMA that involve the abstraction, impoundment (damming), diversion and/or use of water.	
		CONSENT NUMBER/S
<input type="radio"/>	Change to an existing consent	
<input type="radio"/>	Location transfer of an existing consent	

7. Are related consents required from other authorities (such as building or subdivision consents)?

☐ Yes ☒ No

If yes, please provide details:

CONSENT REQUIRED	CONSENTING AUTHORITY (such as district or city council)	DATE APPLIED	DATE GRANTED

8. Should your Waikato Regional Council application/s be granted, do you have a consent term or expiry date you would prefer for your consent/s?

☒ Yes ☐ No

If yes, please provide details:

35 years

9. May Waikato Regional Council staff extend the standard processing timeframe for your application/s if we consider it necessary?

☒ Yes ☐ No

LOCATION

10. Where will the activity occur?

Where will the activity occur? You must supply a location map or diagram on a separate sheet of paper that shows the site of your activity and its local environment. This helps us determine what or who may be affected by your proposal. **Please show:**

- orientation (North arrow and scale)
- site location
- the location and name of the nearest road or state highway
- location/s of the activities for which you are applying for consent (such as points of water intake, points of discharges to air or water, areas for irrigation or disposal, areas of forestry, earthworks, tracking or filling, places of in-stream structures or in-stream works.)
- property boundaries and neighbouring properties (as well as neighbouring property owners' names)
- location and names of any nearby natural features such as geothermal activity, waterways, wetlands or wildlife habitats
- historic or waahi tapu sites

Property address	coastal marine area	
Legal description		
Name of closest road/street	Port Jackson Road	
Nearest settlement/town	Waiaro	

Note: Waikato Regional Council can help you create a base map to assist with your location plan. Please visit our website or call us on 0800 800 402 during office hours for assistance.

11. If the owner and/or occupier of the activity site differ from the applicant please provide their names and contact details

Owner name/s		
Postal address		
Email address		
Phone number/s	Home:	Business:
	Mobile:	Fax:

Occupier name/s		
Postal address		
Email address		
Phone number/s	Home:	Business:
	Mobile:	Fax:

APPLICATION DEPOSIT / FEES

Please refer to the enclosed table to see whether your application requires a **deposit** or the **full fixed charge** amount to be paid when it is lodged.

APPLICATION TYPE	CHARGE (incl GST)
Swing mooring inside zoned mooring areas (Rule 16.4.6 of Waikato Coastal Plan)	\$402.50
Bridge (Rule 4.2.8.2) - Controlled	\$1,265.00
Culverts (Rule 4.2.9.3) - Controlled	\$1,265.00
Taupo land use > 20 ha (Rule 3.10.5.3) - Controlled	\$1,207.50
All other application types	\$1,000.00 deposit for each activity

Initial deposit - for other application types

You will be charged Waikato Regional Council's full actual and reasonable costs for processing this application. An initial deposit is required when you submit your application forms. This deposit requirement is \$1,000 for each activity you are seeking consent for (i.e. \$1,000 per each activity form B). This deposit helps cover our initial processing costs and will also help offset the total cost of your application/s.

Further deposit fee

If your proposal is likely to proceed to a hearing, then we will require a further deposit. This deposit may be up to 50 per cent of the estimated costs. You will be advised in writing at the end of the submission period if this is the case.

For complex proposals, you will generally receive an invoice on a monthly basis. This invoice will be for costs incurred in the previous month. For simple consents that are processed quickly, you will generally only receive one invoice. This will be sent to you at, or close to, the time that you receive our final decision on your application.

If you do not pay the required fees, we may stop processing your application until payment is received.

We reserve the right to add all fees incurred in the collection of all monies payable and remaining unpaid after the expiry of the time provided for payment.

12. Total amount paid \$ 1000.00

Purchase Order Number _____

If paying by Direct Credit please use the following details and please remember to complete the Payer particulars and reference sections as this will help us identify your payment.

PAY TO THE CREDIT OF **WAIKATO REGIONAL COUNCIL, ANZ, HAMILTON BRANCH**

Name of account	Bank	Branch	Account No.	Suffix
Waikato Regional Council	0 6	0 3 1 7	0 0 9 6 4 4 2	0 0 0

DETAILS TO APPEAR ON PAYEE'S BANK STATEMENT

Payer particulars (max 12 characters) **Debtor code**

--	--	--	--	--	--	--	--	--	--	--	--

Payer code (max 12 characters) **Applicant name**

--	--	--	--	--	--	--	--	--	--	--	--

Payer reference

R	C	A	P	P	L	N					
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FINAL CHECKLIST

13. Have you? *(Please tick)*

- ☒ Filled in all parts of this form (Form A).
- ☒ Completed and attached all other related forms (Form B & Form C).
- ☐ Applied for any district council consents that are also required for your proposal.
- ☒ Included a sketch or location map that shows us exactly where your activity will take place.
- ☒ Supplied a detailed assessment of environmental effects.
- ☒ Consulted with all interested and affected parties, and included their comments and/or written approval (if possible).
- ☒ Have you paid the required deposit/fee.
- ☐ Purchase Order Supplied (if required for invoicing purposes).

Please remember to email your application to RM.Requests@waikatoregion.govt.nz or by post to Waikato Regional Council, Private Bag 3038, Waikato Mail Centre, Hamilton 3240.

Information: If your application is granted and unless we are advised otherwise, this Purchase Order Number will be used for Annual Charges and any subsequent monitoring costs.

If you have already dealt with Waikato Regional Council staff regarding your proposal, please specify their name/s

Christin Atchinson

DECLARATION

14. Declaration

I/we hereby certify that, to the best of my knowledge and belief, the information given in this application is true and correct. I/we also undertake to pay all actual and reasonable costs incurred by Waikato Regional Council in the processing of this application.

Signature of applicant or applicant's agent

M P Schuker

Date

25 March 2019

IMPORTANT INFORMATION – PLEASE READ CAREFULLY

Official information

The information you provide with your application is official information. It is used to help process your resource consent application and assess the impact of your activity on the environment and other people.

Your information is held and administered by Waikato Regional Council in accordance with the Local Government Official Information and Meetings Act 1987 and the Privacy Act 1993. This means that your information may be disclosed to other people who request it in accordance with the terms of these Acts. It is therefore important you let us know if your application includes trade secrets, commercially sensitive material or any other information you consider should not be disclosed.

Under the Privacy Act 1993 you have right of access to personal information held by Waikato Regional Council.

Application and consent costs for applications that do not have a fixed fee

Waikato Regional Council operates a user-pays policy for the processing of resource consent applications. This means we will charge you (rather than the ratepayers) for the costs associated with the processing of your consent application. **We will charge you for these costs whether your application is granted or declined.**

The cost of processing your application will depend on the complexity of the issues and the level of work required to evaluate the impacts of your activity:

- simple, non-notified applications or notified applications that do not attract submissions usually cost in the vicinity of \$1,000 - \$2,500
- applications that are notified and receive submissions which are resolved without the need for a hearing usually cost \$2,500 - \$5,000
- applications with significant environmental effects that require public meetings and/or hearings will likely cost more than \$5,000 to process.

Consent holder costs - all consents

Once granted, most resource consents will also incur a yearly 'consent holder' fee and compliance monitoring charges. Please contact us if you have any queries regarding your deposit/fee or processing costs or the yearly charges for your activity.

Consultation

Consultation with other parties who may be interested in or affected by your activity is encouraged. This involves discussing your activity with others who may have some concerns, listening to what others have to say, considering their responses and deciding what will be done.

If you have carried out your consultation before you submit your application to Waikato Regional Council we will require details of it. In many cases, the provision of written approval from other affected parties will help streamline the processing of your application and may help avoid the necessity for public notification.

Ongoing responsibilities

If your application is granted you will be responsible for complying with your consent's conditions and payment of your consent's charges until your consent expires. If you wish to cancel (surrender) your consent, transfer responsibility to another party or make changes to your consented activity before it expires, you must submit notice to us in writing or make an application to change your consent.

MORE INFORMATION

For more information on the application process or resource consents, visit our website at www.waikatoregion.govt.nz or phone our Resource Use Directorate on 0800 800 402.

APPLICATION FOR RESOURCE CONSENT

FORM B: COASTAL ACTIVITIES

NOTES

Coastal activities must meet all the conditions of any relevant Permitted Activity Rules in the Regional Coastal Plan or a resource consent from Waikato Regional Council is required. This form will help you apply for a resource consent.

- You must fully complete this activity form and supply all the required information. Provide as much detail as you can where the questions are relevant to your activity. We request that, where possible, you provide electronic copies of any supporting information (for example, on CD). Doing so may reduce administrative costs charged to you.
- You must also supply completed Forms A and C.
- **You must pay the required initial deposit when you submit this consent application.**
- Failure to provide the required information and payment will delay the processing of your application. If you do not provide adequate information then we will not be able to process your application, and will return it to you. If you do not pay the required fees, we may stop processing your application until payment is received.

FOR OFFICE USE ONLY

File:

Client ID:

Project:

Please make sure you read and understand the information section at the end of this form. If you need any further help, please phone our Resource Use staff on 0800 800 402.

LOCATION

1. What is the name of the waterbody/harbour/bay surrounding or adjacent to the activity? (if the waterbody is unnamed, then what is the nearest named waterbody)

Coastal marine area offshore of Colville

2. If known, please supply relevant map coordinates of the activity or activities, preferably as New Zealand Transverse Mercator 2000 (NZTM2000) or New Zealand Geodetic Datum 2000 (NZGD2000) references. These locations must also be clearly identified on the location map you have supplied with Form A

Refer Appendix 1.

LOCATION

3. The resource consents sought relate to the following activities.

Please tick	Previous consent number
<input checked="" type="radio"/> Coastal permit – occupy (such as jetty, marine farm, reclamation).	
<input type="radio"/> Coastal permit – discharge to water (such as stormwater, seepage water).	
<input type="radio"/> Coastal permit – take surface water (for example, for dredging).	
<input type="radio"/> Coastal permit – dam or divert (such as culverts, bridges, realignments).	
<input type="radio"/> Coastal permit – dredge, renourish or disturb foreshore.	

You may require other consents if your activity involves other works. Please discuss other consent requirements with a resource officer from Waikato Regional Council prior to lodging your application.

DETAILS OF THE ACTIVITY

4. Purpose for which resource consent is sought:

- ☐ Jetty
- ☐ Boat ramp
- ☒ Marine farm – please specify type (such as mussel, oyster or other): mussel spat catching
- ☐ Dredging
- ☐ Beach renourishment
- ☐ Reclamation (please state area (m2) and for what purpose)

- ☐ Other (please specify)

5. Is the structure or activity

- ☐ Existing ☒ Proposed

6. If an existing structure or activity, when was the existing structure built (how long has it been there), or how long has the work been taking place?

7. If a proposed structure or works, outline the reasons for the new structure/work.

conventional mussel farm longline structures (anchors, longlines, spat catching ropes, floats and navigation aids) to support spat catching ropes

8. Is the structure/work/activity to be permanent?

- ☒ Yes ☐ No

9. If no, how long is it intended to be left in place, and how will it be removed?

DESCRIPTION OF PROPOSED ACTIVITY

10. Please provide a description of the proposed works or structure (dimensions, construction materials.)

Refer section 2 of AEE attached and Plans in Appendix 1A-C.

11. Please provide information on how the works/structure will be marked (such as lighting, poles, buoys). Note: If there is a harbour master for the area concerned, please obtain written comment from him/her on any effects of the structure on navigation and safety.

Refer Section 3.2.5 of attached AEE.

12. Please provide drawings or engineering plans of the proposed works/structure to scale or with approximate measurements and relevant features (such as low/high tide marks, parking areas, reserves, property boundaries).

13. Briefly outline how the proposed work will be undertaken/constructed/implemented (such as drilling, manual digging, machinery access to site).

Refer section 3.0 of attached AEE.

14. Who will undertake the work or provide supervision of construction?

Applicant

15. What is the approximate date you expect to commence the activity?

soon after consent being granted

16. How long will the works/structure take to complete, or what is the approximate completion date?

17. What alternative locations have been considered for the activity?

18. What alternative construction methods have been considered?

N/A

19. Please describe the maintenance programme that will be undertaken to ensure that any environmental effects from the activity/structure are avoided or minimised.

(Include who will undertake the maintenance and how often, what aspects of the activity maintenance is likely to address, how access will be gained, where maintenance materials will be stored and how they will be transported to the site).

Refer Section 3.2.8 of the Attached AEE.

20. What sector of the community is the proposed activity for?

- ☐ Private
- ☐ Public
- ☒ Commercial

- 21. What effects could the works/structure have on the environment? (such as erosion, increase flooding, removal of vegetation).**

Refer Section 6.0 of the attached AEE.

- 22. What onshore effects would be generated (such as increased use of boat ramp, traffic, noise at night).**

Applicant proposes to use existing Sugarloaf boat ramp and their existing mussel barge vessels to service the spat catching area with minimal effect on the current use of the boat ramp, traffic and unlikely to generate any night noise.

- 23. What measures would be put in place to reduce these effects? (such as stop banks, filter cloth, timing of works).**

Refer AEE.

- 24. Will any other measures be undertaken to reduce impacts on the environment?**

Refer Section 6.8 of attached AEE.

25. Within the surrounding environment of the works (within a reasonable distance), are there any:

- | Yes | No | |
|----------------------------------|----------------------------------|--|
| <input type="radio"/> | <input checked="" type="radio"/> | obvious signs of indigenous flora and fauna? (such as fish eels, bullies, insect life, crayfish, aquatic plants, nesting sites, feeding grounds) |
| <input type="radio"/> | <input checked="" type="radio"/> | areas where food is gathered? (such as fish, kaimoana) |
| <input type="radio"/> | <input checked="" type="radio"/> | wetlands? (such as saltmarsh, mangrove or swamp like areas) |
| <input checked="" type="radio"/> | <input type="radio"/> | recreational activities carried out (such as swimming, fishing, canoeing, boating) |
| <input type="radio"/> | <input checked="" type="radio"/> | areas of particular aesthetic or scientific value (such as scenic views, archaeological sites) |
| <input type="radio"/> | <input checked="" type="radio"/> | areas or aspects significant to iwi |
| <input type="radio"/> | <input checked="" type="radio"/> | will the proposed activity increase the risk of subsidence, erosion, inundation or flooding |
| <input type="radio"/> | <input checked="" type="radio"/> | will hazardous or toxic chemicals, or hydrocarbons be used or stored on site (such as fuel) |
| <input type="radio"/> | <input checked="" type="radio"/> | will the water quality be affected (such as sediment disturbance, discharge) |
| <input type="radio"/> | <input checked="" type="radio"/> | will public access to the coastal area be affected |
| <input type="radio"/> | <input checked="" type="radio"/> | will recreational use by the public be restricted or affected |

26. If you ticked yes against any areas or aspects within the surrounding environment, please describe how your proposal may affect those surroundings and the steps you have taken or will take to reduce these effects. If you ticked no against everything, please briefly outline why you believe there will be no effects from your activity.

Refer 6.4 and 6.5 of the Attached AEE.

27. Apart from those already documented, are there any other areas or aspects in proximity that may be disturbed by the activity and/or considered significant?

No.

CONSULTATION

Identify and consult with any parties that may be potentially affected by or interested in your activity. This generally involves your immediate neighbours. It may also include local authorities, iwi and interest groups such as local recreational and care groups. If you are in doubt about who you should be talking to, then call Waikato Regional Council staff.

Make sure you provide everyone with sufficient information that they can fully understand what it is you want to do and how they may be affected by it. This could include a copy of this application form once it is completed and and/or any plans or maps. Make sure you make yourself available to explain the application, answer any questions and discuss options for resolving any concerns.

28. Identify the parties that may be affected by or interested in your discharge activity and consent application

Party details/relationship (such as neighbour, local iwi, interest group)	Refer Section 7.0 of attached AEE.	
Contact person		
Postal address		
Phone number/s	Home:	Business:
	Mobile:	Fax:

Party details/relationship (such as neighbour, local iwi, interest group)		
Contact person		
Postal address		
Phone number/s	Home:	Business:
	Mobile:	Fax:

Party details/relationship (such as neighbour, local iwi, interest group)		
Contact person		
Postal address		
Phone number/s	Home:	Business:
	Mobile:	Fax:

Refer Section 7.0 of attached AEE.

29. Provide details of your consultation

Provide details about the consultation you have undertaken, or explain why consultation was not considered necessary. If possible you should provide written comment or approval from those you have identified. A consultation form is provided at the end of this form that will help you with this. Photocopy off a separate form for each party identified. Otherwise, make sure you let us know:

- who you consulted with
- how we can contact these people
- their relationship to you (for example, neighbour, local iwi, interest group)
- any concerns they may have about your activity, and how you intend to avoid or mitigate (lessen) these effects.

Refer Section 7.0 of attached AEE.

FINAL CHECKLIST

30. Have you? (please tick)

- ☒ Filled in all parts of this form (Form B) that are relevant to your activity, provided all the information required, and completed and attached any other related activity forms.
- ☒ Completed and attached Forms A and C.
- ☐ Applied for any district council consents that are also required for your proposal.
- ☒ Consulted with all interested and affected parties, and included their comments and/or written approval (if possible).
- ☒ Included or paid the required deposit fee for this application.

Important note: Under the Marine and Coastal Area (Takutai Moana) Act 2011, an applicant for a resource consent must notify and seek the views of groups applying for Customary Marine Title (CMT) before lodging a resource consent application. See the following website for a list of CMT applicants: www.justice.govt.nz/policy/constitutional-law-and-human-rights/marine-and-coastal-area-takutai-moana

Application for resource consent

Form C: Other matters

Office use only

File:

Customer ID:

Project:

Notes

- The following information requirements were introduced by the RM Amendment Act 2013 and took effect on 3/3/2015.
- Questions 1-4 are mandatory requirements for all applications. Question 5 also applies to applications for replacement consents.
-
- Questions 1, 3 and 4 require varying degrees of familiarity with the RMA and documents produced under the RMA. Please contact the Resource Use Directorate on our freephone if you need help accessing these documents.

If you need any further help, please phone our Resource Use staff on 0800 800 402.

Related permitted activities

1. A) List any activities that are part of your proposal and are permitted (allowed without resource consent) under the Waikato Regional Plan and/or the Waikato Regional Coastal Plan.

The following activities are permitted under the Waikato Regional Coastal Plan:

- Maintenance and Repair of structures – Rule 16.4.20
- Removal and demolition of structures – Rule 16.4.23
- Minor disturbances or deposits in, on, or under the seabed (Rule 16.6.10) and
- Minor discharges of water into the CMA (Rule 16.3.4)

- B) Provide information that shows how each permitted activity will comply with the conditions of the relevant rule.

Permitted Activity Assessment

Rule 16.4.20 - Maintenance and Repair of Structures (Permitted Activity)

Rule 16.4.20 allows for the maintenance and repair of lawfully established activities in the CMA providing the activity complies with the following conditions:

Rule	The maintenance and repair of any existing lawful structure in the CMA is a permitted activity provided it complies with the conditions stated in this Rule.		
Rule 16.4.20 - Conditions	Assessment	Compliance	
i. Any visible disturbance to the foreshore shall be remedied within 48 hours.	Not applicable – spat farm structures are not located on or near foreshore	Not relevant	
ii. The maintenance and repair shall not result in any increase in the area of foreshore or seabed occupied by the structure.	Maintenance and repairs will be limited to structures within the spat catching area and relate to inspecting longlines, spat ropes and buoys to ensure they are secure, adding or removing buoys or spat lines.	Activity can comply with this condition.	

iii.	Any visible change in water quality shall not be detectable 48 hours after discharge.	Any discharges to sea water from maintenance and repair works will not result in any noticeable changes in water quality, after 48 hours	Maintenance and repair works associated with the spat catching area can comply with this condition.
iv.	The maintenance or repair does not substantially change the external appearance of the structure. (For the avoidance of doubt, repainting shall be deemed not to substantially alter the appearance of a structure).	The maintenance and repairs will use the same materials and not be detectable or change the external appearance of the ropes and buoys used within the spat catching area.	Activity can comply with this condition.

Rule 16.4.23 - Removal or Demolition of Structures (Permitted Activity)

Rule 16.4.23 provides for the removal or demolition of structures in the CMA providing the activity complies with the following conditions:

Rule	The removal or demolition of any structure in the CMA is a permitted activity provided it complies with the conditions stated in this Rule.		
Rule 16.4.23 - Conditions	Assessment	Status	
i. Any visible disturbance to the foreshore shall be remedied within 48 hours.	Not applicable – spat farm structures are not located on or near foreshore	Not relevant	
ii. Any visible change in water quality shall not be detectable 48 hours after discharge.	Any discharges to sea water from the removal of structures (i.e. spat ropes and/or buoys) will not result in any noticeable changes in water quality, after 48 hours	Activity can comply with this condition.	
iii. Any structure which is being removed or demolished, shall be completely removed from the CMA.	The spat farm structures (longlines, ropes, floats and navigational devices) can be completely removed from the CMA at expiry of resource consent.	<p>The proposed spat catching area and activity can comply with this condition.</p> <p>Generally, spat ropes that fail to catch spat will be uplifted, cleaned and removed from the CMA for storage for later use. Spat ropes that catch spat will be placed in consented mussel farms for on-growing.</p>	
iv. The Hydrographic Office of the Royal New Zealand Navy and the Maritime Safety Authority shall be given written notice of the details of the proposed structure before it is removed or demolished.	In the event the spat catching area is to be totally removed from the CMA the applicant will provide written notice to the relevant authorities. (i.e. LINZ & Maritime NZ).	Activity can comply with this condition.	

	details of the proposed structure before it is removed or demolished.	relevant authorities. (i.e. LINZ & Maritime NZ).	
v.	The structure is not recorded on the Historic Places register (in accordance with s22 of the Historic Places Act 1993).	The structure is not a recorded Historic or Archaeological Site.	Not relevant

Rule 16.6.10 Minor Disturbances/Deposits (Permitted Activity)

Rule	Any disturbance to, or any deposit of any sand, shell, shingle or other natural marine material, in, on, or under the foreshore or seabed, per discrete location, in quantities less than 100 cubic metres, per 30 day period is a permitted activity provided it complies with the conditions stated in this Rule.		
Conditions		Assessment	Compliance
i.	No sand, shell, shingle or other natural marine material shall be removed from the beach system, other than when being taken for scientific sampling and research purposes.	Assessment against conditions in Rule 16.6.10 confirms that the placement of anchor blocks does not involve the removal of beach sediments.	Complies
ii.	Any visible disturbance to the substrate of the coastal marine area shall be remedied or recontoured within 24 hours.	After anchors are placed in and on the seabed the substrate will quickly settle and be re-contoured naturally by wave and currents movements at the site. This is anticipated to occur within 24 hours of placement.	Complies
iii.	Any visible change in water quality shall not be detectable 24 hours after the disturbance or deposit is made.	Any re-suspended sediments associated with seabed disturbance will dissipate to background levels with no discernible visual change in water quality after 24 hours of the disturbance.	Complies
iv.	Any equipment or materials used at the site shall be removed on completion of the disturbance or deposition.	Anchors will be deployed from a suitable vessel for the establishment of the surface long lines and associated floats and no other equipment or materials will be left in the coastal marine area.	Complies
v.	The disturbance or deposit shall not occur on saltmarsh, eel grass, mangroves, bird nesting areas during nesting season, or shellfish breeding beds.	The proposed site is not in an estuarine environment, or within any bird nesting area or located over shellfish breeding beds.	Complies

Assessment

The proposed seabed disturbance will occur in a discrete location, in quantities less than 100 cubic metres, per 30 day period and complies with the conditions i to v in Rule 16.6.10 of the Waikato Regional Coastal Plan, therefore is assessed as a permitted activity.

Rule 16.3.4 Minor Discharges of Water (Permitted Activity).

Rule	The discharge of water into water in the CMA is a permitted activity provided it complies with the conditions stated in this Rule.	
Conditions	Assessment	Compliance
i. Any visible change in water quality shall not be detectable 12 hours after discharge.	Any seawater discharged from ropes, buoys or barge will not result in any: <ul style="list-style-type: none">• visible change in water quality detected 12 hours after discharge	Complies
i. The discharge shall not cause erosion or scouring.	<ul style="list-style-type: none">• no erosion or scouring – discharges from ropes, buoys or barge would be negligible and effects would be nil to less than minor	Complies
ii. The discharge shall not occur in or at any area identified as waahi tapu.	<ul style="list-style-type: none">• From the RCP, there is no identified site present	Complies
iii. The discharge shall not contain any hazardous substances.	<ul style="list-style-type: none">• No hazardous substances will be used in the proposed area	Complies
iv. The discharge shall not contain any material which will cause the production of conspicuous oil or grease films, scums or foams, or floatable suspended materials outside a 5 metre radius of the point of discharge.	<ul style="list-style-type: none">• There will be no use of products that may give rise to any oil or grease films, scums or foams, or floatable suspended materials into the coastal marine waters.	Complies
v. The natural temperature of the water shall not be changed by more than 3 degrees Celsius.	<ul style="list-style-type: none">• Proposed activity will not raise sea water temperatures.	Complies

Assessment

Retrieval of spat ropes, and buoys onto the barge will result in seawater brought up with the spat ropes and then falling back into the sea. The discharge of seawater into seawater will have no effects on water quality. The minor discharges of sea water into the CMA from retrieval of spat ropes will not result in any adverse effects and is assessed as a permitted under Rule 16.3.4.

Other activities

2. Describe any other activities related to your proposal that you think Waikato Regional Council may need to be aware of.

Refer attached Assessment of Environmental Effects for assessment of proposed spat catching activities.

Part 2 of the RMA

3. Part 2 of the RMA is attached on the last page. Provide an assessment of your proposed activity/activities against the matters set out in Part 2.

Refer attached Assessment of Environmental Effects for assessment of Part 2 of the RMA.

Other policies, rules and requirements

4. Assess your proposal against any relevant provisions of:
 - national environmental standards
 - other regulations
 - national policy statements
 - the Waikato Regional Policy Statement (RPS)
 - the Waikato Regional Plan (WRP) and/or Waikato Regional Coastal Plan (WRCP).

Note: If your application is for a **controlled activity** then you do not need to provide any assessment against the RPS or WRP (or WRCP).

Refer attached Assessment of Environmental Effects for assessment of Relevant Planning provisions.

Value of consent holder investment

Important: You must complete this question if your application is intended to replace a currently operative resource consent, and this application will be lodged with Waikato Regional Council at least 3 month before that consent expires.

5. Provide an assessment of the value of your investment. You need to
 - specify the value of investment of the activities/infrastructure that are reliant on the resource consent/s you are applying for here. This must be the 'book value' of the investment (not the replacement value).
 - include evidence that supports the assessment.

Part 2:

ASSESSMENT OF EFFECTS ON THE ENVIRONMENT



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RESOURCE CONSENT APPLICATION

AND

ASSESSMENT OF EFFECTS ON THE ENVIRONMENT

OF A

SPAT CATCHING AREA

COLVILLE, HAURAKI GULF

FOR

LEGAL SHELLFISH LIMITED

Prepared by:
Kathryn Schicker
Resource Management Planner
Achieve Environmental Planning Ltd
March 2019

Part 1: Resource Consent Application Forms

Form A: General Administrative Details

Form B: Information specific to Proposed Activity, and

Form C: Other Matters

Part 2: Assessment of Effects on the Environment

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APPENDIX 1 PLANS - SPAT CATCHING AREA

- 1A Location Plan - Overview
- 1B Location Plan - Proposed Site
- 1C Survey Plan
- 1D Indicative Spat Catching Area - Layout Plan & Longline Cross-Section
- 1E Lighting Plan

APPENDIX 2 ECOLOGICAL ASSESSMENT

APPENDIX 3 LANDSCAPE ASSESSMENT

APPENDIX 4 SEA CHANGE – SITE 7 COLVILLE

APPENDIX 5 CONSULTATION

APPENDIX 6 PLANNING MAPS

- Waikato Regional Policy Statement Map
- Waikato Regional Coastal Plan Maps
- TCDC operative District Plan Maps
- TCDC proposed District Plan Maps

APPENDIX 7 DRAFT CONSENT CONDITIONS

APPENDIX 8 REFERENCES

1.2 Report Structure

5. Achieve Environmental Planning Limited was engaged by Legal Shellfish Ltd to prepare this resource consent application. This Report and AEE is prepared in the prescribed form and manner in accordance with the requirements of Section 88 (1), (2) & (2A) and the requirements of the Fourth Schedule of the Resource Management Act 1991 (**RMA**).
6. Part I includes the three resource consent application forms required by Waikato Regional Council (**WRC**) and in accordance with Form 9 of the RMA, and Part II provides the information requirements for a coastal permit application for the proposed spat catching activity, including an assessment of the effects of the activity on the environment.
7. This report includes:
 - WRC completed application forms A, B & C (**Part I**)
 - Planning Assessment of the activity's effects on the environment (**Part II**), including the Expert's Technical Reports as follows:
 - Ecological Survey at a Proposed Mussel Spat Collecting Site North-Eastern Firth of Thames. For Legal Shellfish Ltd. Application for Resource Consent: Ecology and Water Quality Report prepared by 4Sight Consulting dated November 2018 (**Appendix 2**). This document is referred to as the Ecological Report in the AEE.
 - Colville Marine Farm for the purposes of Spat Catching, Hauraki Gulf, March 2019 Prepared by Hudson Associates Landscape Architects (**Appendix 3**). This document is referred to as the Landscape Assessment in the AEE.

2.0 SITE LOCATION

8. The proposed spat catching area is located in open coastal waters in the Hauraki Gulf, approximately 3.1 km west of Te Kawau Point, 5.3 km northwest of Te Whau Point and 4.5 km north of Motumakareta Island as shown in the Site Location Plan (**Figure 1 & Appendix 1A**). The proposed spat catching area is a rectangular site orientated on a northeast to southwest alignment with 1225 metre long (NE-SW) length and a width of 700 metres (NW-SE), forming a total area of 85.75 hectares (**Appendix 1B**). The co-ordinates of the proposed spat catching area are defined on the Survey Plan in **Appendix 1C**.
9. The proposed site lies approximately 250 metres southeast of the coastal marine area gazetted as an Aquaculture Settlement Area (**Appendix 1A**) by the Minister for Primary Industries as set out in Gazette Notice described as:

"Notice (2016) Declaring an Aquaculture Settlement Area for the Purposes of the Maori Commercial Aquaculture Claims Settlement Act 2004—North-West Coromandel (Notice No. MPI 647)".
10. This notice defines a 250 hectare area for the purposes of "...preserving space to be used for meeting the Crown's obligations, under section 9 of the Maori Commercial Aquaculture Claims Settlement Act 2004." This notice came into effect on 1 September 2016. At the time of writing this report no areas have been allocated.

3.0 DESCRIPTION OF PROPOSAL

3.1 Spat Catching

11. The applicant proposes to establish a spat catching area to provide locally sourced spat to their existing marine farms with any surplus being on sold to other marine farmers within the Coromandel and Firth of Thames area. The applicant intends to undertake spat catching from approximately September through to April - May, each year.
12. Mussels spawn at different times and different levels with spawning events being triggered at any time by changes in weather conditions such as water temperature and storm events. Therefore, natural spawning events are highly variable and hard to predict (Keeley et. al. 2009). Mussel spawning events release microscopic, free floating larval eggs into the water column. The density of mussel larvae from a spawning event is variable and relies on the presence of mature mussels in the wider locality. The mussel larvae drift in water currents until such time as the larvae find a suitable substrate upon which to settle.
13. Spat catching is the first stage of Greenshell™ mussel farm production. The word 'spat' is used to describe young mussels from the time that they have settled out of the water column and metamorphosed to resemble the adult form, until they are large enough to be transferred to a mussel farm for on-growing (Keeley et. al. 2009). Spat settle onto seaweed, hard substrates or ropes and as filter feeders, the juvenile mussels feed on phytoplankton which occurs naturally in sea water.
14. The applicant will use specifically designed spat catching ropes to provide a suitable substrate for spat settlement. These ropes are hairier than mussel culture ropes, with increased surface area upon which spat can settle and have a heavy core so that the ropes sink in the water column.
15. The applicant proposes to manage the spat catching area to maximise spat capture. Generally, spat catching ropes are placed into the water when a spawning event is anticipated. The aim is to synchronise spat catching with the time mussel larvae are most abundant in the water and then remove the spat ropes with the attached spat to be transferred into established mussel farms for on-growing.
16. To achieve this, prior to the time of an anticipated "spat settlement" event, the spat catching area will have a limited number of spat ropes placed randomly across the site. The spat catching will initially involve placing spat collecting ropes on longlines at different locations across the area (e.g. up to a total of 18 longlines with spat ropes attached) early in the season (i.e. August/September) to monitor for the first occurrence of spat settlement. These trial lines will be inspected weekly with spat ropes sampled and microscopically examined to check for the first sign of spat settlement. If after 3 weeks, no spat has settled, the spat ropes will be removed to

avoid settlement of detritus (e.g. silt) or fouling by other marine species (other shellfish, bryozoans, sponges and algae)¹ on the spat ropes. These ropes will be cleaned and stored for later placement in the spat catching area. This process will be repeated over the months from September to April - May, each year. Although with changes in climate and potential weather conditions there may be some future shifts in these months.

17. In the event that spat settlement is found to occur then the farm manager will install additional spat catching ropes, across the blocks to collect spat. These spat ropes will be strategically placed onto other longlines within the area to maximise the potential to catch spat based on location, current flow and direction at the site of settlement. It is anticipated that visits will be 1-2 visits per week to check spat ropes and when spat is detected, the spat lines will be shifted to existing mussel farms elsewhere for on-growing (and later re-seeding onto mussel growing lines).
18. Given the random nature of spat occurrence in the water column, spat catching can be variable across an area, along a line or with depth within the water column. Once spat has settled onto ropes, it can also release itself from ropes particularly during storm events or if there are changes in temperature, water depth, salinity or availability of food. Therefore, settlement is hard to predict and requires some flexibility in where spat lines are placed for spat settlement.
19. Due to the variability of spat settlement and its seasonality spat catching ropes are only placed in the water on a temporary basis. The number of spat lines established in each farm block will vary throughout the spat catching season. Based on the area, if fully utilised, each block in the spat catching area could potentially contain a maximum of 16 rows of up to 215 metre long lengths of longlines. The indicative layout of the spat catching blocks is included in **Appendix 1D**. However, it is noted that after settlement, spat lines will be transferred out of the area for on-growing on other mussel farms. Therefore, operationally, it is unlikely that all blocks would be fully developed at any one time.
20. Spat rope will be attached to long lines with mussel floats attached to provide buoyancy. The backbone and floats are kept in place by warp ropes at each end which descend at an angle through the water column to the seabed where they are attached to screw anchors. This method of construction keeps the lines in place.
21. As spat is very small it has negligible weight and requires less floats to hold the longlines and catch ropes at or near the surface of the water. Generally half the number of floats are used for spat catching than normal mussel farming during the growing season and a quarter of the number of floats used on mussel farms that are approaching or ready to be harvested.

¹ 4Sight Consulting, Ecological Survey at a Proposed Mussel Spat Collecting Site: North Eastern Firth of Thames, 2018

22. The number of floats required for spat catching is a balance to suit sea conditions at the site as too little buoyancy in choppy sea conditions has the potential to result in spat not settling on the spat lines and also if too little buoyancy the lines will sink. It is estimated that a minimum of 20 x 300 litre floats per line will be required to hold the spat lines in the water column.

3.2 Proposed Spat Farm Layout & Structures

23. The indicative farm layout plan for the proposed spat catching area is shown in **Appendix 1D**.
24. The spat catching area proposed is 85.75 hectares orientated in a northeast direction to the coast. The proposed site is rectangular in shape with the following dimensions: inshore (A-B) and outer (D-C) boundaries being 700 metres long and the north (A-D) and south (B-C) boundaries being 1225 metres in length.
25. It is proposed that the spat catching area will comprise of 6 x 12.18 hectare blocks occupied by up to 16 permanent longlines per block. This equates to longlines being placed within a total spat catching area effectively comprising of 73.08 hectares. Provision for 50 metre gaps between blocks will provide areas of open water (north-south and east-west) for navigable access ways through the spat catching area.

3.2.1 Longlines

- Longline density is a maximum of 1.3 longlines per hectare at 25 metre spacings.
- Each backbone will be up to 215 metres in length with 55m warp lines at each end.
- Use single or double backbone longlines within the spat catching area to support spat ropes.
- Lines will be oriented parallel to tidal flows (i.e. running NW to SE).
- Presence of spat lines would vary depending on seasonality of spat settlement events and is likely to range from:
 - a low density of spat lines monitoring for the early signs of spat settlement. It is proposed that spat ropes will be established on up to 18 selected longlines across the spat catching area for initial monitoring for spat settlement;
 - to a short-term period of time where there will be a high density of spat rope on lines spread spatially through all the blocks within the overall area, and then
 - followed by the removal of the spat catching ropes with the attached mussel spat for placement in mussel farms for on-growing.
- Separation distance between lines will be approximately 25 metres
- Dropper length of spat ropes will be up to 10 metres below the sea surface
- Synthetic rope (Duradan) will be used for backbone and mooring line rope.
- Spat catching rope used is continuous rope droppers. The rope is "hairier" than the normal mussel growing ropes as it offers an increased surface area for floating mussel spat to attach onto.

3.2.2 Floats

- A mixture of 180 and 300 litre floats will be used to support longlines
- Up to 20 x 300 litre floats on each longline
- Floats will be mix of orange and dark blue
- Orange floats will be located at each end of each line
- The seaward-most and landward-most lines in each block will also be marked with orange floats in the middle of these lines.

3.2.3 Anchors

- Marine farm structures will be anchored to the seabed by screw anchors (length and helix size yet to be determined) and buried below the seabed.
- The warp length is approximately 55 metres at each end of backbone line.

3.2.4 Accessways

- There will be 6 spat catching blocks set up with 25 m spacings between each longline orientated on a NW-SE axis. Accessways comprise at least 50 metre wide gaps provided for navigation between the blocks as shown on the layout plan for the spat catching area (**Appendix 1D**).

3.2.5 Lighting

- All four corners (A, B, C & D) will be required to have navigational and identification equipment comprising Special Marks plus Lights visible at a minimum range of 2 nautical miles and Radar Target Enhancers (Radar Reflectors) installed, and special marks (and lights) installed midway between A & D and B & C.
- The proposed Lighting Plan is attached in **Appendix 1E**.
- The special marks, lights and radar reflectors will be designed in accordance with the guidelines set out in Martine New Zealand's document "Guidelines for Aquaculture Management Areas and Marine Farms" (2005) and NZ's Systems of Buoys and Beacons" (2005).
- The Waikato Regional Council's Thames/Coromandel Harbourmaster (Mr Stuart Crawley) has reviewed and approved the Lighting Plan, in principle. Subject to the outcome of this application, but prior to a Lighting Application being submitted to Maritime NZ for approval to install such navigational aids, final approval must also be obtained from the Harbourmaster.

3.2.6 Non-biodegradable products, bio-fouling, and waste materials

26. No hazardous substances will be used in the operation or maintenance of the spat farm. No non-biodegradable products, bio-fouling, and waste materials will be released into the environment in association with the spat catching operation. Any waste rope would be collected and disposed of to an approved onshore landfill.

3.2.7 Discharges

27. Discharges to water are associated with seawater brought up when checking and retrieving spat lines which discharges immediately back into the sea. As the spat lines used are new clean ropes and will not remain in the water column for any length

of time it is not anticipated that any other fouling organisms (e.g. shellfish other than mussel spat, bryozoans, sponges and algae) will have time to establish on the lines prior to the retrieval of spat ropes.

28. No non-biodegradable materials will be discharged into the water.

3.2.8 Maintenance and servicing of the spat catching area

29. The applicant has a private share base in the Sugar Loaf Wharf facilities and is a member of the Coromandel Marine Farmers Association (CoroMFA). The applicant currently owns and operates five mussel barges which use the landing facilities at the Sugar Loaf wharf at Coromandel for unloading/loading product and equipment for his existing marine farms. The use of the Sugar Loaf Wharf is an authorised activity. The current resource consent does not limit the use of the wharf by way of restriction on vessel movements or tonnage crossing the facility. It is proposed to continue to use this facility for servicing the new mussel spat catching farm.
30. The applicant considers the wharf facility has the capacity to service the additional mussel barge operations arising from the proposed spat catching farm without impacting on the current Sugar Loaf Wharf operations, due to the low level of activity involved and the seasonal nature of it.
31. The proposed site will be accessed by sea using two of the applicant's existing barges which operate from the Sugar Loaf boat ramp, on the south side of Coromandel Harbour. The barges proposed to be used to service the area are 1 x 30m aluminium and 1 x 24m aluminium barge vessels. A barge will visit the site regularly (1-2 times per week) to check lines for spat settlement and undertake any maintenance required. The actual frequency of visits will depend on the timing of anticipated spat events, timing of spat settlement, and the time involved in transferring spat ropes for on-growing in other farms.
32. In terms of safety, the barges have navigation and communication equipment that comply with the maritime regulations.

3.3 Suitability of the Area for Spat catching

33. Mussel farming is well established in the Firth of Thames and Coromandel areas. These areas are proven to support conditions suitable for productive mussel growing areas. Marine farming currently occurs near Waimangō, Wilson Bay and various locations in the vicinity of the Coromandel harbour and nearby islands. The applicant operates existing mussel farms in the Coromandel area.
34. The Firth of Thames has had an historical mussel dredge industry (i.e. from 1900-1960's) harvesting the extensive mussel beds that occurred naturally in this area. As noted in the Ecological Report (**Appendix 2**), before commercial dredging, the Firth of Thames area was recorded as containing dense beds of wild mussels. The Report concluded that: *"It is probable that remnant wild beds remain around the western Firth and beyond, which would provide a source of larval mussels to the Colville farm."*

35. The Ecological Report indicates that some areas of eastern Firth of Thames have experienced high spat settlement and a long spat season (**Appendix 2: p2.**). Based on these factors it is anticipated that the area is ecologically suitable for spat catching.
36. From an economic perspective, viability will depend on a range of factors relevant to the business undertaking the activity. The applicant has a long association with mussel farming with existing marine farms in the Firth of Thames/Coromandel area and is well established in the industry. The applicant considers the proposal to be commercially viable and an efficient use of coastal space and is looking to make their marine farm operations more robust by securing a local spat supply that is less reliant on Ninety Mile Beach spat with its variable supply, high cost in terms of mortality of translocated spat, as well as the associated biological and commercial risks.

3.4 Site Selection

37. In undertaking selection of a site suitable for establishing a spat catching farm, consideration has been given to:
- the RCP Provisions (refer below),
 - water quality
 - water depth, and
 - the experience of the applicant in undertaking existing marine farming operations.
38. A number of physical factors and characteristics have been considered by the applicant in selecting the proposed mussel spat catching site. The site suitability selection criteria included consideration of the Rules and Assessment Criteria for spat catching within the Waikato Regional Council's Regional Coastal Plan; water quality requirements for growing mussels and the coastal environment. The main site selection requirements were identified as being located:
- in an open coastal water area, with good water quality, sufficient water depth and adequate currents and nutrient supply to support mussels;
 - sufficient distance from the shoreline to avoid adverse visual or natural character effects as viewed from the coastline;
 - outside and away from any identified boat mooring areas;
 - sufficient distance offshore from the shoreline of the northern Coromandel Peninsula and not near any boat ramps or launching facilities along the coastline to create any adverse effects on their use or operation;
 - away from any defined navigational route and therefore not impede any commercial or recreational vessel movements; and
 - away from and offshore of any streams that may discharge potential contaminated runoff into the CMA and reduce water quality within the proposed spat catching area.
39. Furthermore, the proposed spat catching marine farm site is recognised as referenced in the Sea Change – Tai Timu Tai Pari - Hauraki Gulf Marine Spatial Plan 2017 (**MSP**) as being in an area suitable for marine farming (**Appendix 4**).

40. As a further indicator there is a functional need for the activity to be located in the coastal marine area.
41. Based on these factors, the site selected is considered suitable and appropriate for the development and operation of a mussel spat catching area and sufficiently offshore to have minor effects on other marine users or the natural environment.

3.5 Consideration of Alternative Locations

42. The RMA requires a description of any possible alternative locations or methods for undertaking the activity for which consent is sought, where it is likely the activity will result in *"...any significant adverse effect on the environment"*. Based on the site selection criteria discussed above and the findings in the AEE below, it is contended that the proposed activity will not result in any "significant adverse effects".
43. As discussed above, the proposed location of the spat catching farm is considered to be appropriate. In particular, the **RCP** classifies the activity as discretionary and the **MSP** identifies the areas as being suitable.

4.0 ACTIVITY STATUS

4.1 Coastal Marine Area

44. The proposed spat catching site is located in the coastal marine area which is under the administration of the Waikato Regional Council. There are no zones or overlays in the Waikato Regional Council Coastal Plan (**RCP**) covering the proposed site.
45. Within the marine environment, the nearest Area of Significant Conservation Value (ASCV) is site 13 identified on General Map 6 and Map 15 as Colville Bay, approximately 5.5 km from the proposed spat catching area (**Figure 2**).
46. The site is not located within any Mooring Areas or Cultural sites identified on the maps within the RCP.

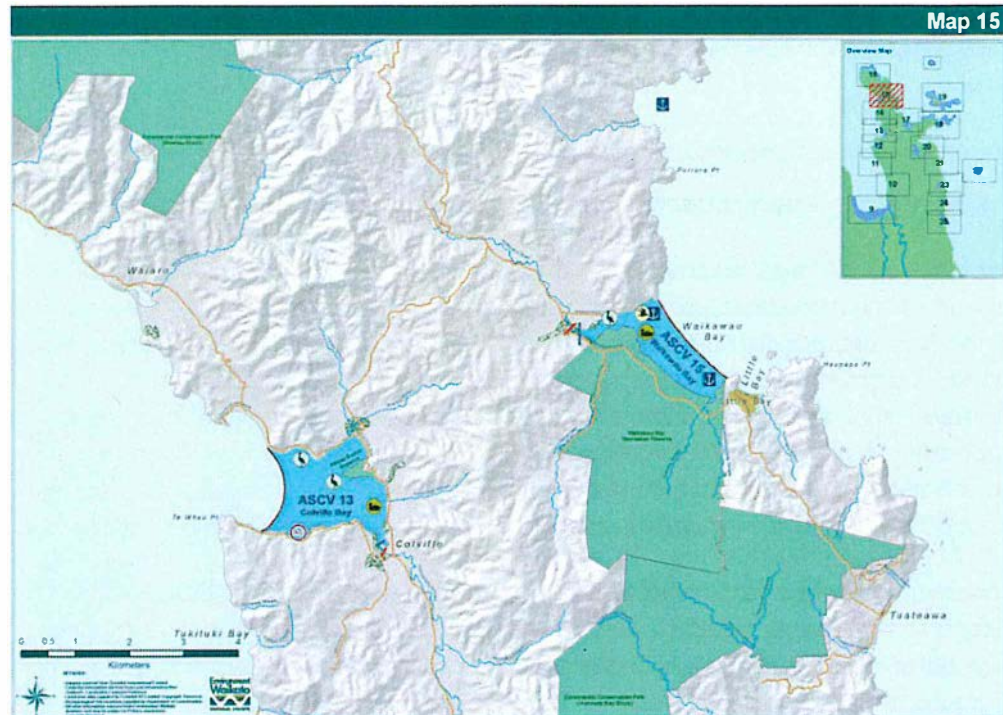


Figure 2: Area of Significant Conservation Value (ASCV) Site 13 Colville Bay
(Sourced from Waikato Regional Coastal Plan - Map 15)

4.2 Activity Status

47. Rule 16.5.1 of the RCP provides as a discretionary activity, for the erection, placement, use of, or occupation of space by buoys and lines for spat collection purposes outside of the Wilson Bay marine farming zone providing the activity complies with the standards and terms stated.
48. The proposed spat catching area is outside the Wilson Bay marine farming zone. An assessment of the mussel spat catching proposal against the standards and terms of Rule 16.5.1 is presented in the Table 1 below.

Table 1: Rule 16.5.1 Fish Aggregation Devices and Spat Catching Buoys and Lines

Standards and Terms	Assessment	Compliance
i. The fish aggregation device shall not be located inside any harbour; shall be located at least 300 metres offshore; and shall be located at least 5 kilometres away from any other fish aggregation device.	Not relevant – not a fish aggregate device.	N/A
ii. The total surface area occupied by the fish aggregation device shall not be greater than 3 metres in diameter.	Not relevant – not a fish aggregate device.	N/A
iii. The structure shall not be located within 200 metres of any jetty, boat ramp or any other point of regular public use, including ski-lanes.	There are no jetties, boat ramps or any other point of regular public use, including ski-lanes within 200 metres of the proposed site.	Complies
iv. The structure shall not be located on, or adversely affect, any benthic reef community ¹ .	As reported in the Ecological Report there are no rocky areas or reefs below the marine farm area. There will be no adverse effects on benthic reef communities.	Complies
v. The structure shall be maintained to ensure that it is restrained and secure at all times to avoid loss of non-biodegradable material.	There is significant investment in long lines, floats and spat collection ropes and these will be maintained to avoid any loss of non-biodegradable materials from the proposed structures. Any line breakage would be repaired and the loss of floats avoided or retrieved to reduce costs associated with the replacement of equipment.	Designed to comply – could impose condition.
vi. The structure shall be clearly marked with the owner's name and coastal permit number.	The spat collection structures will be clearly marked with the owner's name and coastal permit number.	Designed to comply – could impose condition
vii. The structure shall not cause a navigation hazard.	The location is not in any main vessel routes and is located well off-shore. The four corners and midsection of the marine farm structures will be marked with compliant navigational lights. The spacing between blocks and between longlines provides vessels with areas of clear water to safely navigate through and between the proposed spat catching areas.	Complies
viii. The structure shall be marked in accordance with the buoyage and beaconage requirements of Maritime New Zealand.	The applicant will construct the longline structures to be marked in accordance with buoyage and beaconage requirements of Maritime New Zealand	Designed to comply – could impose condition
ix. The Hydrographic Office of the Royal New Zealand Navy and Maritime New Zealand shall be given written notice of the details of the structure by the applicant before it is erected.	This is no longer a relevant requirement. Hydrographic charts are now managed by LINZ. The applicant will advise Maritime New Zealand prior to placing the structure in the coastal marine area and they will subsequently advise LINZ.	N/A Complies: Applicant to provide notice to MNZ

Standards and Terms	Assessment	Compliance
x. The owner of the structure shall maintain all buoyage and beaconage requirements.	The applicant will maintain all buoyage and beaconage requirements.	Complies - Applicant to meet compliance as part of general farm maintenance checks – could impose condition
xi. No artificial foods or antibiotics shall be added to the water.	Spat feed on phytoplankton and no artificial food or antibiotics are used.	Complies
xii. The owner of the structure shall provide a legally enforceable bond in favour of and to the satisfaction of Environment Waikato in respect of the likely costs of the removal of the structure in the event of default by the owner.	The owner would provide a bond, if required.	Standard can be met – could impose condition
xiii. The structure shall be completely removed by the owner at the expiration of the resource consent.	The owner can remove the structures on expiry of resource consent or seek renewal of consent.	Standard can be met and covered by bond in standard xii – could impose condition
xiv. The owner of the structure shall provide the map reference of the corner points of the structure (to an accuracy of at least plus or minus 10 metres) to confirm the structure is located in its approved location, as directed from time to time by Environment Waikato.	This requirement can be met. Installation is based on GPS systems.	Complies Applicant to provide coordinates to meet compliance – could impose condition
xv. The applicant shall undertake an ecological investigation of the proposed area in accordance with the Information Requirements set out in Appendix I of the Plan, and shall lodge the information gathered with Environment Waikato.	An Ecological Report is contained in Appendix 2 of this Assessment which meets this requirement.	Complies.
xvi. The owner of the structure shall be required to undertake environmental monitoring, as directed from time to time by Environment Waikato, of the adverse effects of the structures on the environment. In addition, the owner of the structures shall be required to bear a proportion of the costs fixed by Environment Waikato that are associated with any environmental monitoring undertaken by Environment Waikato.	Due to the nature and minor effects associated with the proposed spat catching activity and in accordance with the findings of the Ecological Report, it is considered that no monitoring is required. (refer Section 11 below on this matter) The applicant as a consent holder would meet generic environmental monitoring costs imposed by Council.	Complies Applicant can meet compliance – could impose condition

49. The assessment against the Standards and Terms for Rule 16.5.1 indicates that the proposed spat catching application meets these standards. Furthermore, conditions can be imposed for those standards which can only be complied with at the time the activity is physically established to ensure compliance. Therefore, I conclude that the proposed activity can be assessed as a Discretionary Activity under Rule 16.5.1 of the Waikato Regional Coastal Plan.

4.3 Permitted Activities Assessment

50. The following activities associated with the proposed spat catching activity have been assessed and are permitted under the Waikato Regional Coastal Plan:

- Maintenance and Repair of structures – Rule 16.4.20
- Removal and demolition of structures – Rule 16.4.23
- Minor disturbances or deposits in, on, or under the seabed (Rule 16.6.10) and
- Minor discharges of water into the CMA (Rule 16.3.4).

51. The spat catching proposal has been assessed in Form C in Part 1 attached to demonstrate compliance with the relevant standards of these permitted activity Rules.

4.4 Resource Consents required

52. The application seeks resource consents to occupy 85.75 hectares of coastal marine area with a spat catching marine farming area. The proposal comprises the catching and collection of mussel spat (*Perna canaliculus*).

53. In accordance with Sections 12 and 15 of the RMA, this application seeks resource consent for the following activities:

- to use and occupy space in the coastal marine area;
- to erect and place structures (anchors, conventional long-lines, floats, spat catching ropes, navigational aids) and anchored to, or in, on, over the seabed.

The following have been assessed as permitted activities:

- allow for minor disturbances and deposits in, on or under the seabed (S12(1)(c) and (d) and discharges into water (S15(1)(a) associated with the spat catching activities.

54. Spat catching is a Discretionary Activity in the coastal marine area and requires resource consent from Waikato Regional Council.

55. No other resource consents are required.

4.5 Consent Duration

56. The length of term requested is 35 years. The applicant requires certainty for their capital expenditure and investment in the development of the coastal marine area for spat catching. The longer term sought would provide:

- security of investment and ensure commercial viability for establishing structures and equipment for the spat catching operation;
- increase in job security for farm staff; and

- for locally and sustainably sourced mussel spat for the Firth of Thames and Coromandel mussel farming industry.

5.0 EXISTING ENVIRONMENT

5.1 Technical Reports

57. The applicant commissioned the following Expert Technical Assessments to support this application and each of these Reports includes a detailed assessment of the existing environmental and physical setting.
- The “Ecological Report” is attached in **Appendix 2** provides an overview of the ecological environment of the site and its wider setting with respect to the existing ecological environment (i.e. sediment composition, benthic environment, water quality parameters, nutrients and plankton, currents and hydrodynamics, fisheries, marine mammals and birds).
 - The “Landscape Assessment” attached in **Appendix 3** provides an overview of the existing landscape, natural character and visual amenity at the site of the proposed spat catching area and in its wider setting.
58. To avoid repetition reference is made in the assessment of environmental effects in Section 6 to the relevant information within these two reports which provide detailed descriptions of the existing environment as it relates to the proposed spat catching area.

6.0 ASSESSMENT OF ACTUAL AND POTENTIAL EFFECTS

6.1 Introduction

59. This part of the AEE deals with the actual and potential effects of the spat catching activity on the environment. It addresses the matters, where relevant, outlined in the Fourth Schedule of the RMA.
60. My assessment of the actual and potential effects below is in addition to the relevant findings contained within the Expert's Technical Reports (**Appendices 2 and 3**), which are relied on to address many of the issues considered and presented in this AEE.
61. A description of mitigation measures to be undertaken is also proposed at the end of this section to help avoid, remedy or mitigate any actual or potential effects, where appropriate.

6.2 Ecological Effects

62. In this assessment of ecological effects, reference is made to the scientific information and conclusions made in the Expert's Ecological Report (**Appendix 2**) which addresses the effects of the proposed spat catching activity on marine ecology and habitats in more detail.

6.2.1 Hydrodynamic and water column effects

63. The hydrodynamic and water column effects are assessed in Section 4.2 of the Ecological Report attached in **Appendix 2**.

64. The location and physical setting of the proposed spat catching site is in open coastal waters and there are no existing marine farms in the area.
65. The physical features (**Appendix 2: S3.1 p7 & S3.2.1 p8**) of the proposed spat catching area subject to this application are:
- located over relatively flat and featureless seabed, comprising soft mud to sandy mud substrate;
 - in water depths ranging from approximately 18 metres in northeast to 22 metres in the southwest; and
 - with current flow in a NW direction and effectively parallel to the shoreline.
66. The findings of the Ecological Report concluded that it is unlikely that the spat catching and feeding activities would have any significant impact on phytoplankton depletion or changes to nutrient concentrations in the water column within the spat catching area or extending outward from the proposed area. The reason being the site is well flushed due to its relatively deep water, exposed hydrodynamic setting and relatively high current velocity.
67. The Ecological Report (**Appendix 2 p16**) concludes that:
- “...the potential for off-site water column effects including phytoplankton depletion that might adversely affect other mussel farms, or the ecology of shorelines, or the wider marine ecosystem, is in our view negligible.”*
68. In summary, the actual and potential suite of water column effects from the proposed spat farm will be significantly less than for a mussel farm, as spat have lower rates of filtration and once caught on ropes are to be removed from the spat farm area. The Ecological Report concludes that the ecological or water column effects beyond the spat catching farm will be less than minor.
69. Therefore, based on the attached Ecological Report findings and my understanding and experience of spat catching and the existing hydrodynamics at this open coastal site, it is considered that any hydrodynamic and water column effects are acceptable and will be less than minor.

6.2.2 Benthic effects

70. Field surveys undertaken as part of the Ecological Assessment at the proposed spat farm site identified that the seabed features and benthic communities are characterised by:
- flat and relatively featureless seabed
 - mud habitats that is common throughout much of the Firth of Thames
 - no evidence of reef or other sensitive substrate types, and
 - contains common assemblages of benthic communities that are not typified by significant ecological values in terms of their biodiversity or rarity but are considered typical and widespread in soft sediment habitats in and around the Firth of Thames (**Appendix 2: S3.4.3 & 3.4.4 p13 & S4.1 p14**).

71. The findings of the Ecological Report indicates that the present day substrate and benthic community is not indicative of the original natural state as the Firth once contained dense beds of wild green lipped mussels. These beds and the benthic ecosystem were largely destroyed by commercial dredging for mussels from the 1900's to the 1960's and along with ongoing sedimentation, the benthic ecosystem is considered to have changed, and is probably irreversibly modified (**Appendix 2 S4.1 p15**).
72. The Ecological Report identifies that the actual and potential effects from mussel farming relate to accumulation of biodeposits (faeces and pseudofaeces), fouling organisms (organisms other than mussels growing on farm structures such as other shellfish, bryozoans, sponges and algae) and shell debris dropping from farm structures (**Appendix 2: p14**). The assessment, considers that:
- "However, accumulation of significant biodeposits, fouling organisms and shell debris on the seabed beneath the proposed spat catching farm is unlikely for the following reasons:*
- *Operational management is most likely to be based on either a low density of spat lines, or short-term period of high density over a spatially limited area (or combinations of both strategies);*
 - *Spat collection structures would likely be removed from the water regularly;*
 - *The very small size of the mussel spat on the lines; and*
 - *The water depth is ample and there is a relatively high current velocity and an exposed hydrodynamic setting. Biodeposits are therefore likely to be widely dispersed."*
73. Furthermore, the Ecological Report concludes that: *"...given that the proposal is limited to spat collecting, there would be very low risk, if any, regarding shell drop or significant accumulation of biodeposits."* (**Appendix 2: p14**).
74. The ecological report concludes that:
- "In summary, the common and widespread occurrence of the type of mud habitat and associated faunal community found at the proposed site, the dispersive nature of the site conferred by the hydrodynamic characteristics of the area and the relatively benign changes to the seabed ecology expected beneath the spat farm indicate that the benthic effects resulting from the proposed spat farm are expected to be less than minor."* (**Appendix 2: p15**).
75. Therefore, based on the attached Ecological Report and my understanding of the above assessment, I considered that any effects arising from the spat gathering and collection on the benthic environment are less than minor.
76. This conclusion is relied on in support of the applications, and indicates that the actual and potential effects of the proposed spat catching and collection activity on the benthic environment are acceptable and less than minor.

6.2.3 Effects on Fish

77. The attached Ecological Report notes that mussel farms are well known to attract fish, starfish, crabs, other marine life and seabirds. In addition, to growing culture species, farms function as mid-water artificial reefs and create habitats. Artificial structures provide new foraging habitat, food sources, breeding habitat, and refuge from predators for some species. These are for the most part positive effects and they are likely also to accrue to the structures associated with this spat catching area (**Appendix 2: p.16**).

6.2.4 Effects on Marine Mammals

78. The attached Ecological Report also notes that the potential effects on marine mammals (seals, dolphins and whales) relate mainly to habitat modification, entanglement in structures and habitat exclusion. However the risk of these effects in respect to the proposed spat catching area is considered low.
79. The report notes that whale migration pathways are not known to overlap with the proposed spat farm area. The water depth at the proposed spat catching site is between 18 and 22 metres which is shallow and outside the water depth frequented by Brydes whale. Furthermore, the Ecological Report concludes that: "... *the risk of Brydes whale, or other whale species or dolphins becoming entangled in the proposed spat farm structures is small.*" (**Appendix 2: p17**).

6.2.5 Effects on Birds

80. The proposed spat catching site is part of the marine coastal area identified in Table 7 Colville in Appendix 2 of the Sea Change – Tai Timu Tai Pari Hauraki Gulf Marine Spatial Plan (HGMSP 2017 (**Appendix 4**)) where it is referenced that:

"The area does not include any critical seabird habitat. Seabirds known to forage in the general area of the proposal include Australasian gannet (Morus serrator), fluttering shearwater (Puffinus gavia) and little penguin (Eudyptula minor)."

81. The proposed spat catching area will still be available for foraging by these birds.
82. The Ecological Report provides an assessment on the recognised International RAMSAR wetland site located approximately 50 km away at Miranda. This site forms a major ecosystem feature along the southern and south-western coastline of the Firth of Thames. It contains about 9000ha of intertidal and coastal margins important for over-wintering and migrating wader birds. The Ecological Report concluded, that due to the separation distance from the RAMSAR site, and the less than minor to negligible effects of the spat farm on the environment, the proposed spat farm will also have negligible to nil effects on this International wetland site.

6.2.6 Bio-security risks

83. Bio-security risk can be considered in relation to farm management. Any spat caught would be used on the applicant's existing mussel farms located in the Coromandel - Firth of Thames area, or sold to other farmers within these areas. There is no bio-

security risk associated with utilising local spat caught within the same general area. Spat transfer to other areas is controlled by MPI regulations.

84. A bio-security risk can arise from equipment or vessels used; or from the introduction of new invasive species that may adversely affect or devastate mussels and the availability of mussel spat in the marine environment.
- **Vessel:** The vessels to be used for this operation are 2 existing barges that are locally based and currently operating in the Coromandel and Firth of Thames. It is considered that these vessels would not have any associated bio-security risk over and above the current situation.
 - **Equipment:** The equipment to be used on the farm includes: floats, ropes and anchors and these will all be new equipment. It is considered that there is no bio-security risk associated with the use of new equipment. Any equipment removed from the spat farm will be re-deployed in the same area. The bio-security risk from re-use of this equipment is extremely low. The high turnover of spat ropes and the short duration of immersion combined with the routine surveillance by the personnel operating the farm should facilitate early detection of any unusual species and should limit the potential for establishment of any bio-security risk species.
 - **New Species / Disease Control:** Staff servicing the proposed area will be seasoned and experienced skippers, managers and workers. They have already been trained to look out for any new or unusual species appearing on the current farms that they work with. In the event that the spat catching area was affected by a disease or other similar bio-security risk, the applicant would work in conjunction with Aquaculture NZ, Fisheries NZ and Ministry of Primary Industries (MPI Aquaculture Biosecurity), and the Waikato Regional Council to ensure the most appropriate actions were undertaken.
 - In addition, the Ecological Report in Appendix 2 also notes that any potential bio-security matters will be dealt with by a condition for a "Biosecurity Management Plan" which will be developed having regard to the various protocols contained within industry existing guidelines and codes of practise. These being:
 - Aquaculture NZ Greenshell Mussel Industry Environmental Code of Practice (AQNZ 2007);
 - NZ Marine Pest Identification Guide (Ministry of Primary Industries 2012),
 - any future codes and response protocols that are in draft or being promulgated by the industry (e.g. the proposed Mussel Industry Biosecurity Contingency Plan and the draft Exotic Disease Response Plan).(Appendix 2: pp 17-18).
85. Implementation of these measures to minimise bio-security risks as outlined above will ensure any potential adverse effects from a spat catching activity are less than minor.

6.2.7 Ecological Summary

86. The Ecological Report (**Appendix 2**) has concluded that the potential adverse effects of the proposed spat collecting farm will be less than minor. The Report also identifies the factors which limit the risk of any detrimental effects to the water column and benthic habitats and seabed communities arising from the proposed spat collecting activities. The factors include:
- *The site is located in relatively deep water and is subject to moderately strong tidally driven currents as well as exposure to residual wind driven currents from a wide aspect. Collectively, these environmental conditions will disperse and dilute any farm derived 'particulates', thus mitigating any potential adverse depositional effects.*
 - *The site is located a significant distance from shore areas and will not affect shoreline habitats.*
 - *Within the site, the deployment and intensity of spat ropes containing newly settled spat is likely to be highly variable, resulting in only partial use of the farm area at any particular time.*
 - *The site is positioned over muddy and modified substrates that contain a common and widespread invertebrate assemblage, which are not considered to be sensitive to, or adversely affected by, the nature and scale of the proposed spat farming activities.*
 - *This conclusion is supported by the New Zealand literature which indicates that mussel farming has minor effects in relatively open and well flushed environments and that spat catching has less of an ecological effect than mussel farming.*
87. The report further concludes that:
- *Effects on fish and fishing and seabirds are likely to be positive, or neutral and not adverse;*
 - *The risk of entanglement of whales or dolphins in spat lines is remote and any effects on cetaceans are expected to be less than minor;*
 - *There will not be adverse cumulative ecological or water quality effects, taking into account the existing approved grow-out and spat collecting farms in the Firth;*
 - *There are likely to be positive ecological effects associated with spat collection structures (anchoring systems, backbone warps and buoys);*
 - *Ecological or water column effects beyond the spat collecting farm will be less than minor*
88. In summary, the ecological reporting concluded that the actual and potential ecological effects of the proposed spat catching activity on the marine environment will have:
- less than minor effect on benthic habitats and water quality;
 - less than minor ecological or water column effects beyond the spat collecting farm;
 - the farm will not affect shoreline habitats; and
 - any ecological effects are likely to be positive, neutral, minor or less than minor.

6.3 Landscape, Visual Amenity and Natural Character Effects

89. The attached Landscape Assessment (**Appendix 3**) provides a detailed description of the landscape characteristics of the immediate locality of the proposed site and the wider environment of the West Coast of Coromandel Peninsula.
90. The Assessment finds that the site's broad context is provided by the water of the Firth of Thames to south and Hauraki Gulf waters to north and west, and the slopes of the Coromandel Peninsula to the east (**Appendix 3: para 60**). Given the sites distance from landforms, the biophysical attributes of the site's context relate mainly to the marine environment (**Appendix 3: para 61**).
91. In the vicinity of the site, the closest landform is the western slopes of the northern Coromandel Ranges. These slopes have mixed land cover, with large areas of indigenous forest, forestry and pastoral land coming down to the coastal edge. The land is strongly rural, with a prevalence of coastal pastoral land and buildings tending to be widely scattered and few in number².
92. A full assessment of the proposal on the landscape, natural character and visual effects is provided in the attached Landscape Assessment Report in **Appendix 3**. It is contended that that the landscape and natural character assessment submitted in support of this application provides sufficient information for the purpose of assessing this aspect of the environmental effects.
93. The findings and conclusions of Mr Hudson contained in paragraphs 177 through to 192 of the Landscape Assessment, concludes that the adverse effects of the proposed spat catching area on the environments landscape, natural character and visual amenity are assessed as being:
- low at the site scale and very low at the scale of the broader context for landscape character and landscape values;
 - low at both the site-scale and the scale of the broader context for natural character;
 - low for effects on visual amenity; and
 - the cumulative effects on landscape, natural character and visual amenity will be very low due to the proposals limited visibility from land, its distance from other marine farms (9.3km) and the absence of cumulative ecological impacts.
94. The findings and conclusions of Mr Hudson that the effects of the spat catching proposal on the landscape character and landscape values, natural character and visual amenity, will be minor or less than minor, are relied on in support of the application, and indicates that the overall potential impacts of the application are acceptable.

² Hudson Associates, Colville Marine Farm For the purposes of Spat Catching, Hauraki Gulf, 2019 (para 65-68)

6.4 Effects on navigation and public access

95. The closest distance from the proposed spat catching site to the shoreline of the west coast of the Coromandel Peninsula is 3.1 km which allows for a significant area of navigable water to provide for unimpeded vessel movement along the coastline. There are no nearby headlands or rocks located close to the site which could be hazardous to the safe navigation of vessels past the spat catching area.
96. There are no:
- registered moorings or anchorages areas,
 - formal water ski lanes, or
 - sub-aqueous cables,
- in the vicinity of the proposed site.
97. The Waikato Regional Council Navigation Safety Bylaw 2013 identifies mooring zones and towing access lanes in Coromandel Harbour. A Mooring Zone is located at Oamaru Bay, north of Coromandel and the closest towing access lane which extends away from shore for 200m is at Papaaroha approximately 10.5 km south of the spat catching site. The mooring zone and towing access lane are not located near the proposed spat catching site. The proposal will have no actual or potential effect on these surface water areas or activities.
98. In terms of any impacts on other users of the proposed area, it is noted in the MSP for Colville that the proposed spat catching site is located inshore from recognised shipping routes which run north to south in the centre of the Firth of Thames. It is also identified as having a low level of recreational fishing and no commercial traffic (i.e. merchant or navy vessels) come into the vicinity of the proposed spat catching marine farm site³ (**Appendix 4**). The location of the spat catching area as proposed is unlikely to impede vessel movements along the western Coromandel coastline.
99. The spat catching area is exposed and located in open coastal water. With respect to recreational users, the spat catching marine farm would be marked with navigational aids and floats (as identified in Section 3.2.5 Lighting above, and in the same manner as existing marine farms (**Appendix 1E**)) providing clear indicators for vessel operators with regard to navigation routes. The proposed area could potentially be used by some recreational vessels for fishing or transiting through the area. However recreational vessels accessing this area could navigate safely through the farm within the 25 metre spacing between the longlines, through the 50 metre passageways between blocks or the more than 90 m central corridor between the northern and southern blocks or go around the outside of the site.
100. The marine farm structures used for spat catching will not exclude the public and their vessels from the area and they will be able to freely navigate between the spat

³ Hauraki Gulf Marine Spatial Plan (2017); Appendix 2: Site 7 Colville

catching blocks. Public access through the areas will not be restricted. In my opinion there would be minimal impact from the proposed spat catching site on other users of this proposed area.

101. Any potential effects will be mitigated by the installation of complying navigational lights and marks in accordance with the “*Guidelines for Aquaculture Management Areas and Marine Farms*” published by Maritime New Zealand. The lighting and marking requirements as identified in Section 3.2.5 Lighting of this report have to be approved by both the Harbourmaster and Maritime New Zealand in accordance with the guidelines. The Thames/Coromandel Harbourmaster has provided approval in principle (**Appendix 5**) for the proposed lighting plan in principle in **Appendix 1E**.
102. As discussed above, the use of appropriate navigational equipment will ensure that recreational and other marine users will have sufficient warning of the location of the proposed spat catching marine farm area.
103. In context, a large area of open coastal waters of the Hauraki Gulf remains available for public use. The waters within the spat catching area are also available for public use. The effects of the spat catching area on navigational safety can be mitigated by the installation of approved lighting and navigational aids on the corners and midpoints of the marine farm structures. It is assessed that the effects of the proposed spat catching area do not impede safe navigation in the CMA nor restrict public access along the coast, and I consider the effects of the proposal can be appropriately mitigated with these navigational aids and consider the effects to be less than minor.

6.5 Effects on commercial and recreational fishing

6.5.1 Commercial fishing

104. The coastal marine area in this locality is reported in the Hauraki Gulf Marine Spatial Plan as being “...commercially fished for scallops (*Pecten novaezelandiae*)...” and lies “*Adjacent to high intensity trawling areas and moderate intensity longline fishing.*”⁴ (**Appendix 4**). As scallops are fished by dredging the location of a marine farm in this location may potentially have an effect on this activity. However, based on the Ecological Report findings for the composition of the benthic substrate there was no evidence that identified the presence of scallops, it is my opinion that the proposed spat catching area would have less than minor effects on commercial scallop fishing. It is also noted that the effects on commercial fishing is a matter that would be addressed through the Ministry of Primary Industry’s Undue Adverse Effects process.

6.5.2 Recreational fishing

105. Recreational boating in the area of the proposed spat catching site is less than other areas of the Firth, mainly due to the area being more remote and isolated compared

⁴ Hauraki Gulf Marine Spatial Plan (2017); Appendix 2: Site 7 Colville

to areas to the south. This is supported as referenced in the HGMS 2017 which records that there is a low level of recreational fishing in the area⁵ (**Appendix 4**).

106. Furthermore, along the coastline boat access is gained from Papaaroha, Amodeo Bay and Waitete Bay located south of Colville, and Otautu Bay on the northern side of Colville Bay⁶. The majority of recreational vessels frequent the waters around the Motukawao Island Group for their scenery, wildlife and fishing. The closest island of this Group is Motumakareta located approximately 4.5 km to the south of the proposed spat catching area, while most of the islands are offshore of Papaaroha, Amodeo Bay and Waitete Bay, a further 2-3 km south.
107. With reference to the proposed spat catching area, it is noted in the Landscape Assessment that there is “...generally lower level of recreational fishing and water traffic in this area.” (**Appendix 3 para 127**) and this is further supported in the MSP for the Colville area (**Appendix 4**). Based on the findings of the Landscape Assessment, I conclude that there is a low level of use of the site by recreational users, being situated (at its closest point) 3.1 km offshore of Te Kawau Point, on the west coast of the Coromandel Peninsula and it is my opinion that there is a low probability for conflicts of use and the proposed activity is likely to have less than minor effects on recreational use.

6.6 Cultural Effects

108. The Thames Coromandel District Plan Smart Maps Historic Sites Layer identify that the coastline along the western Coromandel Peninsula north of Colville is dotted with numerous archaeological sites which include headland pa, terraces, pit and midden. The proposed spat catching site is located approximately 3.1 kilometres offshore and will not affect any of these coastline features.
109. There are no known cultural sites recorded in the vicinity of the proposed spat catching site identified in the RCP.
110. Local iwi (Ngati Tamatera) have provided an initial response from Liane Ngamane who identifies the area subject to this application is in the rohe of Ngati Tamatera. Ms Ngamane indicates that the proposed site is seaward of the significant settlement of Waiaro and is located within important mahinga mataitai of Ngati Tamatera. As discussed above in relation to public access, it is considered that access to traditional fishing grounds will not be restricted. The seabed and coastal waters occupied by the marine structures will be accessible for customary fishing and is unlikely to limit the ability for iwi to gather seafood and therefore is expected to have minor effects on customary Maori fishing.
111. The proposed spat catching area lies within an area identified for aquaculture development in the Hauraki Gulf Marine Spatial Plan (**MSP**). The MSP was

⁵ Ibid

⁶ Boffa Miskell Limited 2016. Natural Character Study of the Waikato Coastal Environment Section C2 p117

developed by a Stakeholder Working Group whose members have a diverse range of interests including: environmental, mana whenua and aquaculture. This group identified the Colville area as being appropriate for aquaculture development. The proposed spat farm is located within the area identified as being suitable. It also lies outside the Aquaculture Settlement Area and therefore unlikely to compete for any coastal marine space allocated for Maori Commercial Aquaculture Claims (Figure 1 above).

112. As discussed above in relation to public access, it is considered that access to any traditional fishing grounds will not be restricted. The Ecological Report did not identify any shellfish beds below the marine farm site and found that:

“...benthic communities associated with the seabed were common assemblages and not typified by significant ecological values in terms of their biodiversity or rarity.”

113. The seabed and coastal waters occupied by the marine structures will be accessible for customary fishing and will not limit the ability for Iwi to gather seafood and therefore is expected to have less than minor effects on cultural sites or customary Maori fishing areas.

6.7 Social and economic effects

114. It is widely accepted that the aquaculture industry creates and supports direct employment opportunities to the Waikato and Auckland Regions, making a significant contribution to the social and economic wellbeing of both regions. This contribution is clearly recognised in the NZCPS and the Waikato Regional Policy Statement (refer section 8.7 below).

115. The NZIER (2017)⁷ in their report to Aquaculture New Zealand on “*The economic contribution of marine farming in the Thames-Coromandel District*” concluded that:

“Currently, the aquaculture industry in New Zealand as a whole contributes \$584 million to New Zealand's GDP, with \$172 million generated from marine farming production and \$412 million from aquaculture processing. Thames-Coromandel aquaculture contributes \$69.6 million (\$43.0 million from marine farming and \$26.6 million from aquaculture processing) – 12 percent of New Zealand's aquaculture GDP.”

116. Overall the Report concludes that:

“Aquaculture creates demand, both directly and indirectly, among industries that support it and the households that receive income from it. It contributes to exports, jobs and value added production and stimulates growth in other industries such as construction, transport, retailing, education and hospitality. Aquaculture is a key part of the social and economic fabric in the communities of Coromandel town ship, Manaia and Whitianga where the majority of sector

⁷ NZIER (2017): The economic contribution of marine farming in the Thames-Coromandel District”

employees live and work. Iwi owned aquaculture assists community wellbeing with contributions from marine farming co-funding education and health services. Most of the companies that support the sector e.g. ropes, floats, seed-stocking and transport are New Zealand owned and operated. Sub sectors including recreational charter fishing and culinary tourism have flourished on the existence of aquaculture in the region.”

117. The potential socio-economic benefits stem from on-going support of local employment to manage the proposed area as well as supporting the local mussel industry by providing ready access to locally supplied spat. The availability of alternative local spat source will assist in making the local marine farming industry more resilient to spat failures in the Northland spat. In turn, the additional supply of spat to the marine farm industry will have consequential benefits for mussel farming, which are generally accepted to be significant. This is also recognised in the Ecological Assessment which states that:

“Any ability to collect spat close to crop farms in the Firth of Thames is advantageous as it allows reduced handling time, potentially reduced mortality of translocated spat, reduced farm and labour costs, reduced biological risks and greater fine tuning between the supply of spat and the crop farm requirements over an extended spat season.”⁸

118. The ability to catch spat locally for on-growing on other mussel farms elsewhere in the Coromandel and Firth of Thames has the potential to increase mussel farm production and employment in the harvesting of product, maintenance of farms, along with processing, distribution and exporting of product. In respect of this application, potential socio-economic effects include the on-going support for local employment to manage and operate the proposed spat collection area as well as the flow on effects of additional employment from increased mussel production, processing and export earnings.

6.8 Description of mitigation measures

119. The RMA requires a description of the mitigation measures to be undertaken to help prevent or reduce the actual and potential effects of the proposed activity. The following mitigation measures (safeguards and contingency plans) are proposed:
- establish the spat farm using all new equipment (floats, ropes, anchors) to avoid bio-security risks;
 - orientate lines parallel to current to minimise drag and water quality effects;
 - use predominately dark coloured floats to reduce landscape and visual effects;
 - install appropriate and functional navigational lighting and marking to define the farm area, and use orange floats as required by the MNZ guidelines to avoid and reduce the risk of any potential navigational hazard;

⁸ 4Sight Consulting, Ecological Survey at a proposed Mussel Spat Collecting Site, North Eastern Firth of Thames, 2018

- operate the proposed spat catching area in a sound commercial manner and in compliance with industry standards to ensure long term financial viability and environmental sustainability;
- undertake regular maintenance to ensure structures and lights are secure and operational.
- the applicant would comply with the Code of Practice of the NZ Mussel Industry which promotes good practice and identifies various mitigation measures to be undertaken in the event of accidents or disease; and
- prepare and implement a Biosecurity Management Plan.

7.0 CONSULTATION

120. There is no requirement in the Resource Management Act for applicants for resource consent to undertake consultation with potentially affected parties. However, the applicant, Legal Shellfish Limited has made efforts to consult with the Department of Conservation and potentially affected iwi.

7.1 Department of Conservation

121. An introductory telephone conversation on 12th December 2018 and follow-up email with brief overview of the proposal was sent to Elaine Holdom (Conservation Officer in the Whitianga Office of the Department of Conservation on 13th December 2018.
122. The Department has engaged Rob Hart from Hartland Environmental Ltd to assist them in assessing this application and providing feedback as part of the consultation process.
123. This process has yet to conclude and any feedback from the Department will be forwarded to Council, once received.

7.2 Iwi

124. Consultation was initiated with introductory emails sent to the following iwi groups (Ngati Tamatera, Ngati Maru, Hauraki Maori Trust Board and Patukirikiri Settlement Incorporated). These emails were then followed up with telephone contact to initiate consultation, meetings and/or canvas any views iwi had on the spat catching proposal. Responses from telephone calls were received from William Peters (Te Patukirikiri Incorporated), Geoff Cook (Ngati Maru) and Liane Ngamane (Ngati Tamatera). The other iwi groups did not return telephone calls. No iwi agreed to meet.
125. Summary of consultation is provided in the Table below. Documentation of consultation and responses received are contained in **Appendix 5**.

7.3 Consultation Summary

Iwi	Iwi Contact	Response
Hauraki Maori Trust Board	John McEnteer (CEO) john@hauaki.iwi.nz	No response
Ngāti Maru Rūnanga Incorporated	Geoff Cook ngati.maru@wave.co.nz	Geoff Cook advised to try and make contact through Ngati Maru by contacting William Peters.
Ngāti Tamatera Treaty Settlement Trust	frank.waitai@tamatera.iwi.nz RMA Contact: Liane Ngamane Email: Liane.ngamane@hotmail.com	No response from Frank Waitai. Liane Ngamane phoned and advised that the proposed site was not suitable for marine farming and referred to earlier response sent by email to the applicant. The view expressed in the email was that <i>"The area is within the Rohe of Ngati Tamatera, it being seaward of one of the most significant settlements of Waiaro and is located within important mahinga mataitai of Ngati Tamatera"</i> . As stated Ngati Tamatera strongly opposed the application for a marine farm in this location on cultural, environmental and economic grounds. It was expressed that both Ngati Tamatera Treaty Settlement Trust and local kaitiaki object to this proposal.
Te Patukirikiri Incorporated	William Peters Negotiator/ RMA Contact Email: william@patukirikiri.iwi.nz	William Peters advised that he is also the Environmental Advisor for Ngati Maru. He was going to send a letter on behalf of Ngati Maru. At this stage no letter has been received.

	Contact	Response
Department of Conservation	Alaine Holdom Whitianga Office aholdom@doc.govt.nz	Forwarded information onto Department's RMA Team to reply. Rob Hart (Hartland Environmental Ltd) has made contact and has been engaged by DoC to provide assistance on their input into the proposal. The application has been sent to Mr Hart for consideration. Liaison with DoC is on-going and at this stage no formal reply has been received.

8.0 STATUTORY CONSIDERATIONS

8.1 Introduction

126. This part of the AEE sets out the relevant planning framework in accordance with s104(1) and Schedule 4 of the Resource Management Act.
127. Section 104(1) of the RMA lists the matters that the consent authority must have regard to when considering an application for resource consent. Section 104(1) states:

104 Consideration of applications

- (1) *When considering an application for a resource consent and any submissions received, the consent authority must, subject to Part 2, have regard to—*
- (a) *any actual and potential effects on the environment of allowing the activity; and*
 - (ab) *any measure proposed or agreed to by the applicant for the purpose of ensuring positive effects on the environment to offset or compensate for any adverse effects on the environment that will or may result from allowing the activity; and*
 - (b) *any relevant provisions of*
 - (i) *a national environmental standard;*
 - (ii) *other regulations;*
 - (iii) *a national policy statement;*
 - (iv) *a New Zealand coastal policy statement;*
 - (v) *a regional policy statement or proposed regional policy statement;*
 - (vi) *a plan or proposed plan; and*
 - (c) *any other matter the consent authority considers relevant and reasonably necessary to determine the application.*

128. It is noted that the Regional Coastal Plan (RCP) was made operative in 2005 and in part in 2007. The Waikato Regional Council has commenced a review of the Regional Coastal Plan which is known as "*Healthy Environments - He Taiao Mauriora*." This is an integrated review which also includes a review of the Regional Plan and will give effect to the Regional Policy Statement (made operative on 20 May 2016) and the NZCPS 2010. Therefore as there may be inconsistencies between the RCP and the higher order documents (NZCPS & RPS), an assessment of all matters relevant to this application, in terms of Section 104 subject to the provisions of Part 2 of the RMA (Purpose and Principles) is undertaken below.

8.2 Actual and Potential Effects

129. As detailed above in Section 6 Assessment of Environmental Effects, the actual and potential adverse effects of the proposed spat catching activity have been considered and the overall effects of the proposal have been assessed as less than minor.

8.3 Positive Effects

130. The proposed spat catching activity has been assessed in the above AEE and the attached Expert Reports which conclude that the proposal has less than minor

effects on the environment. Therefore, Section 104(1)(ab) is not relevant to the proposal.

131. However, it is contended that there are likely to be some positive ecological effects associated with spat collection structures (anchoring systems, backbone warps and buoys) and the spat catching activity, in general. These include:
- structures act like a “floating raft” providing a refuge for some fish species; and
 - potentially providing some increased recreational fishing opportunities.
132. Overall, the Ecological report concludes that: *“the effects on fish and fishing and seabirds are likely to be positive, or neutral and not adverse.”* The Landscape Assessment also concludes that the proposal may provide new fishing spots and could have positive effects on associative values for this site.

8.4 National Environmental Standards

133. National Environmental Standards (NES) are standards for maintaining a clean, healthy environment. There are currently no NES relevant to the CMA that need consideration with respect to this proposal.
134. It is noted that a NES for Marine Aquaculture (NES: Marine Aquaculture) is being developed by the Ministry for Primary Industries in partnership with the Ministry for the Environment and the Department of Conservation. The proposed NES: Marine Aquaculture aims to:
- address variations and regional inconsistencies in processing replacement permit applications for existing marine farms;
 - reduce New Zealand’s exposure to biosecurity risks;
 - enable better use of space within existing marine farms; and
 - improve environmental outcomes.
135. The intent of the NES is for a more efficient and certain consent process for the renewal of existing aquaculture consents and apply a nationally-consistent framework for biosecurity management on all marine farms. The lodging of submissions on the proposed NES: Marine Aquaculture closed on 8 August 2018. It was anticipated that the NES would come into effect by end of 2018. At this stage the NES has not being issued by notice in the New Zealand Gazette.
136. The proposed NES: Marine Aquaculture does not relate to the assessment of new applications and is not relevant to this application. Although, the applicant is aware of the proposed future requirement to prepare, implement and regularly update Biosecurity Management Plans for all marine farms by 31 January 2025.

8.5 NZ Coastal Policy Statement 2010

8.5.1 Overview

137. The NZ Coastal Policy Statement 2010 (NZCPS) sets out objectives and policies for achieving the purpose of the RMA in relation to the coastal environment.
138. When considering the suitability of the coastal environment for the use and development for spat catching purposes as sought in this application, the provisions which address the following matters are relevant:
- social and economic wellbeing,
 - natural character and landscape values,
 - indigenous biodiversity,
 - amenity and access , and
 - integration.
139. These matters are discussed below with reference to the relevant objectives and policies of the NZCPS.

8.5.2 Social, Economic and Cultural Wellbeing

140. NZCPS includes a strong management directive for Aquaculture, in particular the enabling provisions Objective 6 and Policies 6 and 8. Together these policy directives seek to enable people and communities to provide for their social and economic wellbeing through the use and development of natural and physical resources in the coastal environment. These policies recognise that aquaculture activities (as proposed by this application) are an appropriate use of the CMA and that aquaculture is important in providing people and communities opportunities to provide for their social, cultural and economic well-being.

141. The NZCPS states in **Objective 6**

To enable people and communities to provide for their social, economic, and cultural wellbeing and their health and safety, through subdivision, use, and development, recognising that:

- *the protection of the values of the coastal environment does not preclude use and development in appropriate places and forms, and within appropriate limits;*
- *some uses and developments which depend upon the use of natural and physical resources in the coastal environment are important to the social, economic and cultural wellbeing of people and communities;*
- *functionally some uses and developments can only be located on the coast or in the coastal marine area;*
- *the coastal environment contains renewable energy resources of significant value;*
- *the protection of habitats of living marine resources contributes to the social, economic and cultural wellbeing of people and communities;*

- *the potential to protect, use, and develop natural and physical resources in the coastal marine area should not be compromised by activities on land;*
- *the proportion of the coastal marine area under any formal protection is small and therefore management under the Act is an important means by which the natural resources of the coastal marine area can be protected; and*
- *historic heritage in the coastal environment is extensive but not fully known, and vulnerable to loss or damage from inappropriate subdivision, use, and development.*

142. The relevant matters in Policy 6 and 8 are:

Policy 6: Activities in the coastal environment

(1) *In relation to the coastal environment:*

- (e) *consider where and how built development on land should be controlled so that it does not compromise activities of national or regional importance that have a functional need to locate and operate in the coastal marine area;*

(2) *Additionally, in relation to the coastal marine area:*

- (a) *recognise potential contributions to the social, economic and cultural wellbeing of people and communities from use and development of the coastal marine area, including the potential for renewable marine energy to contribute to meeting the energy needs of future generations;*
- (b) *recognise the need to maintain and enhance the public open space and recreation qualities and values of the coastal marine area;*
- (c) *recognise that there are activities that have a functional need to be located in the coastal marine area, and provide for those activities in appropriate places;*
- (d) *recognise that activities that do not have a functional need for location in the coastal marine area generally should not be located there; and*
- (e) *promote the efficient use of occupied space, including by:*
 - (i) *requiring that structures be made available for public or multiple use wherever reasonable and practicable;*
 - (ii) *requiring the removal of any abandoned or redundant structure that has no heritage, amenity or reuse value; and*
 - (iii) *considering whether consent conditions should be applied to ensure that space occupied for an activity is used for that purpose effectively and without unreasonable delay.*

Policy 8: Aquaculture

Recognise the significant existing and potential contribution of aquaculture to the social, economic and cultural well-being 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, recognising that relevant considerations may include:*
 - i. *the need for high water quality 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 any 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.*
143. Objective 6 recognises that some use and development of natural and physical coastal resources are important for providing people's social, economic and cultural wellbeing and can only occur in the coastal environment. This objective also recognises that protection of coastal values *"...does not preclude use and development in appropriate places and forms, within appropriate limits;"* Policy 6(2)(a) recognises *"...the use and development of the coastal marine area;"* and Policy 8 further supports the significant potential contributions and benefits that aquaculture development has for sustaining the social, economic and cultural wellbeing of peoples and communities.
144. The proposal has a functional need to be located in the coastal marine area, a strong directive sought in Objective 6 and Policy 6(2)(c) and the NZCPS requires that provision is made for these activities in appropriate places. The applicant seeks to use an area of the coastal marine area for spat catching purposes. It is an activity which depends upon the naturally occurring resources (i.e. free floating mussel larvae and phytoplankton within coastal waters) for settlement onto ropes and filter feeding, respectively while recognising this activity can only be located in the coastal marine area. It is considered that the proposed site and scale of development is considered to meet Objective 6, Policies 6(2)(c) and 8(a) criteria of being *"...in appropriate places and forms, and within appropriate limits;"*. The proposed spat catching marine farm aligns with these policies and that it is an "appropriate use" in the area.
145. The NZIER Report (2017) on the economic contribution of marine farming in the Thames-Coromandel District summarised that aquaculture contributes to both the regional and national economies by:
- *Creating valuable outputs, based on the natural resources of the marine environment*
 - *Delivering around 30 percent of New Zealand's Greenshell™ mussel production and 24 percent of New Zealand's Pacific oyster production by weight*
 - *Generating export revenue of \$73 million in 2015*
 - *Contributing almost 7.2 percent (\$69.6 million) to Thames-Coromandel District's GDP, with \$43.0 million (4.5 percent) from marine farming and \$26.6 million (2.7 percent) from aquaculture processing*

- *Providing wages (\$13.4 million) and employment (387 jobs) for about 4.0 percent of the Thames-Coromandel District's total employment, comprising around 1.5 percent in marine farming and a further 2.5 percent in processing aquaculture products*
 - *Providing inputs to aquaculture processing inside and outside Thames-Coromandel."*
146. As reported in the NZEIR Report (2017) mussel farming contributes 30% of NZ's total *Greenshell™* mussel production and with oyster production generates \$73 million (2015) in export revenue of the Thames-Coromandel District. Aquaculture in general provides a significant economic contribution to the Thames Coromandel District's GDP. The proposed spat catching activity has the ability to further support the sustainable management and growth of the mussel industry locally and provide further social and economic benefits which would extend to regional and national economic benefits which are a strong directive supported in Objective 6 and Policy 8(b) of the NZCPS.
147. The proposed spat catching farm will provide a dedicated area for the purposes of spat catching and allow an opportunity for a more reliable and local supply of spat to sustainably manage mussel farm production. It will provide social and economic benefit by providing a local supply of spat thus reducing the dependency on Ninety Mile Beach spat which suffers from high mortality rates during handling and transportation. The economic effect of the spat farm is the cost savings associated with the reduction in handling times, spat mortality and reduced farm and labour costs involved compared to those from sourcing Ninety Mile Beach spat. Efficient use of space as sought in Policy 6(2)(c) supports a local spat supply as it provides efficiencies from spat being captured directly onto spat ropes and then the ropes transferred elsewhere to on-grow for reseedling and growing of mussel to product size. Streamlining this process will also have the potential to make efficient use of the existing consented mussel farms to further increase mussel production from these areas. This will also result in increased product for export and local markets and sustain employment for on-farm workers and others in the mussel processing and support industries. Any future increase in mussel production will have a flow on effect in further increasing NZ's export earnings. These outcomes are consistent with the directives in Objective 6 and Policy 8(b).
148. Objective 6, Policies 6 and 8 all support the development of activities such as spat farm activity as it will contribute to job opportunities within the local Coromandel and Waikato marine farming industry (equipment supply, processing and transport). The key directives of these provisions support aquaculture development (Objective 6), of which spat catching is an integral part and is an appropriate use of the coastal marine area (Policy 6) and the water quality as reported in the Ecological Report is suitable for the proposed activity and supported in Policy 8(c).
149. Overall, I consider that the proposed spat catching marine farm aligns with these policies and that it is an "appropriate use" in the area. Furthermore, it is an appropriate location and use of the natural and physical resources in the CMA and is supported by the policy directives in the NZCPS which recognise the important value

aquaculture can provide for people and the communities' social, economic and cultural well-being (Objective 6 & Policies 6(2)(a) & 8(b)).

8.5.3 Integration

150. Policies 4 and 6 of the NZCPS relate to the integrated management of the natural and physical resources that affect the coastal environment particularly the interface between land and water activities. With regard to Policy 4, Section 3.2.8 of this application outlines the facilities available for managing the loading and unloading of equipment and spat ropes and the associated storage above MHWS. The Sugarloaf boat ramp and wharf facility provides all tide access and is currently used by the applicant for their existing marine farming activities and any new effects arising from the use of the facilities for the proposed spat catching area and associated activities will be minimal. There is space and capacity at the wharf and ramp to accommodate the land based spat activity mainly the temporary loading and unloading of gear from barges.
151. With regard to Policy 6(1)(e & f, h & i), the Sugarloaf ramp is appropriate for aquaculture activities and the applicant has their own land based facilities available in Coromandel which will be used for storage of buoys, ropes and other marine farm equipment required to support the proposed spat catching farm.
152. It is considered that the proposal is consistent with satisfying the intent of Policy 4 for integrated management with respect to the coastal environment, as these land based facilities already exist.

8.5.4 Natural Character of Coastal Environment

153. Objective 2 of the NZCPS seeks to preserve the natural character of the coastal environment and protect natural features and landscape values, through recognising contributing characteristics and qualities of natural character and identifying areas where use and development would be inappropriate. This objective is supported in particular by Policies 13 (preservation of natural character) and 15 (to protect natural features and natural landscapes) from inappropriate use and development.

Policy 13 Preservation of natural character

1. *To preserve the natural character of the coastal environment and to protect it from inappropriate subdivision, use, and development:*
 - a. *avoid adverse effects of activities on natural character in areas of the coastal environment with outstanding natural character; and*
 - b. *avoid significant adverse effects and avoid, remedy or mitigate other adverse effects of activities on natural character in all other areas of the coastal environment;*

Policy 15 Natural features and natural landscape

To protect the natural features and natural landscapes (including seascapes) of the coastal environment from inappropriate subdivision, use, and development:

- a. *avoid adverse effects of activities on outstanding natural features and outstanding natural landscapes in the coastal environment; and*
 - b. *avoid significant adverse effects and avoid, remedy, or mitigate other adverse effects of activities on other natural features and natural landscapes in the coastal environment;*
154. The proposed marine farm site is located in open coastal water of the Hauraki Gulf, approximately 3.1 km west of Te Kawau Point, Colville. In the Landscape Assessment, Mr Hudson's concludes that effects on natural character (Policy 13) are low at the site and broader context scales; and on natural features and natural landscape areas (Policy 15) are low at site scale and very low at the scale of broader context. Mr Hudson findings that *"There will be no impact on identified areas of outstanding or high natural character in the area due to distance of the proposal from these, and due to the confined and limited nature of biophysical effects arising from the spat catching site."* (**Appendix 3 para 185; Policy 13a**). Furthermore, effects on ONLF (Policy 15a) were assessed as negligible due to distance of the proposed spat site from these areas (at least 3 kms (**Appendix 3 para 181**)). There being no physical effects on terrestrial values, low effects on biophysical values (biotic and abiotic) to within a localised footprint and overall visual amenity and open space qualities will remain intact (**Appendix 3 para 177 - 179**). It is considered that the proposed site is consistent with these policies as it is not identified in any planning documents as being an "inappropriate use" in the application area. This aspect is discussed further in relation to the Hauraki Gulf MSP, the Regional Coastal Plan and the Thames Coromandel District Plan below.
155. Overall the proposed marine farm area is not identified as an "inappropriate use" in the application area. It is considered that the proposed marine farm is in accordance with Objective 2 and Policies 13 and 15 of the NZCPS and can be developed with less than minor adverse effects on the coastal environment.

8.5.5 Indigenous Biodiversity

156. Objective 1 and Policy 11 of the NZCPS are key provisions that aim to manage and protect indigenous biodiversity in the coastal environment. They state:

Objective 1

To safeguard the integrity, form, functioning and resilience of the coastal environment and sustain its ecosystems, including marine and intertidal areas, estuaries, dunes and land, by:

- *maintaining or enhancing natural biological and physical processes in the coastal environment and recognising their dynamic, complex and interdependent nature;*
- *protecting representative or significant natural ecosystems and sites of biological importance and maintaining the diversity of New Zealand's indigenous coastal flora and fauna; and*
- *maintaining coastal water quality, and enhancing it where it has deteriorated from what would otherwise be its natural condition, with*

significant adverse effects on ecology and habitat, because of discharges associated with human activity.

Policy 11

Indigenous biological diversity (biodiversity) To protect indigenous biological diversity in the coastal environment:

- (a) avoid adverse effects of activities on:*
 - (i) indigenous taxa⁴ that are listed as threatened⁵ or at risk in the New Zealand Threat Classification System lists;*
 - (ii) taxa that are listed by the International Union for Conservation of Nature and Natural Resources as threatened;*
 - (iii) indigenous ecosystems and vegetation types that are threatened in the coastal environment, or are naturally rare⁶;*
 - (iv) habitats of indigenous species where the species are at the limit of their natural range, or are naturally rare;*
 - (v) areas containing nationally significant examples of indigenous community types; and*
 - (vi) areas set aside for full or partial protection of indigenous biological diversity under other legislation; and*
- (b) avoid significant adverse effects and avoid, remedy or mitigate other adverse effects of activities on:*
 - (i) areas of predominantly indigenous vegetation in the coastal environment;*
 - (ii) habitats in the coastal environment that are important during the vulnerable life stages of indigenous species;*
 - (iii) indigenous ecosystems and habitats that are only found in the coastal environment and are particularly vulnerable to modification, including estuaries, lagoons, coastal wetlands, dunelands, intertidal zones, rocky reef systems, eelgrass and saltmarsh;*
 - (iv) habitats of indigenous species in the coastal environment that are important for recreational, commercial, traditional or cultural purposes;*
 - (v) habitats, including areas and routes, important to migratory species; and*
 - (vi) ecological corridors, and areas important for linking or maintaining biological values identified under this policy*

157. Objective 1 seeks to sustain marine and intertidal ecosystems, maintain or enhance natural biological and physical processes and maintain coastal water quality. The Ecological Report made the following conclusions:

"The site is located in relatively deep water and is subject to moderately strong tidally driven currents as well as exposure to residual wind driven currents from a wide aspect. Collectively, these environmental conditions will disperse and dilute any farm derived 'particulates', thus mitigating any potential adverse depositional effects.

There will not be adverse cumulative ecological or water quality effects, taking into account the existing approved grow-out and spat collecting farms in the Firth;"

158. Based on these conclusions, the proposal will have less than minor effects on the existing marine ecosystem, hydrodynamics or water quality. I consider the spat catching activity as proposed meets the intent of Objective 1.
159. The proposed site is not within any of the areas listed in Policy 11(a) and is not recognised as having "*nationally significant examples of indigenous community types*" (Policy 11(a)(v)). In the Ecological Report (**Appendix 3**), the sediment and benthic analysis identified the benthic communities below the proposed spat farm site as consisting of common and widespread taxa dominated by deposit feeding organisms that are generally well adapted to muddy, depositional environments.
160. Furthermore, the Report concluded that:
- "...the benthic communities associated with the seabed are common assemblages and not typified by significant ecological values in terms of their biodiversity or rarity"*
- and
- "The site is positioned over muddy and modified substrates that contain a common and widespread invertebrate assemblage, which are not considered to be sensitive to, or adversely affected by, the nature and scale of the proposed spat farming activities."*
161. The seabed habitat was assessed as common and with respect to Policy 11((b)(ii) is not considered "*...a habitat ... important during the vulnerable life stages of indigenous species.*" The proposed spat catching farm is limited to spat catching and there would be no issues regarding shell drop or accumulation of biodeposits. Spat catching will not result in any significant adverse effects to:
- any indigenous vegetation or habitat (Policy 11(b)(i) and (ii);
 - modification of any vulnerable habitats identified in Policy 11(b)(iii) as the seabed is already highly modified and contains common taxa;
 - to any habitats of indigenous species important for recreational and commercial use or any traditional or cultural purposes as sought in 11(b)(vi); and
 - feeding areas or routes used by migratory species (e.g. marine mammals or birds) as discussed in Sections 6.2.4 and 6.2.5 of this AEE or any ecological corridors and therefore meets the intent sought by Policies 11(b)(v) or (vi) above.
 - The site is not located within any Mooring Areas or Cultural sites identified on the maps within the RCP.
162. The effects are anticipated to be less than minor as there is likely to be an undetectable change in seabed habitat or communities during the course of the spat catching activity, as such the proposal is not inconsistent with Policy 11(b).

8.5.6 Access and Amenity

163. Objective 4 and Policy 6 are of particular relevance to this application in relation to use of public open space, water activities such as recreation, marine farming and the use of renewable resources.

164. Objective 4 of the NCPS states:

Objective 4

To maintain and enhance the public open space qualities and recreation opportunities of the coastal environment by:

- *recognising that the coastal marine area is an extensive area of public space for the public to use and enjoy;*
- *maintaining and enhancing public walking access to and along the coastal marine area without charge, and where there are exceptional reasons that mean this is not practicable providing alternative linking access close to the coastal marine area; and*
- *recognising the potential for coastal processes, including those likely to be affected by climate change, to restrict access to the coastal environment and the need to ensure that public access is maintained even when the coastal marine area advances inland.*

Policy 6

(2) Additionally, in relation to the coastal marine area:

- (b) recognise the need to maintain and enhance the public open space and recreation qualities and values of the coastal marine area;*
- (e) promote the efficient use of occupied space, including by:*
 - (i) requiring that structures be made available for public or multiple use wherever reasonable and practicable;*
 - (ii) requiring the removal of any abandoned or redundant structure that has no heritage, amenity or reuse value; and*
 - (iii) considering whether consent conditions*

165. Objective 4 recognises that open space and recreational values of the coastal environment are important for public use and enjoyment. The first bullet point is relevant to the spat catching proposal. The other two relate to access along the coastline and are not relevant. Policy 6 contains relevant matters as they relate to maintaining public open space, recreational qualities and efficient use of occupied sites.

166. The layout of the spat catching farm allows for 50 metre access ways between each farm block. Provision has been made for 25 metre spacings between longlines to provide public access for vessels to pass through and also provides opportunity for recreational fishing from boats as sought by Objective 4 and Policy 6(2(b).

167. The MSP identifies that recreational use of this area for fishing is low. It lies inshore from the main north-south yacht cruising routes and adjacent to high intensity

trawling and moderately intensity longline fishing areas. The proposed farm will be lit with navigational lights and marked with orange floats in accordance with Maritime NZ requirements to indicate its presence to other coastal users to mitigate any potential effects on these users.

168. As assessed in Section 6.4 of the AEE any potential adverse effects on public access, the use or navigation in this area of the CMA will be less than minor. As such the proposed spat farm is considered to support the intent of Objective 4 and Policy 6(2(b) of the NZCPS.
169. Furthermore, with regard to Policy 6(2)(e), the proposed marine farm is an efficient and effective use of space for the purpose of sustainably catching mussel spat from within the coastal marine area while also creating potential recreational fishing opportunities for other marine users.

8.5.7 Water Quality

170. Policies 21 and 23 of the NZCPS contain directives on managing water quality and discharges in the coastal environment. The proposed spat farm activity will have minimal effect on the water quality of the area as it seeks to capture spat which are filter feeders reliant on phytoplankton that occurs naturally in the water column. Once caught, the spat ropes will be removed and transferred to other mussel farms to on-grow, reseed onto mussel rope for growing to harvestable size. Spat catching is seasonal, occurs over a limited time and is unlikely to alter or change water quality parameters or result in any detectable discharges into the coastal waters. The proposed spat catching farm is considered to be consistent with the directives of Policy 21 and 23 of the NZCPS.

8.5.8 NZCPS Assessment Summary

171. In considering the above objectives and policies, there is a strong directive for enabling aquaculture to be established in the coastal marine area where it does not result in any significant adverse effects.
172. In my opinion, the proposed area subject to this spat catching marine farm application is an appropriate use in this area as it will have negligible to less than minor effects on benthic ecology, water quality and public access and navigation. I considered that this application is consistent with the directions of the NZ Coastal Policy Statement 2010 and would meet the purpose of the Act.

8.6 Hauraki Gulf Marine Park Act 2000

173. Sections 7 and 8 of the Hauraki Gulf Marine Park Act (2000) (HGMPA) have the effect of an NZCPS. This Act promotes a co-operative approach to the integrated and sustainable management of the Hauraki Gulf. This Act recognises the importance of the Hauraki Gulf and the diversity of the marine ecosystem and the wide values and uses people have of the area.
174. Section 7 recognises the national significance of the Gulf and emphasises the life-supporting capacity of the Gulf and in particular identifies that this:

“...includes the capacity -

(a) to provide for the ... relationship of the tangata whenua of the Gulf with the Gulf ... and the ... wellbeing of people and communities,

(b) to use the resources of the Gulf ...for economic activities and recreation...and

(c) to maintain the...water and ecosystems of the Gulf”.

175. The proposed spat catching activity will catch mussel spat on spat ropes to be transferred to the applicant's or other consented mussel farms within the Coromandel/Firth of Thames. It is the first stage in mussel farming and is required to support the significant mussel farm industry within the Gulf and Firth area. The proposed use of the coastal marine area to catch and supply spat is a sustainable use of the coastal resource. Spat catching is necessary to maintain supply to mussel farms which in turn supports economic activity of people and communities employed in the industry.

176. Section 8 identifies the management objectives. These relate to a range of environmental, Maori and community matters. Environmental and community matters have been addressed in the Section 6.0 of this application. The protection of kaimoana is one objective 8(c), and based on the assessments referred to in the AEE, it is unlikely to have any known significant adverse effects on fish, shellfish or marine mammals.

177. Sub-section 8(e) states:

“the maintenance and, where appropriate, the enhancement of the contribution of the ...physical resources of the Hauraki Gulf...to the social and economic well-being of the people and communities of the Hauraki Gulf and New Zealand”.

178. Mussel spat catching provides an opportunity to provide locally sourced, naturally occurring mussel spat to local mussel farms and provides an opportunity to enhance the social and economic wellbeing of people and communities of the Hauraki Gulf as discussed in Section 6.7 above. This also directly reflects Policy 8 of the NZCPS 2010.

179. It is considered that the application is consistent with the directions of this NZCPS, as set out in the Hauraki Gulf Marine Park Act.

8.7 Waikato Regional Policy Statement

180. The operative Waikato Regional Policy Statement (2016) (RPS) is a second generation policy statement providing the overarching objectives and policies for integrated management of the region's natural and physical resources. The Regional Policy Statement must give effect to National Policy Statements, including the NZCPS and Sections 7 and 8 of the Hauraki Gulf Marine Park Act 2000.

181. Of particular relevance to this application are Chapter: 3 – Objectives; Chapters 4 - Integrated Management; 7 - Coastal Marine Area; 11 - Indigenous Biodiversity; 12 - Landscape (including seascape), natural character and amenity and 13 Natural hazards.

182. The objectives relevant to the proposed spat catching proposal are listed below:

<p>Objective 3.1 Integrated management</p> <p>Natural and physical resources are managed in a way that recognises:</p> <ul style="list-style-type: none"> a. the inter-relationships within and values of..., the coastal environment, the Hauraki Gulf ...; b. natural processes that inherently occur without human management or interference; c. the complex interactions between air, water, land and all living things; d. the needs of current and future generations; e. the relationships between environmental, social, economic and cultural wellbeing;
<p>Objective 3.2 Resource use and development</p> <p>Recognise and provide for the role of sustainable resource use and development and its benefits in enabling people and communities to provide for their economic, social and cultural wellbeing, including by maintaining and where appropriate enhancing:</p> <ul style="list-style-type: none"> a. access to natural and physical resources to provide for regionally significant industry and primary production activities that support such industry;
<p>Objective 3.7 Coastal environment</p> <p>The coastal environment is managed in an integrated way that:</p> <ul style="list-style-type: none"> a. preserves natural character and protects natural features and landscape values of the coastal environment; b. avoids conflicts between uses and values; c. recognises the interconnections between marine-based and land-based activities; and d. recognises the dynamic, complex and interdependent nature of natural biological and physical processes in the coastal environment.
<p>3.8 Ecosystem services</p> <p>The range of ecosystem services associated with natural resources are recognised and maintained or enhanced to enable their ongoing contribution to regional wellbeing</p>
<p>3.9 Relationship of tāngata whenua with the environment</p> <p>The relationship of tāngata whenua with the environment is recognised and provided for, including:</p> <ul style="list-style-type: none"> a. the use and enjoyment of natural and physical resources in accordance with tikanga Māori, including mātauranga Māori; and b. the role of tāngata whenua as kaitiaki.
<p>Objective 3.10 Sustainable and efficient use of resources</p> <p>Use and development of natural and physical resources, excluding minerals, occurs in a way and at a rate that is sustainable, and where the use and development of all natural and physical resources is efficient and minimises the generation of waste.</p>
<p>Objective 3.13 Mauri and health of marine waters</p> <p>Recognise and provide for the mauri and health of marine waters by:</p> <ul style="list-style-type: none"> a. maintaining the following:

<ul style="list-style-type: none"> i. <i>natural character and natural function;</i> ii. <i>health and functioning of indigenous biodiversity, ecosystems and habitats;</i> iii. <i>human relationships with marine water including:</i> <ul style="list-style-type: none"> i. <i>the cultural and traditional relationship of tāngata whenua with marine waters;</i> ii. <i>harvesting of aquatic food species and mahinga kai that is safe to eat; and</i> iii. <i>recreation values including swimming;</i> b. <i>improving the life-supporting capacity of marine waters where they have been degraded as a result of human activities;</i> c. <i>to enable people and communities to provide for their social, economic and cultural wellbeing and for their health and safety; and</i> d. <i>managing adverse cumulative effects of land use activities on water in the coastal marine area.</i>
<p>Objective 3.19 Ecological integrity and indigenous biodiversity</p> <p><i>The full range of ecosystem types, their extent and the indigenous biodiversity that those ecosystems can support exist in a healthy and functional state.</i></p>
<p>Objective 3.20 Outstanding natural features and landscapes</p> <p><i>The values of outstanding natural features and landscapes are identified and protected from inappropriate subdivision, use and development.</i></p>
<p>Objective 3.21 Amenity</p> <p><i>The qualities and characteristics of areas and features, valued for their contribution to amenity, are maintained or enhanced.</i></p>
<p>Objective 3.22 Natural Character</p> <p><i>The natural character of the coastal environment, wetlands, and lakes and rivers and their margins are protected from the adverse effects of inappropriate subdivision, use and development.</i></p>
<p>Objective 3.23 Public access</p> <p><i>Public access to and along the coastal marine area, lakes and rivers is maintained and enhanced</i></p>
<p>Objective 3.24 Natural hazards</p> <p><i>The effects of natural hazards on people, property and the environment are managed by:</i></p> <ul style="list-style-type: none"> a. <i>increasing community resilience to hazard risks;</i> b. <i>reducing the risks from hazards to acceptable or tolerable levels; and</i> c. <i>enabling the effective and efficient response and recovery from natural hazard events.</i>

183. The above objectives are achieved by the following listed policies as summarised.

<p>Policy 4.1 – Integrated management</p> <p>(achieves Objectives 3.1, 3.2, 3.7, 3.9, 3.10, 3.13 3.19; 3.20, 3.21, 3.22, 3.23, 3.24)</p>	<p>Adopt an integrated long term strategic approach for sustainably managing aquaculture.</p>
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<p>Policy 4.3 Tāngata whenua</p> <p>(achieves Objectives 3.1, 3.2, 3.7, 3.9, 3.10, 3.13, 3.19, 3.20, 3.21, 3.22, 3.23, 3.24)</p>	<p>Tāngata whenua are provided appropriate opportunities to express, maintain and enhance the relationship with their <u>rohe</u> through resource management and other local authority processes</p>
<p>Policy 6.2 Planning for development in the coastal environment</p> <p>(achieves Objectives 3.1, 3.2, 3.7, 3.13; 3.19; 3.21, 3.22, 3.23, 3.24)</p>	<p>Clause 6.2c avoids the adverse effects of activities on areas with outstanding natural character, and outstanding natural features and landscapes;</p> <p>Clause 6.2d ensures that in areas other than those identified in (c) above, activities are appropriate in relation to the level of natural character or natural feature and landscape;</p> <p>Clause 6.2m provides for safe and efficient connectivity between activities occurring in the coastal marine area and associated land-based infrastructure;</p> <p>Clause 6.2n manages adverse effects to maintain or enhance water quality; and</p> <p>Clause 6.2o maintains and enhances public access.</p>
<p>Policy 7.1 Interests in the coastal marine area</p> <p>(achieves Objectives 3.1, 3.2, 3.7, 3.9, 3.10, 3.13; 3.21, 3.22, 3.23, 3.24)</p>	<p>The coastal marine area is recognised as generally being public space and its efficient use is ensured by allocating space to activities in a way that:</p> <ul style="list-style-type: none"> a. recognises the Crown's interest in the coastal marine area; b. recognises conflicting uses; c. provides for protected customary rights; and d. provides for ecosystem values as well as people's social, economic and cultural aspirations.
<p>Policy 7.2 Marine water quality</p> <p>(achieves Objectives 3.1, 3.2, 3.7, 3.9, 3.13; 3.19, 3.21, 3.22)</p>	<p>Discharges to marine waters shall be managed to maintain or enhance the mauri and health of marine water and to protect ecosystem, amenity, and tāngata whenua values.</p>
<p>Policy 10.2 Relationship of Maori with Taonga</p> <p>(Objective 3.2 and 3.9)</p>	<p>Recognise and provide for the relationship of tāngata whenua and their culture and traditions with their ancestral lands, water, sites, wāhi tapu and other taonga.</p>
<p>Policy 11.4 Safeguard coastal/marine ecosystems</p> <p>(achieves Objectives 3.1, 3.7, 3.19, 3.21, 3.22)</p>	<p>Protect indigenous biodiversity in the coastal environment by:</p> <ul style="list-style-type: none"> a. avoiding adverse effects on: <ul style="list-style-type: none"> i. indigenous taxa listed as 'Threatened' or 'At Risk' in the New Zealand Threat Classification System lists or taxa¹ listed as threatened by the International Union of Nature and Natural Resources; ii. habitats of indigenous species where the species are listed as Threatened or At Risk, are at the limit of their natural range, or are naturally rare; iii. areas containing nationally significant examples of indigenous community types; iv. indigenous ecosystems and vegetation types

	<p><i>that are threatened in the coastal environment, or are naturally rare; and</i></p> <p>v. <i>areas set aside for full or partial protection of indigenous biological diversity under legislation^[2].</i></p> <p>b. <i>maintaining or enhancing:</i></p> <p>i. <i>areas used by marine mammals and wading/coastal birds including breeding, feeding, roosting and haul-out sites (areas where marine mammals come ashore);</i></p> <p>ii. <i>whitebait spawning areas and shellfish beds;</i></p> <p>iii. <i>habitats, corridors and routes important for preserving the abundance and diversity of indigenous and migratory species;</i></p> <p>iv. <i>indigenous habitats and ecosystems that are unique to the coastal environment and vulnerable to modification and the impacts of climate change, including estuaries, lagoons, coastal wetlands, dunelands, rocky reef systems, seagrass and saltmarsh;</i></p> <p>v. <i>habitats of indigenous species that are important for recreational, commercial, traditional or cultural purposes; and</i></p> <p>vi. <i>areas of predominately indigenous vegetation in the coastal environment</i></p> <p>Recognises those indigenous ecosystems and vegetation types that are threatened in the coastal environment, including corridors and routes important for preserving the abundance and diversity of indigenous and migratory species as well as impacts of climate change require management in Regional and District Plans and marine protected areas.</p>
<p>Policy 12.1 Outstanding Natural Features and Landscapes</p> <p><i>(achieves Objectives 3.2, 3.7, 3.9, 3.19, 3.20, 3.21)</i></p>	<p><i>Identified values and characteristics of outstanding natural features and landscapes (including seascapes) of regional or district significance are protected from adverse effects, including cumulative effects, arising from inappropriate subdivision, use and development.</i></p>
<p>Policy 12.2 Preserve Natural Character</p> <p><i>(achieves Objectives 3.2, 3.7, 3.9, 3.19, 3.22)</i></p>	<p>Ensure that activities within the coastal environment... are appropriate in relation to the level of natural character and: where natural character is pristine or outstanding, activities should avoid adverse effects on natural character;</p>
<p>Policy 12.3 Maintain and enhance areas of amenity value</p> <p><i>(achieves Objectives 3.2, 3.7, 3.9, 3.19, 3.21, 3.23)</i></p>	<p><i>Areas of amenity value are identified, and those values are maintained and enhanced. These may include:</i></p> <p>a. <i>areas within the coastal environment and along inland water bodies;</i></p> <p>b. <i>scenic, scientific, recreational or historic areas;</i></p> <p>c. <i>areas of spiritual or cultural significance;</i></p> <p>d. <i>other landscapes or seascapes or natural features; and</i></p> <p>e. <i>areas adjacent to outstanding natural landscapes and features that are visible from a road or other public</i></p>

	<i>place.</i>
Policy 12.4 Maintain and enhance public access <i>(achieves Objectives 3.2, 3.7, 3.9, 3.21, 3.23)</i>	<i>Public access to and along the coastal marine area, lakes, and rivers will be maintained and enhanced</i>
Policy 13.2 Manage activities to reduce the risks from natural hazards <i>(achieves Objectives 3.2, 3.24)</i>	<i>The effects of natural hazards on people, property and the environment are managed by reducing the risks from hazards to acceptable or tolerable levels.</i>

184. In my assessment of the relevant objectives and policies in the RPS, particular reference is made to the information contained elsewhere in this application and in the supporting expert's reports in Appendices 2 and 3. Of note, the Landscape Assessment Report, identifies two ONLFs in Section 12A of the Regional Policy Statement (RPS) being "ONLF 10/2 Coastal Area of Coromandel – northern tip of the Coromandel Peninsula and western slopes of Moehau Range out to the coast" and "ONFL 5 Coromandel Range and Moehau Range" as shown in **Figure 5 & 5A respectively in Appendix 3.**
185. No outstanding or high natural character areas in the coastal environment are identified or mapped in the RPS. Section 12C Table 12-3 sets out the criteria for the identification of these areas.
186. It is considered that the proposed spat catching activity is consistent in achieving the Waikato Regional Policy Statement's Objectives and Policies, including:
- Objective 3.1 which supports Integrated management of natural and physical resources and is further supported by Objective 3.7 that requires the coastal environment to be managed in an integrated way. The proposed spat catching area provides for integrated and sustainable mussel farming by enabling the efficiencies of sourcing local spat from the proposed Colville site while reducing and minimising resource use pressures associated with the variable supply issues and biosecurity risks of spat sourced from outside the area. It also supports best practice standards and processes for aquaculture development and recognises the needs of current and future generations without compromising natural character, natural features and landscape values of the coastal environment.
 - Objective 3.2: Resource Use and Development: The proposed activity requires access to coastal space and use of coastal waters. The provision for a spat catching area to supply spat to mussel farms is an activity which is dependent on natural (mussel spat and phytoplankton, good water quality) and physical resources (water, waves and currents) present in the coastal marine area.
 - Objective 3.8 supported by Policy 11.4 which requires a range of ecosystem services of associated resource to be recognised and maintained or enhanced – to enable their on-going contribution to regional well-being.

- Objective 3.9: recognises that the relationship of tāngata whenua with the environment is recognised and provided for, including the use and enjoyment of natural and physical resources and their role as kaitiakitanga. It is noted that the views of Liane Ngamane (Ngati Tamatera) do not consider the proposal as an appropriate use in this area (**Appendix 5**). Public use will not be excluded in the coastal space being sought (Policies 10.2 and 12.4).
- Objective 3.10: Sustainable and efficient use of resources as the spat caught is naturally occurring and can be managed in a sustainable and efficient way while meeting the local communities economic and social wellbeing.
- Objective 3.12 seeks an integrated approach to the built environment, enabling positive environmental, social, cultural and economic outcome. This is supported in particular by Policy 6.2 which sets criteria for planning for development in the coastal environment. The proposed spat area can be serviced from existing facilities (Sugarloaf boatramp, and the applicants existing barges and onshore storage areas) to achieve integrated management of the spat catching area and positive community outcomes.
- Objective 3.20 (supported by Policy 12.1) requires that the identified values and characteristics of outstanding natural features and landscapes (including seascapes) of regional or district significance are protected from adverse effects, including cumulative effects, arising from inappropriate subdivision, use and development. Policy 6.2 recognises that locating activities outside areas identified as having outstanding natural character, outstanding natural features and landscapes is appropriate providing there is appropriate level of land based support and water quality is maintained or enhanced (Policy 7.2). In the Landscape Assessment, Mr Hudson considers that: *"The proposal is sufficiently distant from the ONFLs for the identified ONFLs' values to remain protected."* (**para 163 Appendix 3**). Furthermore, the proposals impact on ONFL values will be minimal, with values remaining intact. The proposal therefore achieves the intent of the Objective 3.20 and supporting policies.
- Objective 3.21 (supported by Policy 12.3) requires amenity qualities and characteristics to be maintained or enhanced. The proposal will not adversely affect amenity values. Overall effects on visual amenity is assessed as low.
- Amenity 3.22 Natural Character and Policies 12.1, 12.2 and 12.3 which requires that natural character is protected from adverse effects of inappropriate subdivision, use and development. Ecological naturalness has been assessed as low due to modified seabed, presence of other existing productive land uses (pastoral farming and forestry) and expansiveness of the coastal water of the Hauraki Gulf.
- Objective 3.23 (supported by Policy 12.5) seeks that public access is maintained and enhanced. The layout of the proposed structure and navigational aids provides access between lines and between blocks for safe public access.

187. These objectives are further supported by:

- Policy 4.1 integrated approach to resource management and application of best practice standards and processes in decision making. It recognises the need for a long term strategic approach in response to the diversity of effects and the

values of natural and physical resources including ecosystem services. It supports the need for agencies to work together and cross boundaries in achieving multiple objectives. This approach is important in managing change in the marine environment. In particular, there are potential biosecurity risks associated with sourcing spat from outside of the local area. The spat catching activity provides an opportunity to secure a local spat supply to support the local mussel production in the Coromandel / Firth of Thames area; while reducing or avoiding the biosecurity risks from unwanted plant pests or diseases being introduced from spat sourced from other outside areas. The provision to be able to collect spat locally is supported by Policy 4.1 as the policy recognises the benefits of ecosystem services that encourage nutrient cycling and food production while avoiding or minimising the risks from diseases, within the coastal environment.

- Policy 7.1 recognises that the proposed activity has a functional necessity to establish in the coastal marine area and is an efficient use of coastal space. It will not exclude public access and use of coastal waters required by Objective 3.23 and Policy 12.4 or conflict with other coastal users. This proposed activity will have less than minor effects on the benthic or marine ecology (Objective 3.19) and water quality (Policies 7.2 and 11.4) and will positively impact on people's social and economic aspirations.
188. The Ecological Report concluded that the spat catching activity would have less than minor effects on water quality which is consistent with the intent of Objective 3.13: Policies 7.2 and 11.4. It will not alter marine biodiversity (Objective 3.19 and Policy 11.4) and will not be adversely affected by natural hazards as recognised in Objective 3.24 or any potential risks expected from climate change and sea level-related natural hazards as identified in Policy 13.2.
189. These objectives and related policies identify the importance of managing the environment while also meeting the 4 well-beings. The proposed spat catching area which is subject to this application is clearly regionally significant for supporting and maintaining primary production, is a sustainable use of natural resources and efficient use within the coastal marine area, has sought to address any potential adverse effects on landscape and natural character through its location and distance offshore and is further assessed in the attached expert's landscape assessment report.
190. It is considered that the application meets these objectives and policy directives. These policy directives are also common to the Waikato Regional Coastal Plan and are therefore addressed further below. This application is consistent with the RPS and would meet the purpose of the Act.

8.8 Waikato Regional Coastal Plan

191. The Waikato Regional Coastal Plan (RCP) was made operative in 2005, with the exception of some matters relating to marine farming (subsequently made operative in part in 2007) and contains policies and methods to manage the allocation and use of coastal resources. The plan is required to give effect to the New Zealand Coastal

Policy Statement (NZCPS) and the Regional Policy Statement (RPS). However, the RCP effectively pre-dates the NZCPS and RPS, and it is currently under review.

192. The RCP identifies the proposed site being within the Coastal Marine Area (General Map 1 Appendix 6) and a "Nationally Significant Coast Environment" (General Map 3: Coastal Landscape Assessment, Appendix 6) which was established based on assessment criteria that dates back to the 1994 Revised Draft Conservation Management Strategy for the Waikato Conservancy. This document has been superseded by the by the 2014 Operative CMS which does not identify the offshore coastal environment off the western Coromandel Peninsula, north of Colville as being "significant" for conservation management. It is my assessment that the General Map 3 in the RCP is out of date and no longer relevant as it has been superseded. The map has the potential to provide uncertainty within the current Plan with respect to meaning. To avoid any invalidity, incomplete coverage or uncertainty of the meaning in the RCP, I believe it is appropriate to reference the higher order provisions in the NZCPS, RPS and Part 2 of the RMA in undertaking this planning assessment.
193. RCP Map 15 identifies one Area of Significant Conservation Value being Colville Bay as shown in Figure 2 in Section 4.1 above. This is 5.5km from the proposed spat site (Figure 2).

Chapter 6 Marine Farming

194. Chapter 6 of the Plan addresses marine farming. The Issues, Objectives and Policies in Chapter 6 of the plan recognise the importance of and support marine farming in the Waikato Region's coastal marine area. The relevant objectives and policies of the Coastal Plan are assessed below:

Objective: Development of Marine farming

Marine farming developed in an efficient and sustainable manner which avoids adverse effects on the coastal environment as far as practicable.

Policy 6.1.1 Marine farm Structures

Take a precautionary approach to marine farm development by ensuring that the erection, placement, use of, and occupation of space by any marine farm structure in the coastal marine area avoids as far as practicable any adverse effects (including cumulative effects) on the coastal environment. Where complete avoidance is not practicable, adverse effects should be remedied or mitigated.

195. The operative objective seeks to ensure marine farm development occurs in an efficient and sustainable manner which avoids adverse effects on the coastal environment as far as practicable. The proposed spat catching site has been selected based on criteria to avoid potential conflicts with a range of other uses (commercial, recreational, ecological and tangata whenua) and values (natural character, landscape, amenity and cultural values) to ensure the development is appropriately located in the CMA. In the AEE above, it has been demonstrated that the proposed spat farm will have less than minor adverse environmental effects on the coastal environment and that it is an appropriate use of the area. The applicant's

intent is to operate and manage the spat catching area efficiently to supply local spat for on-growing on existing mussel farms, which is consistent with Objective 6.1 supporting marine farm development.

196. Policy 6.1.1 recognises that structures are necessary components of marine farm activities and that some adverse effects will occur from their erection, placement, use and occupation. The physical effects associated with the establishment of the proposed spat marine farm in relation to seabed disturbance and discharges to seawater associated with retrieving spat ropes have been assessed as permitted activities in Section 3.2 above. These permitted activities are also supported by Policy 7.1.1 which recognises low impact activities that have a temporary effect on the seabed are an appropriate use.

Foreshore and Seabed:

Policy 7.1.1 Low impact activities

Recognise that activities having a low impact and/or temporary adverse effects on the foreshore or seabed, are an appropriate use.

197. The effects of spat catching are presented in the AEE and the effects of the activities on natural character, coastal processes, water quality, ecology, navigation safety, and landscape, amenity, recreational and cultural values, were found to be less than minor. The Landscape Assessment concluded that due to the proposals limited visibility from land, its distance from other existing farms (9.3km), and the absence of cumulative ecological impacts, cumulative effects on landscape, natural character and visual amenity will be very low. Furthermore the collection of local spat to supply local mussel farms will not introduce any harmful organisms that would pose biosecurity risks. The spat farm as proposed is consistent with the above Policies.

Policy 6.1.2 Recreation and Navigation

Ensure marine farms are located, constructed and maintained in a way which does not compromise safe recreation and navigation.

198. The AEE (Section 6.4) assesses effects of the proposed mussel spat farm on navigation and recreation. The proposed site is not located near any mooring areas, ski lanes or boat ramps and is not in any significant navigation routes. The spat farm layout and design allows for the passage of recreational vessels to safely navigate between lines and blocks. The area occupied by spat ropes, will vary depending on the time of year and abundance of spat. At times, large areas of the farm may not have spat ropes installed while at other times it may be fully developed and occupied by spat ropes. The area will be marked and lit with navigational lights, radar reflectors and orange floats to indicate its presence and not compromise safe recreation or navigation in and around the farm as sought by Policy 6.1.2.

Policy 6.1.3 Integrated Management

Promote integrated management between marine farm operators, relevant network utility operators and all agencies with marine farming responsibilities.

199. The applicant operates their existing mussel farm activities from the Sugarloaf wharf and ramp with mussel barges moored nearby. The land-based facilities are established and no new or additional development is required to accommodate the operation or servicing of the proposed spat farm. Policy 6.1.3 seeks integrated management between coastal activities and land based facilities. There is an existing integrated network established to manage the day to day operation and ensure efficient use of land based facilities and equipment supply to support the proposed spat farm that is consistent with this Policy.

Chapter 3 - Natural Character, Habitat and Coastal Processes

200. Objective 3.1 supports preservation of natural character from inappropriate subdivision, use and development. The area subject to application is in the coastal marine area and as assessed above is not considered to be identified as regionally significant in accordance with Policy 3.1.1, nor does it meet the criteria for "Inappropriate" as set out in Policy 3.1.4.

Policy 3.1.4 Inappropriate Use and Development

Consider any application for use or development which:

- a. does not have **functional need** for location in the CMA; or*
 - b. could be located in an alternative area where natural character is already modified or compromised; or*
 - c. contributes to sprawling or sporadic use or development*
201. The location of the proposed spat catching area is not near any coastal features or landscapes or any known sites of significance to tangata whenua and therefore avoids adverse effects on these areas.
202. The spat catching proposal is further supported by *Policy 3.1.4A Use of and occupation of coastal space* as it has a functional need to be located in the coastal marine area. This use is not an inappropriate use or development, and avoids adverse environmental effects on natural character, habitat and coastal processes in accordance with Policy 3.1.4A.

Policy 3.1.4A Use of and Occupation of Coastal Space

Recognise that the use, occupation and development of coastal space is appropriate in the CMA to meet the social, economic and cultural wellbeing of communities, in particular maintaining and enhancing recreational opportunities, provided that:

- 1. Any adverse environmental effects, particularly on natural character, habitat and coastal processes, are avoided as far as practicable, and if avoidance is not practicable, adverse effects should be mitigated and provision made for remedying those effects, to the extent practicable;*
203. Policy 3.1.2 requires that adverse effects are avoided or remedied on natural features, landscapes and landforms that define natural character, and Policy 3.1.3 requires any use or development in areas identified with remote and isolated characteristics, avoids adverse effects in these areas.

204. Objective 3.3 refers to maintaining amenity values, including Policy 3.3.1 recreational opportunities and open space qualities.

Policy 3.3.1 - Amenity Values

Maintain existing amenity and recreational values, including open space qualities and coastal recreation opportunities. Seek to enhance areas where amenity and recreational values have been compromised or require improvement.

205. Objective 3.4 seeks to protect coastal processes from adverse effects of use and development. Policy 3.4.1 supports the precautionary approach for activities where the effects are as yet unknown or little understood. In the AEE the effects of the spat farm are considered to be less than minor, and therefore the precautionary approach is not relevant.
206. Policy 3.4.2 recognises coastal processes and Policy 3.4.3 Biodiversity. Water quality and benthic ecology will not be adversely affected by the presence of the spat farm as assessed in the Ecological Report and AEE above.
207. Policy 3.4.3 Biodiversity recognises the protection of biodiversity, the inter-relatedness of coastal ecology and the natural movement of biota in the CMA. The proposed spat catching relies on the natural movement of larval mussel spat and phytoplankton in the water column and is consistent with this policy.

Chapter 4 Water Quality

Objective 4.1 High water quality maintained and Policy 4.1.1 address maintaining or enhancing water quality

Policy 4.1.1 Policy - Maintaining or Enhancing Water Quality Characteristics

Identify the characteristics for which coastal waters are valued, and manage these waters to ensure that those characteristics are maintained or enhanced by avoiding, remedying or mitigating the adverse effects of activities on water quality.

208. The ecological findings confirm water quality is suitable for mussel farming and this requirement would apply to spat catching and meet the intent of Policy 4.1.1.

Chapter 9 - Public Access

209. Objective 9.1 and related policies emphasises maintaining and enhancing public access. The proposal will not adversely affect public access in the CMA or along the coast. The proposal will not adversely affect public access and therefore is not contrary to Policy 9.1.3 Pressure of public access.

Policy 9.1.3 Pressure on public access

Require mitigation measures that maintain or enhance public access where it is adversely affected by subdivision, use and development or cumulative pressures.

Chapter 8 - Natural Hazards:

8.1.2 Policy - Precautionary Approach

Adopt a precautionary approach in the assessment of coastal hazard risk and in the assessment of potential risks for coastal permit applications.

210. Policy 8.1.2 is concerned with coastal hazards and avoiding increasing the risk of harm. The structures are designed to remain in place during stormy conditions and because they float in the water are unlikely to be affected by earthquakes tsunami or sea level rise. The proposed spat structures would be inspected as part of general maintenance and any equipment failures would be remedied and repaired.

Chapter 2 - Tangata Whenua Perspective

Objective 2.4 Tangata Whenua Relationship with the Coast

Recognise and provide for the special relationship which tangata whenua have with the coastal environment.

Policy 2.4.1 Kaitiakitanga

Have particular regard to the tangata whenua role as Kaitiaki, and provide for the practical expression of kaitiakitanga by tangata whenua in the CMA.

211. Objective 2.4 and Policy 2.4.1 recognise the special relationship tangata whenua have with the coastal environment and seeks to enable the practice of kaitiakitanga in the CMA. The email received from Liane Ngamane (Ngati Tamatera) is in contrast to the MSP (refer section 8.10.1) and consultation was not able to be progressed to better understand or resolve Ngati Tamatera's objection to the proposal.
212. In the above assessment against the relevant Objectives and Policies of the Regional Coastal Plan, particular reference is made to information contained in this application and the supporting expert's reports.
213. In my opinion, this application is consistent with and meets the objectives and policies of the RCP.

8.9 Thames Coromandel District Plan (Operative and Proposed)

214. The Thames Coromandel District Council (TCDC) manages the inland coastal environment above mean high water springs (MHWS) and is currently operating under two District Plans. These are the operative District Plan (2010 and under review since 2012) and the proposed District Plan (Appeals Version; July 2016 - updated & amended as at 13 August 2018). Parts of the proposed District Plan are subject to appeal, including those matters relating to landscape and natural character. For those provisions under appeal the provisions of the operative plan have legal effect.
215. The operative District Plan Map (10/01; **Appendix 6**) for the Moehau Planning Area identifies the land adjacent to and inland from the coast as being in the Coastal Zone with the hinterland zoned Rural inland of Colville Bay through to Waiaro and a mix of Rural / Conservation Zones further north. The Planning Map does not identify any

Outstanding Natural Landscapes and Features (ONFL), Outstanding Natural Character (ONC) or High Natural Character (HNC) areas along the coastal environment north of Colville and this reflects the age of the operative plan.

216. In this assessment, and the attached Landscape Assessment (**Appendix 3**) regard has been given to the planning maps and provisions in the proposed District Plan with respect to identifying ONFL, ONC and HNC Areas as the proposed mapping is based on more up to date assessment methodology than that of the operative District Plan Maps. However, as these are under appeal less weight has been given to them in my assessment as they are subject to change, and currently inoperative.
217. The TCDC proposed District Plan (Appeals Version) shows the Coastal Environment adjacent to the proposed site on Maps Series 1, 2, 5 and 6 (**Appendix 6**). The land adjacent to and inland from the coast is identified as being in the Rural Zone (Zone Maps 1, 2 & 6 (**Appendix 6**) with the hinterland zoned Conservation inland and north of Waiaro (Zone Maps 1, 2 & 6).
218. The Overlay Maps identifies areas of ONFL in parts adjacent to the coast (generally opposite the site) forming the northern tip of the Coromandel Peninsula and western slopes of the Moehau Range out to the coast and the Motukawao Group of Islands to the south of the site. Two areas of ONC at Te Whau Point (coastline and coastal hill country) and Motukawao Group of Islands; and four HNC areas being: Coastline and coastal hill country north of Waitete Bay through to Tukituki Bay; Takawhero Point; Moehau Range margins north of Te Kawau Point; and Moehau Range margins north of Hope Stream (**Appendix 6** TCDC Planning Maps), which are all subject to appeal.
219. Given the age of the RCP, and the fact that it is under review, the Landscape Assessment (**Appendix 3**) has drawn from more up to date landscape information contained within the proposed TCDC District Plan (Appeals Version) and the non-statutory "Natural Character Study of the Waikato Coastal Environment" 2016 prepared by Boffa Miskell for evaluative research with regard to existing characteristics and values in identifying areas of high, very high and outstanding natural character in the proposed area. I concur with this approach.
220. The proposed District Plan addresses the coastal environment in Chapter 7 and acknowledges that activities such as aquaculture are dependent on natural and physical resources and are important for social, economic and cultural wellbeing of people and communities. Objective 1 is enabling with respect to use and development of the coastal environment, while maintaining biodiversity values, preserving the natural character, natural features and landscape values of the Coastal environment.
221. Section 7A addresses natural character of the coastal environment and Objective 1 recognises that there are different levels of natural character in the coastal environment. The policies focus on the values and characteristics of the area. Section 9 addresses the landscape and natural character with Objective 1 seeking to protect outstanding natural features and landscapes by avoiding inappropriate use and development and Policy 1a seeking to avoid adverse effects on the values and

characteristics of ONFLs in the landward coastal environment. Mr Hudson in his assessment considers that:

"As the proposal will not be visible from land during daylight hours, and lighting is likely to be intermittent and only very distantly visible from land, this assessment considers that land-based appreciation of the values relating to ONFL and HNC areas identified in proposed district planning documents (which relate to landform and vegetation cover) will not be affected." (para 170 Appendix 3).

Furthermore,

"Areas identified in the Proposed District Plan as ONC (Motukawau Group of Islands and Coastline and coastal hill country) are at closest 4.5 km and 5.3km respectively from the site. As such, these ONCs are considered too distant from the [proposed site to be affected. Due to the localised footprint of marine farming effects as studied elsewhere in the Firth, these ONC values will not be affected. (para 172 Appendix 3).

222. Policy 1d provides for use and development that does not contribute to cumulative adverse effects (including minor effects) that would result in degradation to values and characteristics of the Outstanding Landscape. Objective 3 seeks to protect and enhance natural character of the coastal environment and Policy 3a seeks to avoid use and development that will damage, diminish or compromise the natural appearance, functioning, biodiversity or ecological resilience within the natural character areas. The distance off-shore and the low-lying nature of the structures do not create any adverse effects on the outstanding or high value areas which will be limited due to this distance. This application is for a site located 3km offshore from the shoreline and drawing on the conclusions in the landscape and natural character assessment in Appendix 3, it is my opinion that this application is consistent with the intent of the objectives and policies of the proposed District Plan. These are currently under appeal. The operative District Plan does not identify any ONFL, ONC or HNC areas therefore it is appropriate to consider the relevant objectives and policies within the higher order Planning Documents (RCP, RPS and NZCPS) as undertaken above for assessment of the ONFL, ONC and HNC areas.

8.10 Other matters

8.10.1 Hauraki Gulf Forum: Sea Change Tai Timu Tai Pari

223. It is noted that under the HGMP Act 2000 the Hauraki Gulf Forum prepared the Hauraki Gulf Marine Spatial Plan (MSP).
224. The MSP a non-statutory plan was developed collaboratively by a Stakeholder Working Group comprising 14 members reflecting a diverse range of interests including mana whenua, environmental and conservation, commercial and recreational fishing, aquaculture, land use, farming and infrastructure. This project focused on securing a healthy, productive and sustainable resource for all users of the Hauraki Gulf. It was a partnership led by mana whenua and central and local government.

225. The MSP was released in December 2016 and updated in April 2017. An assessment of the proposal in relation to this plan is discussed below.
226. The importance of the Hauraki Gulf is recognised in the foreword, along with the importance of kaitiakitanga for mana whenua. This application meets the vision of the MSP, which in brief states:
- “Tikapa Moana/ Te Moananui a Toi - the Hauraki Gulf Marine park is vibrant with life, its mauri strong, productive, and supporting healthy and prosperous communities”.*
227. The MSP identifies aquaculture as a key industry sector, which *“provides a number of social and economic benefits, including creating wealth and employment, supporting Maori development, providing for research and development, and supporting other sectors such as charter fishing and tourism”*. (Part One: Aquaculture). The MSP states the overall vision for aquaculture is that *“prosperous aquaculture positively contributes to the health and well-being of the people and environment of the Hauraki Gulf”*.
228. The stated intention of the MSP in respect of aquaculture is:
- “By 2018, have a ‘three tiered’ regulatory regime in place for aquaculture that:*
- i. Specifically enables aquaculture in identified areas where the overall social, economic and environmental benefits of aquaculture to the Hauraki Gulf Marine Park are maximised.*
 - ii. Allows case-by-case consideration of aquaculture in areas which may be suitable but which have not been identified as an area where benefits will be maximised.*
 - iii. Restricts aquaculture in areas which are not suitable for aquaculture.”*
229. The plan outlines the positive and potential adverse effects of aquaculture (which have been addressed throughout this AEE) and sets a range of objectives to meet the above goals including locating farms in appropriate places.
230. The MSP identifies seven areas where mussel farming is considered appropriate for future development. The site subject to this application is located in the vicinity of one of the areas, “Colville” which is identified in Map 5.1 as being suitable for future mussel farming and further described in “Site 7 - Colville” in Appendix 2 of the MSP (**Appendix 4**).
231. The MSP also acknowledges that these are only a preliminary guide, that growth will occur in the aquaculture industry, and that this is also appropriate.
232. To guide areas of development, the Sea Change Aquaculture Roundtable Technical Report 2 (which contributed to the development of the MSP), set out some principles for identifying suitable sites, which include:
- 1. benefits are maximised (ecological and socio-economic benefits; enabling hapu and iwi);

2. biophysical environments are suitable (good flushing/ phytoplankton available);
 3. does not impact on ecologically significant areas (e.g. reefs, sea grass beds, significant benthic habitat, feeding grounds);
 4. avoids disruption on the swell corridor (effects on popular surf breaks);
 5. located away from areas where they will adversely impact on the outstanding natural; character of the area or degrade the values of outstanding natural landscapes; and
 6. located in areas that are not subject to high levels of other uses, not on popular cruising routes or will restrict passage ways for recreational and commercial boating traffic and not popular or safe anchorages.
233. The proposed spat catching area is in a location identified in the Marine Spatial Plan as being suitable for potential mussel farm development. It is also generally located in a site deemed to be appropriate for future growth and development.
234. Based on the information provided and discussed in this application, the proposed spat catching is in an appropriate location that is consistent with the criteria and intentions of the MSP.

8.10.2 Natural Character Study of the Waikato Coastal Environment March 2016

235. Boffa Miskell Limited were engaged by Waikato Regional Council to undertake a natural character assessment within the mapped coastal environment of the region's east and west coasts. The study was in response to the New Zealand Coastal Policy Statement 2010 ('NZCPS') where Policy 13 required local authorities to map or otherwise identify (at least) areas of high natural character in the coastal environment, including areas of 'outstanding natural character'. The study has no statutory standing although is intended to support the review of the Regional Coastal Plan, and may as "other matters" under Section 104(1)(c) be considered by Council, only to measure attributes/values of Natural Character of the existing environment with regards to this application, as it has not being through any formal public consultation process.
236. This report on Natural Character has been addressed in the attached Landscape Assessment in Appendix 3. The proposed area subject to this application is not in any area identified as "Outstanding Natural Landscapes and Features" or "Outstanding" or "High" Natural Character" Areas. Further it is noted that Mr Hudson concludes that the effects of the proposal on Landscapes is *"...low at the site scale and very low at the scale of broader context"* and natural character is *"...low at both the site-scale and the scale of broader context."*

8.10.3 Marine and Coastal Area (Takutai Moana) Act 2011 MACAA

237. The Marine and Coastal Area (Takutai Moana) Act 2011 (**MACAA**), provides for the recognition of the customary rights of iwi, hapū and whānau in the common marine and coastal area. There are approximately 30 applications for Crown engagement in the Waikato region and the majority of applications are still being processed.

238. The Waikato Regional Council website and the Office for Māori Crown Relations – Te Arawhiti website information were checked and there are five customary rights areas applied for in the Waikato Region which cover areas within the Firth of Thames and Hauraki Gulf common marine and coastal areas which potentially relate to the applicant's proposed site.
239. In accordance with section 62(3) of this Act, the following groups have been served noticed by email on 30 January 2019 (**Appendix 5**) to seek their views on the application:
- Rihari Dargaville - NZ Maori Council
 - John Linstead – Te Kupenga o Ngati Hako
 - Mike Baker - Ngāti Whanaunga Incorporated Society
 - James Brown - Ngāi Tai ki Tāmaki Trust
 - Jack Ralston Wyllie – Ngapuhi Nui Tonu-Kota-toka-tutaha-moana o whaingaroa
240. Mike Baker Ngāti Whanaunga Incorporated Society made phone contact to clarify the location of the area applied for and indicated that he would discuss proposal further with the iwi representatives. At this stage, no other responses have been received from any of the iwi groups notified.

8.10.4 Hauraki Iwi Environmental Plan 2004

241. The Hauraki Iwi Environmental Plan 2004 provides a background to and identifies key resource-based issues for Hauraki Whānui. Section 3 deals with the coastal environment. The issues identified as been important to Hauraki Whānui are: coastal pollution, habitat loss, fish and shellfish depletion, loss of productive capacity, marine mammals and monitoring. The plan seeks to restore the Hauraki moana and identifies that it requires a balanced approach including:

“...production levels will need to be balanced against the present and future needs of each fishery and ecosystem.”

“...between marine farm development and productive wild fisheries, the seafood baskets of Hauraki Moana will support both the cultural and economic needs of Hauraki Whānui and local communities.”

“Marine farming has the potential for a harvest at least equal to the naturally occurring beds of 40 years ago.

242. As such the following objectives and outcomes are relevant:

Objectives:

- a) *Protect and restore coast, beach and estuarine habitats and ecosystems in the Hauraki tribal region*
- e) *To agree on siting and production levels for marine farming in Tikapa Moana.*
- f) *To establish a fully developed habitat, resource and productivity based strategy and monitoring programme for Hauraki's coastal seas.*

Outcomes

- a) *Restoration of the mauri of local ecosystems and fisheries*
- b) *Improved water and seabed quality*
- c) *Increased fisheries production from Tikapa Moana*
- d) *Fisheries and marine farming at sustainable levels in Tikapa Moana*

243. The proposed spat catching activity relies on naturally occurring spat floating in the water column, and as such it will not cause habitat loss, pollution or loss of productive capacity of the coastal waters. Local spat catching will enhance the mussel farming industry. Being locally sourced there is little to no risk of introducing new organisms into the coastal environment. Overall, I am satisfied that the proposed spat catching activity will not adversely affect coastal habitats, ecosystems or fisheries and meets the intent of the outcomes of the Hauraki Iwi Environmental Plan.

8.10.5 Waikato Regional Council Navigation Safety Bylaw 2013

244. The Waikato Regional Council Navigation Safety Bylaw 2013 (**Bylaw**) came into force on 1 July 2013. The Bylaw applies to all navigable waters in the Waikato Region, except Lake Taupo.

245. The Bylaw sets out the general duties and requirements for navigation and safety that shall be complied with by anyone operating a vessel or undertaking an activity within the coastal marine area. The bylaws cover a range of matters including:

- collisions and reporting
- speed of vessels,
- safety equipment (communication and flotation devices)
- navigational aids (beacon, navigation mark, buoy, light or other navigation aid), and
- vessel seaworthiness and identification.

246. Marine farms are structures and under the Bylaw Rule 2.4.1 sets a specific 5 knot speed restriction within certain distances of vessels, people in the water, shoreline, structures or specific areas or zones. The Rule sets out the relevant limitations as follows:

2.4 Speed of vessels in coastal and harbour waters

2.4.1 No skipper shall, without reasonable excuse in coastal and harbour waters, operate a vessel (including a vessel towing) at a speed exceeding 5 knots within:

- a) *50 metres of any other vessel;*
- b) *50 metres of any person in the water;*
- c) *200 metres of the shore;*
- d) *200 metres of any structure;*
- e) *200 metres of any vessel that is flying Flag A;*
- f) *200 metres of any other area designated by a harbourmaster for a specified use;*

- g) *any zone specified in Schedule 1 as having a 5 knot speed limit; or*
- h) *any mooring zone*

- 247. Rule 3.1 deals with wakes generated by vessels. This rule requires that operators of vessels do not generate wakes which may prevent others from safely using waterways or cause danger or risk of damage to other vessels, structures or navigational aids.
- 248. The marine farm staff who will be responsible for the operation of the marine farm are aware of their responsibilities under this Bylaw and also the Maritime Transport Act 1994. They will operate barges in a manner that complies with this Bylaw.
- 249. The proposed marine farm structure will contain all necessary operational navigational aids and lighting required to mark the spat catching marine farm area. The potential navigation effects were discussed in Section 6.4 of the assessment of environmental effects. In this assessment, it was concluded that installation of navigational lighting, reflectors and orange marker buoys would mitigate and avoid any potential navigational hazard to commercial or recreational vessels using these coastal waters.

8.10.6 Coromandel Peninsula Blueprint

- 250. The Coromandel Peninsula Blueprint Framework for our Future (Blueprint) was developed as a joint initiative between Thames-Coromandel District Council, Waikato Regional Council, Department of Conservation and Hauraki Whaanui. These four groups collaborated under the Blueprint to achieve integrated planning on the Coromandel Peninsula in recognition of the increasing pressures of growth on the District's water, land, coast and marine use. The Blueprint is an important strategy for managing growth and development in the Thames-Coromandel District for the next 20 to 50 years.
- 251. It supports many of the objectives of the Regional Policy Statement. Key elements are referred to in the policy to provide a more robust legal framework for its implementation.
- 252. The Blueprint is presented in two parts: The District-wide Blueprint and the Local Area Blueprints. The District-wide Blueprint provides an overall strategy for the district and was completed in February 2010.
- 253. Figure 3 from the Blueprint identifies the main sea routes for vessels within the Firth of Thames which are important in connecting Thames and Coromandel communities with Auckland and vice versa.
- 254. The Coromandel Ferry service is seen as a potential commuter opportunity to Auckland for work and tourism.
- 255. It supports economic growth and job opportunities. The blueprint identifies that District has the largest existing aquaculture development area in the Hauraki Gulf.

The spat catching proposal is consistent with the Blueprint's strategies in developing further growth of the aquaculture industry to support local job opportunities.



Figure 3: Showing Navigation Routes in Firth of Thames
(sourced from Coromandel Peninsula Blueprint)

9.0 ASSESSMENT AGAINST RMA PART 2 MATTERS

256. *In accordance with Section 104(1) of the RMA, this section considers RMA Part 2 matters, and assesses whether the proposed spat catching area would achieve the sustainable management purposes as set out in section 5 of the Act.*
257. Case law indicates that the appropriate starting point for assessing the Plan provisions is the assumption that the Plan has been crafted to “give effect to” the higher order documents (i.e. NZCPS and RPS) and achieves Part 2 of the Act. Only if that analysis identifies some invalidity, incomplete coverage or uncertainty of the meaning in the planning documents, would reference to the higher order provisions or Part 2 be necessary.
258. In this instance the RCP contains invalid information (General Map 3) which provides uncertainty within the current plan and clearly does not give effect to the NZCPS nor the RPS and could be considered to be insufficient for decision making. As such assessment against Part 2 matters is included in this application.

9.1 Section 5 of the RMA

259. The purpose of the RMA is set out in Section 5 which promotes the sustainable management of natural and physical resources. In terms of the enabling provisions in Section 5, the proposed spat catching marine farm will not cause the loss of any natural or physical resources. The water quality and ecosystems within the proposed spat catching site is of high quality suitable to support a spat catching operation and will supply spat for on-growing on other mussel farms, to assist in expanding the export and local market, generating foreign earnings and creating employment. Furthermore, proposed spat catching at this site will use natural resources in a sustainable manner that will safeguard the life-supporting capacity of the coastal waters and its ecology while providing opportunities for social and economic benefits to both the Coromandel and Waikato communities.
260. Section 5(2)(c) requires that any adverse effects of activities on the environment be avoided, remedied or mitigated. The proposed spat catching farm location, layout and distance offshore are considered appropriate in managing effects of the spat farm. The site is an area indicated in the MSP as appropriate for marine farming in the Hauraki Gulf, and will be laid out to allow adequate space between longlines to provide for boat navigation and recreational use. The area will be publicly accessible, physically permeable and not restrict access to coastal resources. The location of the site offshore from the west coast of Colville will have less than minor effects on ecological biodiversity, natural landscapes, features or character values of the surrounding coastal environment and therefore is considered to meet the requirements of Section 5 of the Resource Management Act.

9.2 Section 6 of the RMA

261. Matters of national importance as set out in Section 6 of the RMA and the NZCPS and RPS have been developed to give effect to these matters.
- 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:*
262. As noted above and in the attached Landscape Assessment, the effects of the proposal on natural character are considered to be low due to the distance from shore (more than 3km) and due to the confined and limited nature of the biophysical effects arising from the proposed spat catching site.
- b. *The protection of outstanding natural features and landscapes from inappropriate Subdivision, use, and development:*
263. The spat farm is located outside any Outstanding Natural Features and Landscape Area. The application does not alter the existing natural features and landscapes and is not an inappropriate use in the coastal marine area.
- c. *The protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna:*
264. The proposal is not located in, on or over areas identified in the Ecological Report as having any significant habitats or biota. Being located offshore it is not near any land with significant indigenous vegetation habitats of indigenous fauna and will not alter the ecology of Coromandel Peninsula.
- d. *The maintenance and enhancement of public access to and along the coastal marine area, lakes, and rivers:*
265. Section 6.4 provides an assessment of the effects of the proposed marine farm on public access and navigation within the CMA. The site has been positioned 3.1 km offshore of Te Whau Point to allow access along the western shoreline of the Coromandel Peninsula without impediment. Public use of the area for recreational fishing is low with a moderate to high level of commercial fishing, mainly longline fishing and trawl net fishing. The proposed marine farm will be lit and have complying navigational aids to mark the four corners and mid-points to allow identification by vessels operating in the vicinity. Public access will be provided with 25 metre spaces between longlines and 50m between farm blocks for fishing or navigational purposes. Public access is maintained with good separation from the coast, proposed marine farm site and navigational routes. In my opinion, the proposed spat catching area would have less than minor effect on public access.
266. It is considered that any potential adverse effects on public access can be remedied or mitigated by the separation distance between longlines that allows reasonable and safe access for navigation through the marine farm with minimal effects, thus maintaining public access to and along the CMA. I consider that public access is maintained and would not be unduly affected by the proposed spat catching area.

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

267. The Overlay Maps in the Regional Coastal Plan does not identify any sites or places of significance to Tangata Whenua within the proposed marine farms area. Ngati Tamatera advised that the area was significant mahinga mataitai area. The ability to access the area to enable their cultural traditions to continue will not be diminished by the proposal.

g. *the protection of protected customary rights:*

268. Section 8.10.3 identifies the iwi groups who have applied for recognise customary rights and reports on the responses received from these groups. No customary rights have been determined for any recognised customary activity undertaken in accordance with tikanga since 1840, where the iwi group has exercised the activity, in one way or another, in this locality at the time of writing this report. As such no customary rights are currently affected by the proposal.

9.3 Section 7 Other Matters

269. *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:*

(aa) *the ethic of stewardship*

(b) *The efficient use and development of natural and physical resources:*

(c) *The maintenance and enhancement of amenity values:*

(d) *Intrinsic values of ecosystems:*

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

(g) *Any finite characteristics of natural and physical resources:*

(i) *the effects of climate change*

270. Matters under Section 7 (a, aa, b, c, d, g and i) have been considered in the development of the Objectives and Policies of the NZCPS, the Waikato Regional Policy Statement and Regional Coastal Plan. These matters have been addressed in the AEE and the assessment against the relevant Objectives and Policies above which demonstrate that:

- The spat catching farm area is unlikely to affect any sites of significance to iwi nor preclude access or ability to exercise kaitiakitanga (a).
- The actual and potential effects of the proposal have been identified as being negligible to less than minor in the Ecological Report (Appendix 2) to very low to low in the Landscape Assessment (Appendix 3). Adherence to the Marine Farming Industry Code of Practice and Management Plans by the applicant and farm managers are methods that would be used to promote best practise operations and support the ethic of stewardship, in my opinion.

- The proposed marine farm is an efficient use of natural and physical resources, containing suitable water quality to support mussel growing in a defined area of coastal space (b) & (g)).
 - The maintenance and enhancement of amenity values (Section 7c), relates in particular to visual effects and the effects on fishing and other recreational activities.
 - The proposed area is located offshore and away from areas identified as having outstanding ecological values. This location is in an area which will not adversely affect benthic ecology or reef ecosystems (d). Visual amenity effects would be more pronounced from close on water views. As reported in the Landscape Assessment, the significance of adverse effects will be reduced by the scale and character of the context which is expansive, contains other productive uses and water viewers are likely to have reduced sensitivity to the proposal (e.g. commercial fishers). During the day structures would not be visible and night lighting distantly visible from viewpoints. The structures have the potential to provide a sheltered floating raft of longlines as habitat that may attract fish which enhances amenity values for recreational fishing between the marine farm lines and provides for some positive improvement in ecosystems (c) & enhances the quality of the environment which is an acceptable effect (f).
 - Section (e) and (h) are not relevant to this application.
271. Overall, the proposed spat catching marine farm application has been located in an appropriate location so as to satisfy the relevant Section 7 other matters.

9.4 Section 8 Treaty of Waitangi

272. The principles of the Treaty of Waitangi (Te Tiriti o Waitangi) for the purposes of managing the use, development and protection of natural and physical resources have been taken into account in development of the NZCPS, Waikato Regional Policy Statement and the Regional Coastal Plan.
273. The proposed spat catching area has been assessed against the objectives and policies of these documents.

9.5 Part 2 Summary

274. The proposed spat catching activity is a sustainable use of the CMA (s5 RMA) and efficient in terms of the use and development of natural and physical resources (s7(b) RMA) in the location being applied for.
275. In accordance with Part 2 of the RMA, as assessed above, it is considered that the proposed spat catching area is:
- an appropriate location to undertake the spat catching activity;
 - a sustainable use of natural and physical resources;
 - will have positive effects and benefit to the social and economic wellbeing of the local and regional (Coromandel and Waikato) communities;
 - avoids any actual and potential significant adverse or adverse effects on the environment through appropriate site selection, farm layout and its distance

offshore to avoid proximity to natural landscapes and features, public access and navigational routes; and

- the actual and potential effects of the marine farm can be avoided, remedied or mitigated by imposition of suitable resource consent conditions to manage and safeguard the life-supporting capacity of the coastal environment.

276. Overall the proposal in my opinion is in accordance with Part 2 of the RMA.

10.0 S95A & S95B OF THE RMA NOTIFICATION

277. The Waikato Regional Council is required to treat any application for resource consent to the normal test for notification under Sections 95A and 95B and the RMA.

278. In accordance with section 95A(3)(a) of the RMA the applicant requests the application to be publicly notified.

11.0 MONITORING

279. The RMA requires a description of the monitoring that would be undertaken where the scale and significance of effects are such that monitoring is required.

280. The applicant, supported by the Ecological Report, contends that the scale and significance of effects from the spat catching activity is minimal and that the level of monitoring for other marine farms (e.g. mussel farming) is not warranted. The reasons for this being:

- the application is for spat catching only
- spat catching would only occur seasonally and intermittently
- spat catching effects on marine habitats or water quality will be less than minor
- there would be no measurable spat drop or pseudo-faeces
- pseudo-faeces from spat would be microscopic
- spat has no formed shell and therefore there would not be shell drop-off.

12.0 CONSENT CONDITIONS

281. The applicant has attached (**Appendix 7**) a draft set of proposed consent conditions in accordance with S108 and 108AA of the RMA for the proposed activity, and would appreciate discussion on any suggested variances.

13.0 CONCLUSIONS

282. As noted above, the proposed area subject to this application is appropriate for spat catching from a planning perspective and also from an ecological, landscape and economic perspective. The appropriateness of the area being applied for is also supported by the assessments recorded in this AEE and the findings of the attached expert's reports, which conclude that the overall effects of the proposal on the environment are less than minor.

283. The application to undertake spat catching in this area is complementary to the existing industry in the Coromandel and wider Firth of Thames area, and would build on the existing industry base. The expansion of the applicant's operations in this area

is appropriate as they have experience, knowledge, skills and existing staff and services to support the additional spat catching marine farm activity in the specific area sought.

284. The proposed spat catching area is an efficient use of space and there is a clear functional need for the activity to be located in the CMA, which reinforces the appropriateness of this activity in this area.
285. The proposed site is not located in any area that would result in any significant conflicts with other users or uses. The farm area is located approximately 3.1 km offshore, will be lit and marked in accordance with Maritime NZ requirements, which will enable other vessels to navigate safely in the area.
286. The key conclusions of this proposed spat catching farm application are:
- In regard to consideration of the matters prescribed in the relevant provisions of Part 2 and with regard to matters in Section 104 of the RMA, the proposed marine farm would be appropriate, for the following reasons:
 - The application is made for a site within the coastal marine area that is located in the Hauraki Gulf, approximately 3.1 km west of Te Kawau Point, 5.3 km northwest of Te Whau Point and 4.5 km north of Motumakareta Island and 3.1 km from the nearest shoreline
 - The activity is for mussel spat catching.
 - The proposal will use natural resources (i.e. coastal waters and space) to capture spat in a sustainable manner. This marine farming activity will not cause a loss of the natural resources, the site remains accessible during the farms operation, and occupation of the site and its use are not been lost from any future alternative use of the site.
 - Based on the scientific report submitted in support of the application, the environmental effects of undertaking mussel spat collection at the proposed site is considered to be less than minor and acceptable.
 - Based on the landscape report submitted in support of the applications the adverse effects from the proposed area are very low to low (i.e. less than minor).
 - The application enables the development of a local and sustainable source of spat for the industry and enables growth within the mussel farming industry, with the resultant positive effects on the economic and social wellbeing of the local communities.
 - The proposed activity is consistent with the policy directives relevant to the proposed area and meets the relevant policy directives of the NZCPS, HGMPA, WRPS and RCP. This policy framework seeks to protect and/or limit the disturbance of natural environments while providing for development including reference to marine farming located in areas which are “appropriate” and which will not have significant adverse effects on areas with outstanding or high natural landscapes, features or character.

- The proposed spat catching farm will have significant positive effects including provision for a local spat supply, to support increased productivity from the existing mussel farms and thus sustaining the social and economic wellbeing of the local and regional communities.
- The proposed spat catching farm provides a means by which natural resources may be used in a sustainable manner that provides beneficial effects to the welfare of peoples and communities without any significant or permanent adverse environmental effects.

287. Overall, it is considered that the site identified for spat catching activity as proposed in this application is an appropriate location and use of the CMA. Given the assessment of environmental effects which concludes the effects of the proposed spat catching marine farm are negligible or less than minor, as well as its consistency with the statutory requirements of Section 104 and Part 2 matters, there is no reason this application should not be granted, subject to conditions.

14.0 CONSENT PROCESSING & DECISION SOUGHT

14.1 Section 42A Reporting to Council

288. This application has been made pursuant to Section 88 of the Resource Management Act 1991 (RMA) and is presented in the prescribed form and manner. The application contains all the relevant information relating to the activity including an assessment of the environmental effects of the activity on the environment as required by Schedule 4 of the RMA. Under Section 88(2), Council's Section 42A Report does not need to repeat information included in the applicant's application. Instead the Report may in accordance with S42A(1B)(a) of the RMA, adopt all the information to avoid repetition of information already included in the application as required by 42A(1A) of the Act.

289. Or alternatively in accordance with S42A(1B)(b) adopts any part of the information by referring to the part adopted. This is sought to streamline the resource consenting process and minimise costs to our client.

14.2 Decision Sought

290. It is also requested that Council grants the proposed spat catching activity, subject to conditions.

APPENDICES

APPENDIX 1 PLANS - SPAT CATCHING AREA

1A Location Plan - Overview

1B Location Plan - Proposed Site

1C Survey Plan

1D Indicative Spat Catching Area - Layout Plan & Longline

Cross-Section

1E Lighting Plan

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APPENDIX 3 LANDSCAPE ASSESSMENT

APPENDIX 4 SEA CHANGE – SITE 7 COLVILLE

APPENDIX 5 CONSULTATION

APPENDIX 6 PLANNING MAPS

Waikato Regional Policy Statement Maps

Waikato Regional Coastal Plan Maps

TCDC operative District Plan Maps

TCDC proposed District Plan Maps (Appeals
Version)

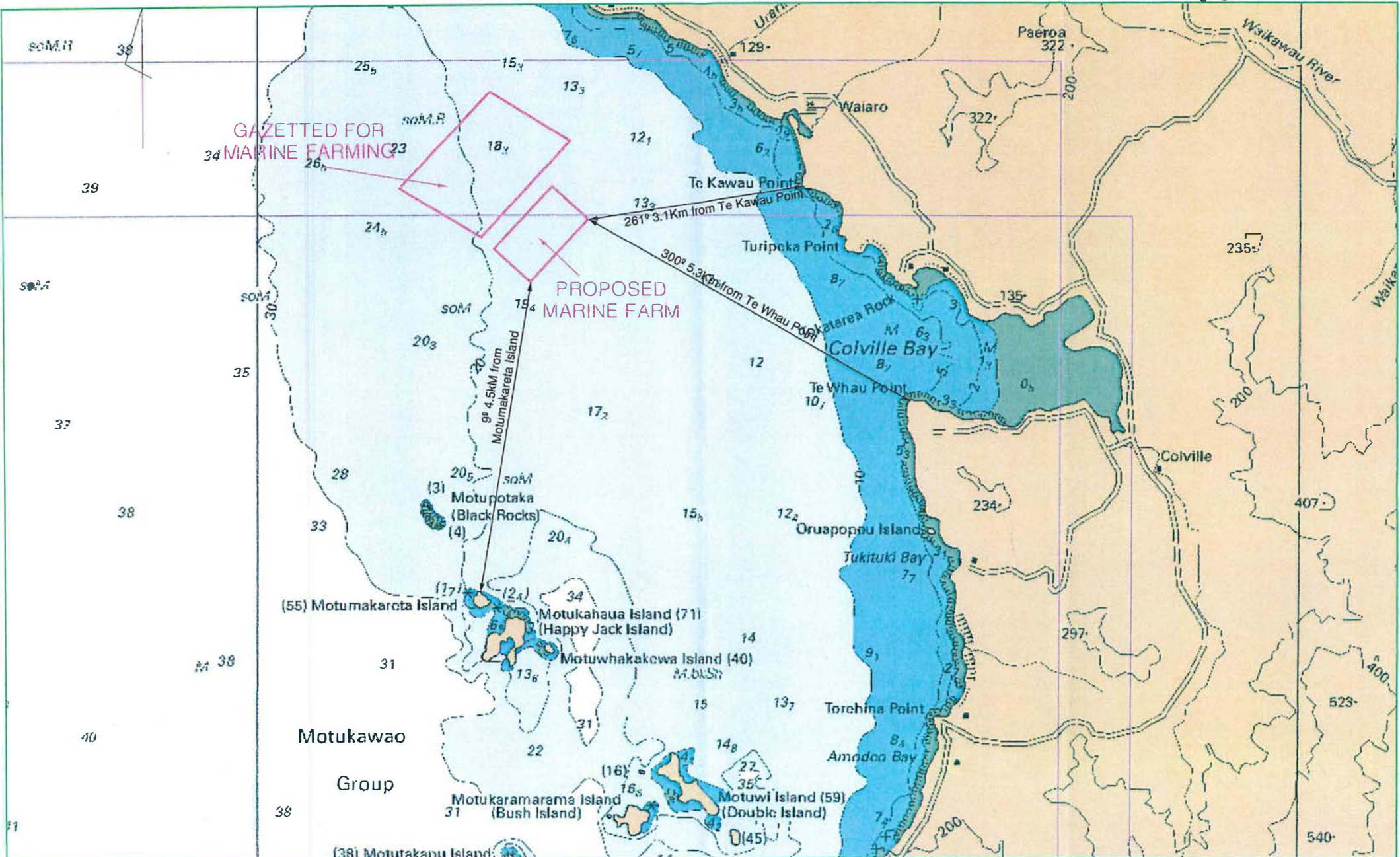
APPENDIX 7 DRAFT CONSENT CONDITIONS

APPENDIX 8 REFERENCES

APPENDIX 1

PLANS - SPAT CATCHING AREA

- 1A Location Plan - Overview
- 1B Location Plan - Proposed Site
- 1C Survey Plan
- 1D Indicative Spat Catching Area - Layout Plan & Longline
Cross-Section
- 1E Lighting Plan



OVERVIEW OF PROPOSED MARINE FARM LEGAL SHELLFISH LTD - COLVILLE

DATE	INITIAL	AMENDMENT
6.10.17	SG	EXTENSION

**DUNWOODIE & GREEN
SURVEYORS LTD**

LAND DEVELOPMENT SPECIALISTS

541 POLLEN ST THAMES

Ph (07) 668 7567 FAX (07) 668 8252

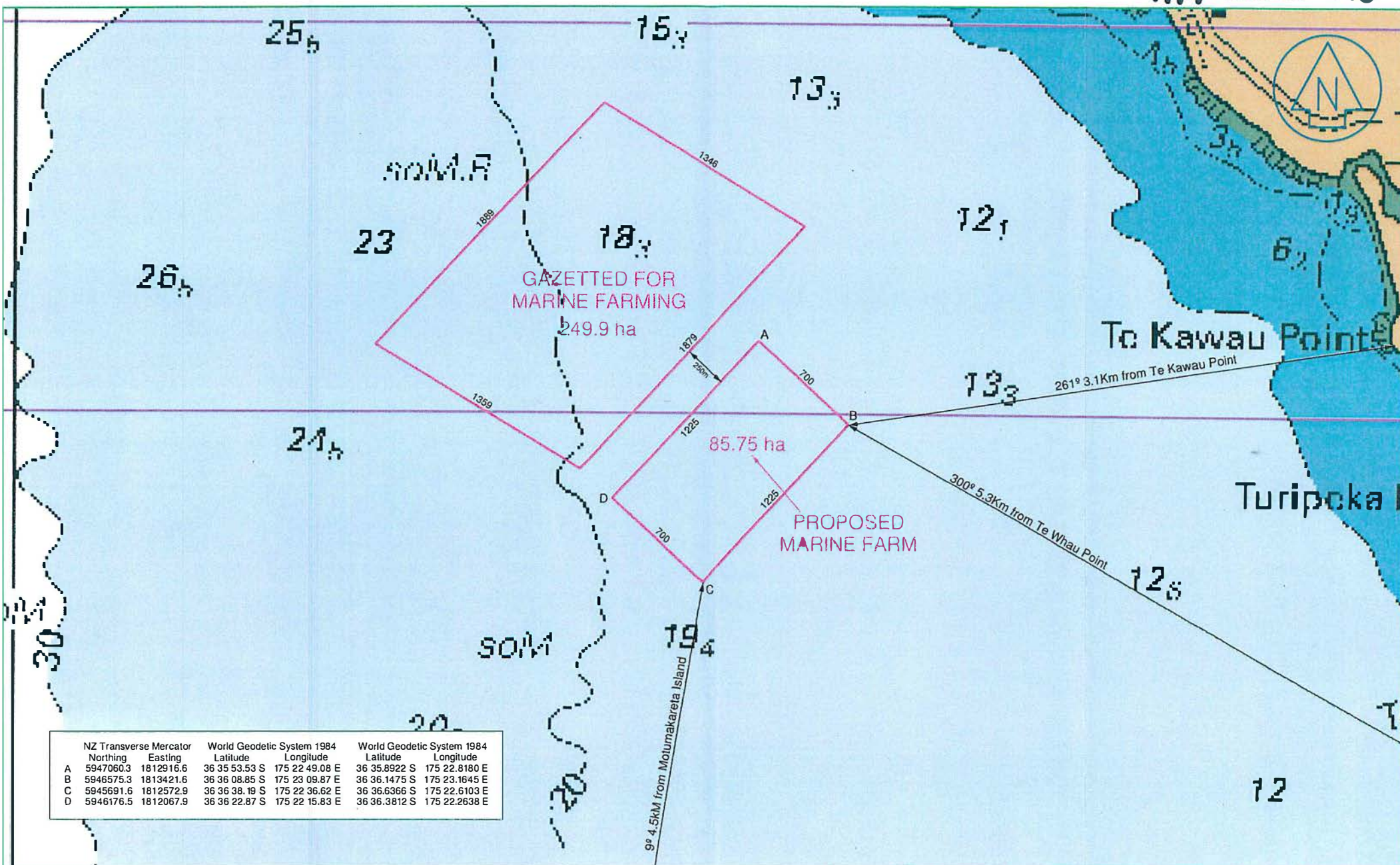
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DATE: JULY 2017

SHEET 4

FILE: **5297/5**

1/20 5297/5



NZ Transverse Mercator		World Geodetic System 1984		World Geodetic System 1984	
Northing	Eastings	Latitude	Longitude	Latitude	Longitude
A 5947060.3	1812916.6	36 35 53.53 S	175 22 49.08 E	36 35.8922 S	175 22.8180 E
B 5946575.3	1813421.6	36 36 08.85 S	175 23 09.87 E	36 36.1475 S	175 23.1645 E
C 5945691.6	1812572.9	36 36 38.19 S	175 22 36.62 E	36 36.6366 S	175 22.6103 E
D 5946176.5	1812067.9	36 36 22.87 S	175 22 15.83 E	36 36.3812 S	175 22.2638 E

PROPOSED MARINE FARM

LEGAL SHELLFISH LTD - COLVILLE

DATE	INITIAL	AMENDMENT
1.03.18	SG	EXTENSION

**DUNWOODIE & GREEN
SURVEYORS LTD**

LAND DEVELOPMENT SPECIALISTS

541 POLLEN ST THAMES

Ph (07) 868 7587 FAX (07) 868 8252

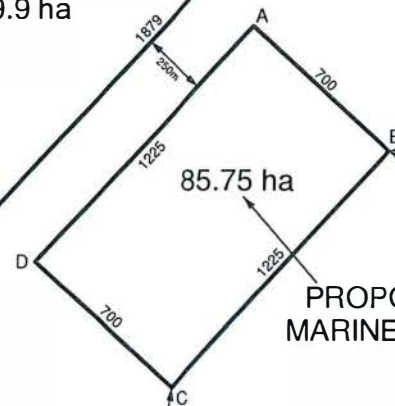
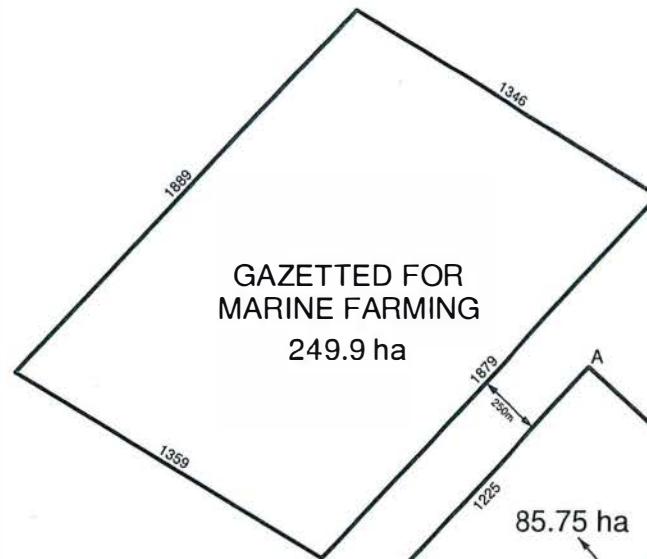
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DATE MAR 2018

SHEET :

FILE: 5297/5

MO 5297-5



261° 3.1Km from Te Kawau Point

300° 5.3Km from Te Whau Point

9° 4.5km from Motumakareta Island

NZ Transverse Mercator		World Geodetic System 1984		World Geodetic System 1984	
Northing	Easting	Latitude	Longitude	Latitude	Longitude
A 5947060.3	1812916.6	36 35 53.53 S	175 22 49.08 E	36 35.8922 S	175 22.8180 E
B 5946575.3	1813421.6	36 36 08.85 S	175 23 09.87 E	36 36.1475 S	175 23.1645 E
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D 5946176.5	1812067.9	36 36 22.87 S	175 22 15.83 E	36 36.3812 S	175 22.2638 E

**PROPOSED
MARINE FARM**
LEGAL SHELLFISH LTD - COLVILLE

DATE	INITIAL	AMENDMENT
1.03.18	SG	EXTENSION

**DUNWOODIE & GREEN
SURVEYORS LTD**

LAND DEVELOPMENT SPECIALISTS

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DATE MAR 2018

SHEET 1

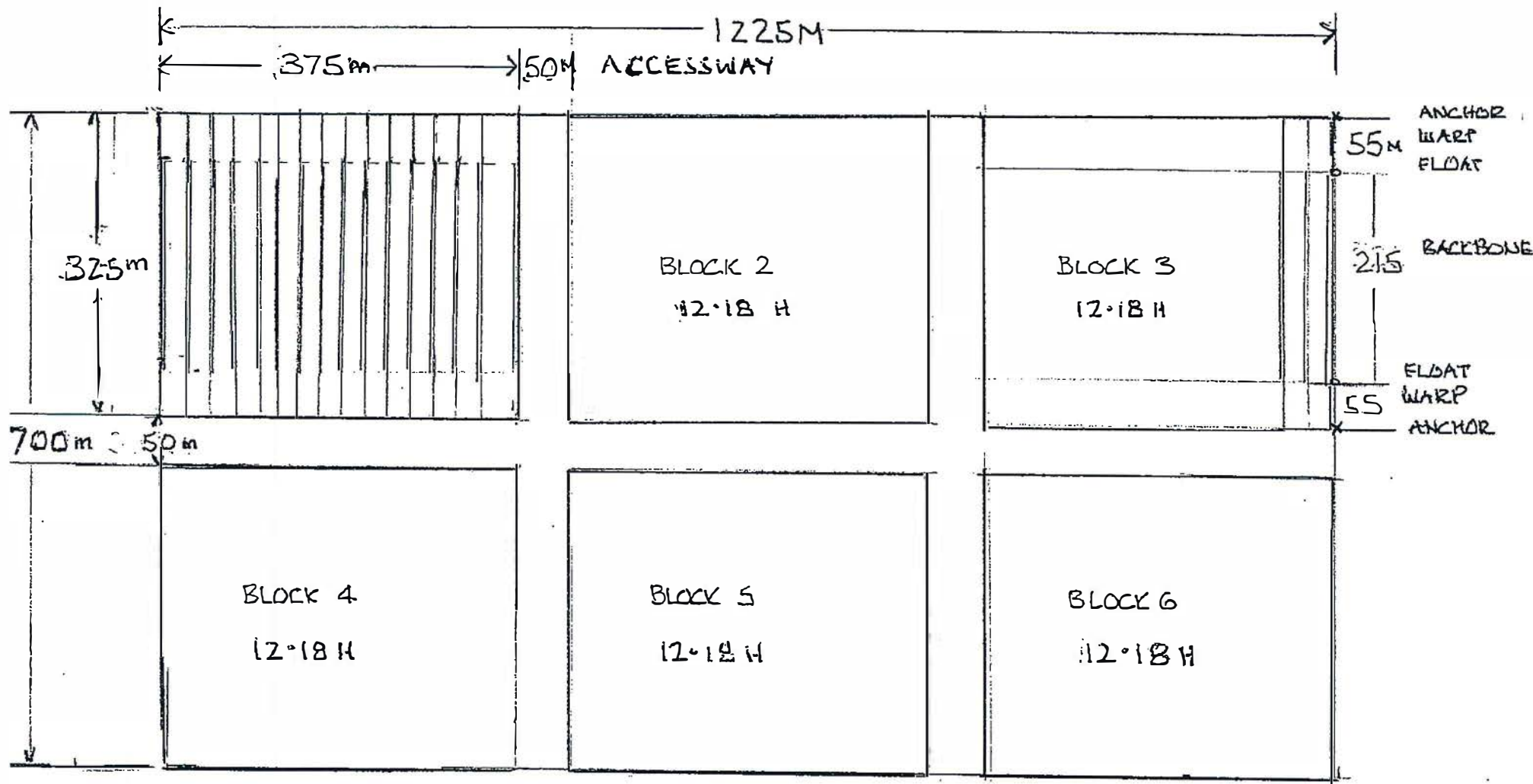
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MO 5297-5

PROPOSED MARINE FARM OFF TEKANAU POINT / NORTH OF LOUVILLE BAY
 APPROXIMATE SCALE : 1 MM = 6 METRES
 WARP RATIO : 3-1 APPROX
 ANCHORING SYSTEM : SCREEN ANCHOR LENGTH AND HELIX SIZE TO BE DETERMINED
 AVERAGE DEPTH : 20 METRES
 LINE SPACING : 25 METRES
 TOTAL # OF LONG LINES : 96 IE 16 LONG LINES PER BLOCK

TOTAL HECTARES 85.75
 TOTAL FARMABLE HECTARES 73.48

APPENDIX 10



FOR LEGAL SHELLFISH LTD

FOR LEGAL SHELLFISH LTD:

MARINE FARM LAYOUT PLAN :- SIDE VIEW

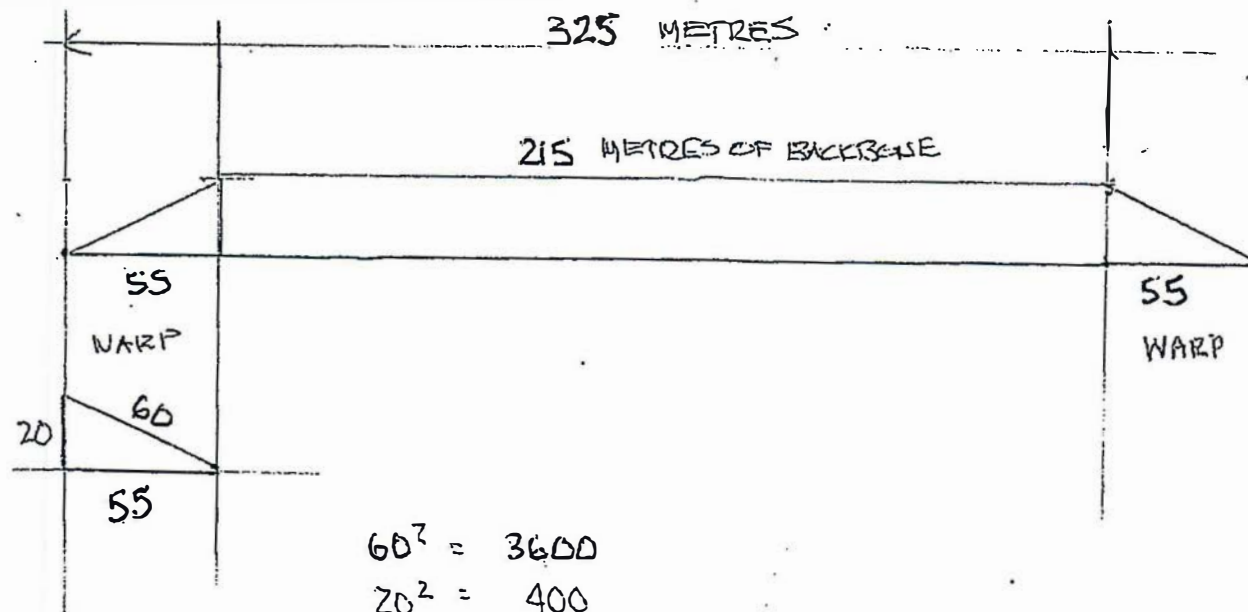
PROPOSED MARINE FARM :- OFF TE KANAU POINT - NORTH OF COLVILLE BAY

APPROXIMATE SCALE : 1mm = 2 METRES

WARP RATIO :- APPROX 3 - 1

ANCHORING SYSTEM : SCREW ANCHOR / LENGTH AND HELIX SIZE TO BE DETERMINED

DEPTH = AVERAGE 20 METRES:



$$60^2 = 3600$$

$$20^2 = 400$$

$$\sqrt{3200}$$

$$\approx 56m$$

APPENDIX 1E – LIGHTING PLAN

In accordance with the Maritime NZ Guidelines for Marine Farms (2005), the Aids to Navigation requirements for the proposed spat catching area are set out below.

For an Offshore Marine Farm the following will be required:

- Orange floats same size as backbone floats at each end of every longline and be no more than 50% submerged and maintained to be visible over the surface exposed (refer Section 6.3.1 of the Guidelines).
- The four corners (marked A,B,C,D) on the Lighting Plan require marking with "special marks" (and lights) as set out in Section 6.3.3 of the guideline (refer below).
- Radar Target Enhancers (Radar Reflectors) to be fitted at the corners A, B, C & D along with the special marks.
- In addition, to the proposed special marks (and lights) fitted to A, B, C & D, special marks (and lights) must be installed midway between A & D and B & C in accordance with the Maritime NZ Guidelines for Marine Farms (2005).

Maritime NZ Guidelines for Marine Farms (2005):

A marine farm is offshore if it is sited in coastal waters beyond 200 metres from mean low water.

Section 6.3.1 Orange coloured floats, of at least the same dimension as the other backbone floats, are to be placed at each end of every longline or line of floats; and

- (i) They must be no more than 50% submerged.*
- (ii) They must be maintained in such a condition that the orange colour is readily visible over the surface exposed to the air.*

Section 6.3.3 The corners of any site containing any offshore marine farm shall be marked using special marks that have the following characteristics:

- (i) The light must be yellow and flash 5 times every 20 seconds.*
- (ii) The light must be at least 2 metres above water level.*
- (ii) Have intensity as specified in the technical specifications at the end of this section, so as to be visible at a minimum range of 2 nautical miles.*
- (iv) For the purpose of navigation and safety, harbourmasters may require radar reflectors to be fitted on these special marks. Such reflectors (active, passive or top-mark) to be detectable at minimum 2 nautical miles.*

PROPOSED WARM FARM OFF
 APPROXIMATE SCALE :
 WARP RATIO :
 ANCHORING SYSTEM :
 AVERAGE DEPTH :
 LINE SPACING :
 TOTAL # OF LONGLINES :

TEKANAU POINT / NORTH OF COLVILLE BAY

1MM = 6 METRES

3-1 APPROX

SCREEN ANCHOR LENGTH AND HELIX SIZE TO BE DETERMINED

20 METRES

25 METRES

96

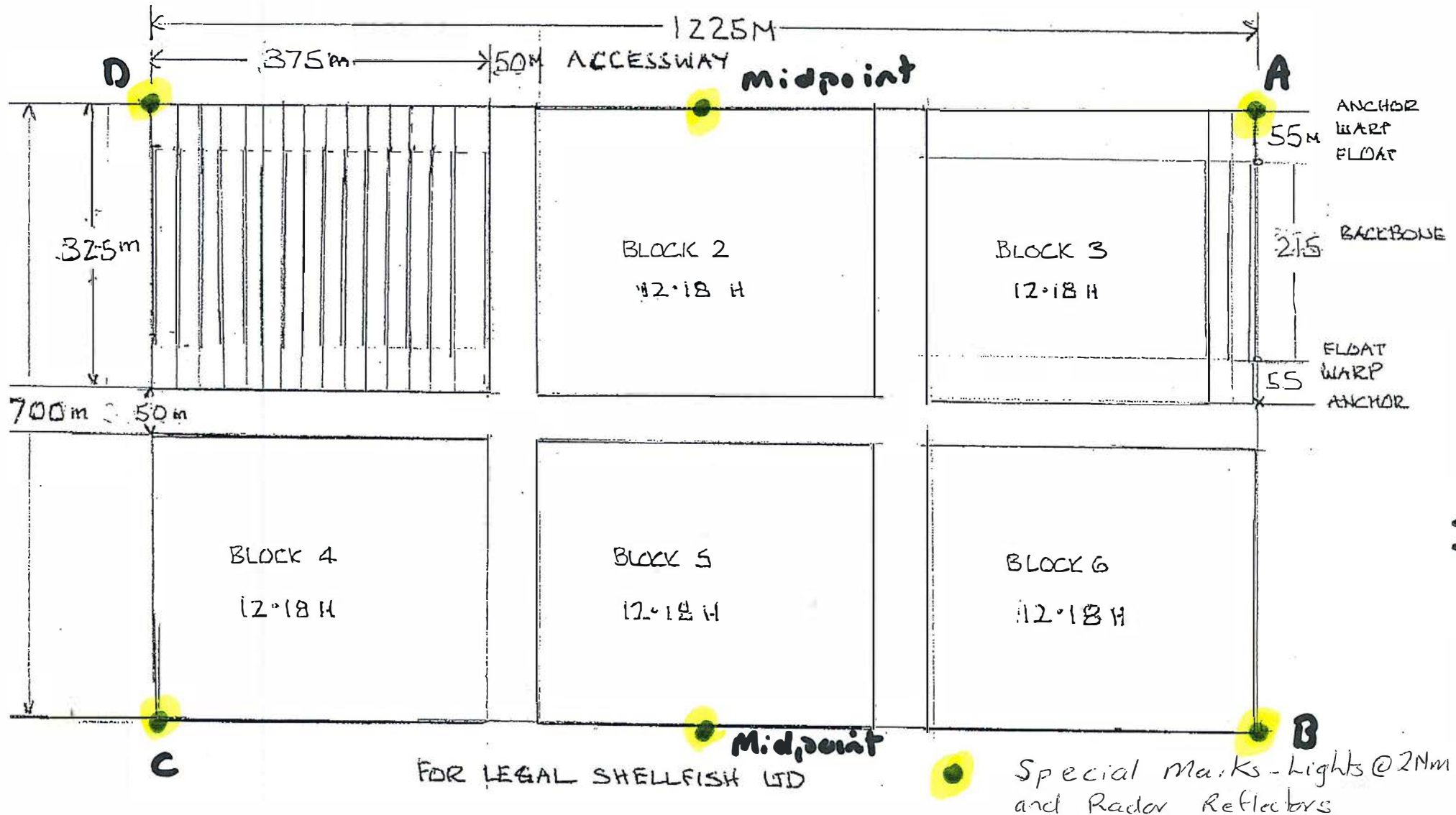
IE 16 LONGLINES PER BLOCK

TOTAL HECTARES

85.75

TOTAL FARMABLE HECTARES

73.08



APPENDIX 2 ECOLOGICAL ASSESSMENT



LAND. PEOPLE. WATER.

**ECOLOGICAL SURVEY AT A PROPOSED MUSSEL
SPAT COLLECTING SITE
NORTH-EASTERN FIRTH OF THAMES**

For Legal Shellfish Ltd

Application for Resource Consent
Ecological and Water Quality Report

November 2018

REPORT INFORMATION AND QUALITY CONTROL

Prepared for:

Mr Peter Bull

Legal Shellfish Ltd

Authors:

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**Reviewer:**

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Principal Marine Ecologist

**Approved for Release:**

Michael Lindgreen

Director

**Document Name**

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November 2018



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1 INTRODUCTION

1.1 Background

4Sight Consulting Ltd has been engaged by Legal Shellfish Ltd to assess the ecological effects associated with the proposal to operate a greenshell mussel (*Perna canaliculus*) spat collecting farm within an 85.75 ha area in the north eastern Firth of Thames (Figure 1). Legal Shellfish Ltd seeks resource consent from the Waikato Regional Council for the marine farming activities.

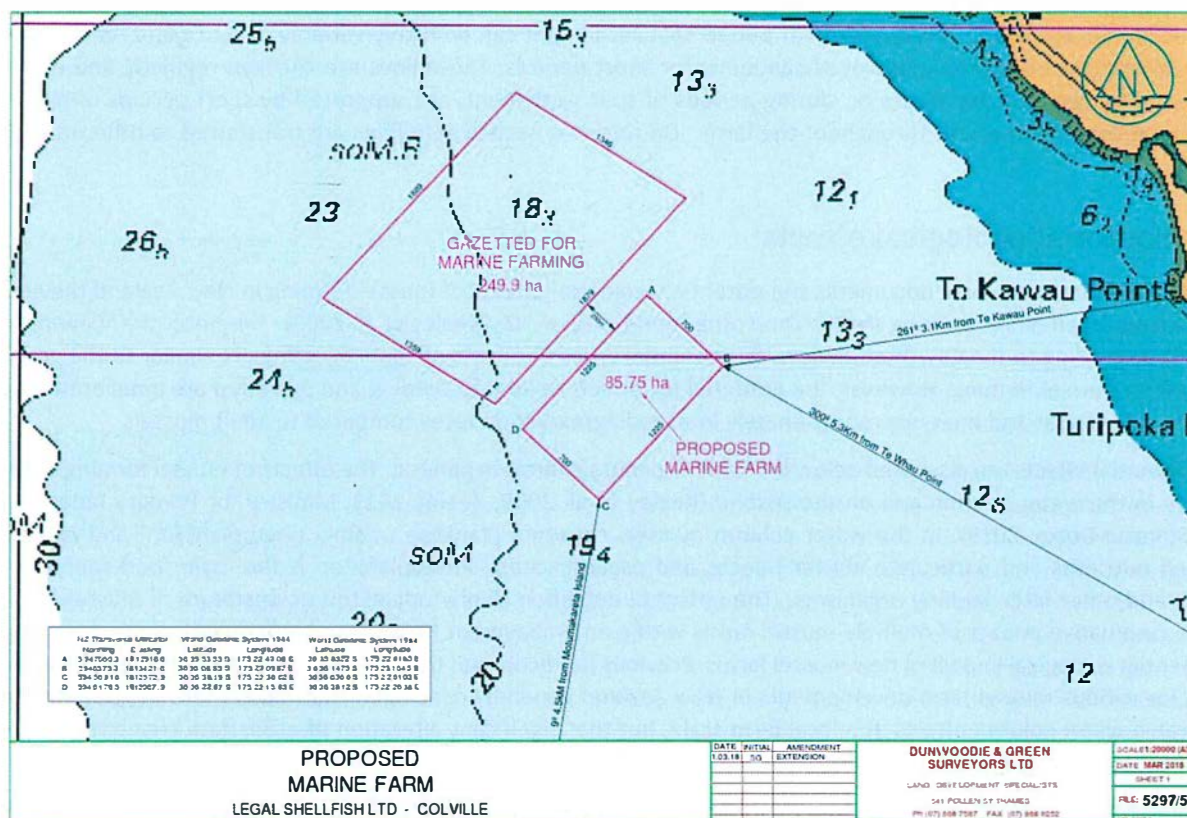


Figure 1: Proposed indicative farm location (From Dunwoodie and Green Surveyors Ltd)

The proposed spat farm is located approximately 3km to the west of Te Kawau Point in the north-eastern Firth of Thames. Water depths at the site range from ~18 m in the northeast portion to ~22 m in the southwest portion of the site. The eastern corner is 3.1 km from Te Kawau Point and 5.3 km from Te Whau Point. The southern corner is 4.5 km from Motumakareta Island. The long axis of the proposed rectangular site is orientated north-east and runs for 1.225 km. The site is 0.7 km wide. For ease of reference, the farm will hereafter be referred to as the Colville farm/Colville site.

For consenting purposes, 'spat collecting' or 'spat catching' refers to the settlement of mussel larvae onto spat collecting ropes placed within a spat catching area, after which they are transferred to mussel farms for on-growing. A detailed description of the spat catching process is provided in section 3 of the planner's Assessment of Environmental effects report.

Before the depletion of the natural mussel populations throughout most of the Firth (mainly caused by commercial dredging from the 1900's to the 1960's), there were dense beds of wild mussels in the Waimango Point area (Reid 1969, Besant and Hooker 1996). It is probable that remnant wild beds remain around the western Firth and beyond, which would provide a source of larval mussels to the proposed Colville farm. Parts of the Firth have been shown to

sustain high spat settlement. Hayden and Kendrick (1992) reported high settlement at three sites along the eastern side of the Firth and also reported a long spat season. Spat fall of up to 9000 spat per metre of dropper has also been recorded for the Wilson's Bay area (Fisheries Consultancy Services Ltd 2002).

Spat supply is a critical and at times limiting resource to the NZ mussel industry. Spat presently used to stock mussel farms in the Firth of Thames comes predominantly from Ninety Mile Beach in Northland. This spat is expensive to source and carries a high cost in terms of mortality and management and both biological and commercial risk. Any ability to collect spat close to crop farms in the Firth of Thames is advantageous as it allows reduced handling time, potentially reduced mortality of translocated spat, reduced farm and labour costs, reduced biological risks and greater fine tuning between the supply of spat and the crop farm requirements over an extended spat season

Mussel spat catching lines will be deployed over the period August/September through to April/May. Mussel spawning is unpredictable and within this deployment period spat settlement can be highly variable in space and time. A low density of test lines is typically deployed randomly for short periods. These lines are checked regularly and either retrieved after two to three weeks or, during periods of spat settlement, are supported by short periods of higher density spat rope deployment throughout the farm. On retrieval, settled spat lines are transferred to other marine farms.

1.2 Potential ecological effects

A recent authoritative review documents the potential ecological effects of mussel farming in New Zealand (Review of the ecological effects of farming shellfish and other non-fish in NZ; (Keeley et al. 2009) - hereafter the "Cawthron Review"). According to the Cawthron review, the potential types of effects of spat collecting are similar to the grow-out phase of mussel farming. However, the potential for effects related to feeding and excretion are ameliorated by the small size of spat and their disproportionately low feeding/excretion rates compared to adult mussels.

These potential effects are discussed below in relation to mussel farms in general. The effects of mussel farming occur primarily in the water column and on the seabed (Keeley et al. 2009, Keeley 2013, Ministry for Primary Industries 2013, Stenton-Dozey 2013). In the water column mussels consume plankton (mainly phytoplankton) and excrete dissolved nutrients and particulate matter (faeces and pseudofaeces). Phytoplankton is the main food source for mussels and other filter-feeding organisms. The potential depletion of phytoplankton downstream of mussel farms and the cumulative impact of multiple mussel farms within an embayment have often been considered in assessing the potential ecological impact of new mussel farms. Previous predictions of the extent and intensity of food depletion effects for various mussel farm developments in New Zealand generally concluded that mussel farming can lead to measurable water column effects at a local farm scale, but that significant alteration of ecosystem characteristics is unlikely (Keeley et al. 2009).

The main potential effects on the seabed (benthic effects) caused by mussel farming are the organic enrichment of the sediments beneath the farm, and accumulation of biodeposits, biofouling and shell debris dropping from the farm structures. These factors can cause changes to the community of organisms living on the seabed and are most obvious directly beneath the farm. Previous studies and surveys conducted in a range of environments and locations around New Zealand have found that the level of effects of biodeposition from mussel farms is generally low to moderate, and effects are usually not detectable beyond 20 to 50 m from the farm boundary (Keeley et al. 2009).

Other potential effects of mussel farming that may be considered include effects on waves and currents, interference with marine mammal migration or feeding habitat, effects on wild fish populations, and accessibility to feeding habitat of seabirds. While there is potential for mussel farms to have some influence on these aspects of the environment, such interactions generally are less common, may be of lesser significance or difficult to detect, and are less well studied than the more direct effects to the water column and seabed. The Cawthron review notes that the potential for adverse effects arising as a result of altered current and wave patterns is generally considered insignificant at the present scale of development in New Zealand. In addition, the Cawthron review notes that the scope for adverse interactions between marine mammals and shellfish aquaculture in New Zealand is low. To our knowledge only two cases of marine mammal entanglement in New Zealand waters are documented (Lloyd 2003).

1.3 Approach taken for this assessment

The ecological assessment followed the requirements for a baseline survey to support a marine farm application as stipulated in the Waikato Regional Council Coastal Plan (WRCCP) Appendix 1a (Waikato Regional Coastal Plan-on line version). These requirements are presented in Appendix A of this report. There is a substantial body of research and reports underpinning the WRCCP requirements (Forrest et al. 2015, Keeley et al. 2015) and the WRCCP identifies the information that is required to support applications for marine farming activity in the Firth of Thames region.

Our approach was to conduct the assessment of the suite of field information, largely within the context of the well-studied effects of 'mussel farming', and to emphasize that in the case of 'spat collection' those effects are expected to be even lesser in magnitude. We collected a range of synoptic survey data, such as that on Chlorophyll-a (a proxy for algal production) which allows the site and our surveys to be placed within the broader ecological picture established by other similar studies in the area. We did not extend the analysis, again using chlorophyll-a as an example, to assess such things as phytoplankton variability or depletion, given the significant amount of well researched science that has clearly established that such farm related effects are likely to be small and probably inconsequential relative to other factors.

This assessment of effects focusses on the potential effects to the benthos and water column. The field survey was designed to characterise key ecological features at the site including seabed sediment physical and chemical properties, benthic epifauna (seabed surface-dwelling animals) and infauna (animals living within the sediment). A synoptic survey of basic water quality chemistry parameters (nutrient and chlorophyll-*a* concentrations) and fundamental hydrodynamics including prevailing current conditions and direction was also undertaken.

2 METHODS

Sampling of seabed bathymetry, water quality, sediment physical and chemical characteristics, and seabed biological communities was conducted by qualified 4Sight staff and staff from the University of Waikato Environmental Research Institute aboard the vessel Tai Rangahau on the 5th of December 2017. On the day of the survey a high tide of 3.2m at 0904 hrs and low tide of 0.1m at 1513 hrs was forecast (based on tide predictions of Man O'War Bay, Kawau Island). The locations of macrofaunal, sediment and water quality sampling locations are shown in Figure 2 in relation to the proposed farm boundaries.

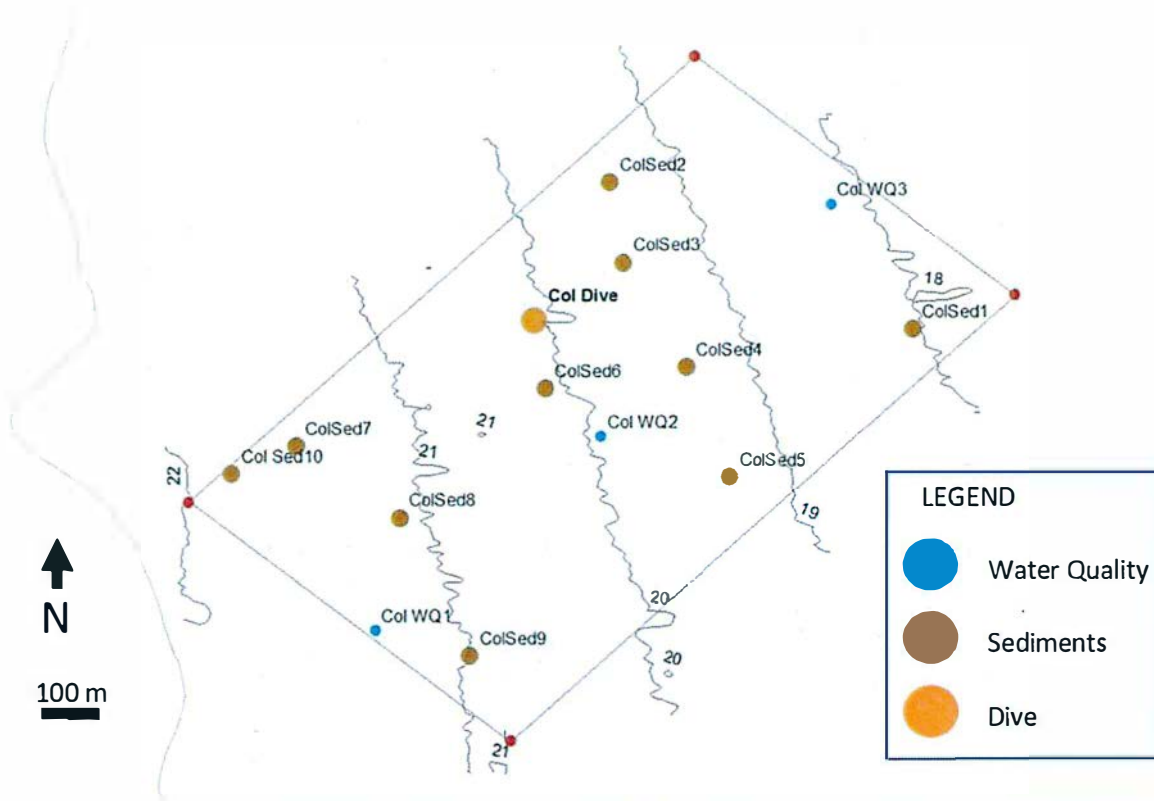


Figure 2: Location of macrofaunal, sediment and water quality sampling sites in relation to the proposed Colville spat farm

In summary:

- Seafloor biota was sampled from 10 sites (ColSed1 – ColSed10).
- Of these sites, six were sampled for sediment chemistry and samples for potential future grain size analysis were also taken and archived.
- Three sites were sampled for water quality parameters at both the surface and at mid-depth (ColWQ1 – ColWQ3).
- One site was sampled via SCUBA to make direct observations and collect three seabed cores for assessment of redox potential discontinuity layer (RPD). These samples were also archived for potential further analysis if required.

2.1 Bathymetry

To depict the bathymetry and seabed topography at the site, 40m wide side-scan sonar swaths along tracks approximately 30m apart, were made throughout the proposed site (Figure 3) using a high-frequency (800 kHz) Lowrance totalscan transducer. The position of the side-scan sonar was automatically recorded every 2 seconds along each swath from a GPS and saved in real time to a laptop on board the vessel using Reefmaster software and post-processed with Reefmaster to produce geo-referenced sidescan hardness maps (based on backscatter peak signal return strength) and isobathymetric charts that could be opened in ArcMap v10.5 GIS or Google Earth. Based on the resultant output the location of any features of interest could be determined.

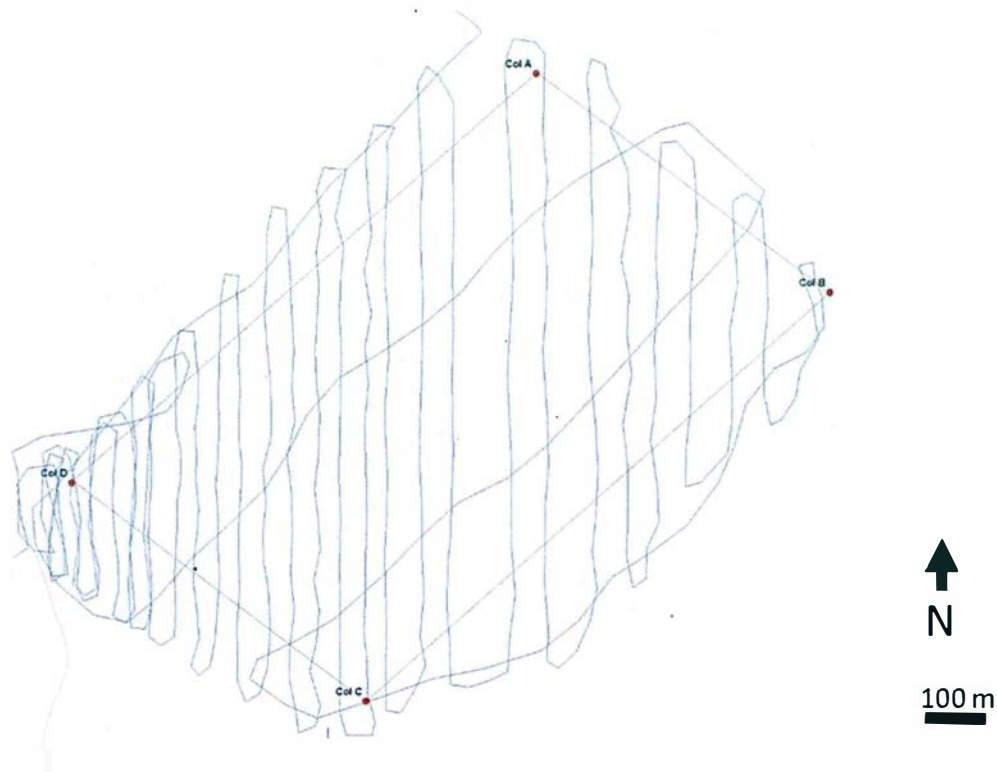


Figure 3: Track record of sonar survey in relation to the proposed Colville spat farm

2.2 Currents

A vessel-mounted RDI acoustic doppler current profiler (ADCP) was deployed along two transects running approximately east-west, and north-south through the site to broadly characterise currents at the site in a particular time and tidal state during the survey. An ADCP uses the Doppler shift to measure currents in the ocean. Data describing full water column currents were collected continuously during each of the transects. The ADCP data was post-processed using WinRiver II software (Teledyne RD Instruments) to provide a graphical output of prevailing current conditions. In addition to the ADCP transects, a single sail drogue was deployed to characterise the drift trajectory of near-surface currents at a different tidal state during the survey. It is not intended that the drogue information provide anything other than a 'spot-check' of information generated via the ADCP survey's.

2.3 Water quality

Water samples for the analysis of total nitrogen, dissolved reactive phosphorous, total phosphorous and chlorophyll-*a* were taken at the surface and at mid water at three locations (Figure 2) within the site using a Van Dorn sampler. Samples were kept chilled on board the vessel, then transferred to a refrigerator overnight and delivered to Hill Laboratories for analysis within 48 hours. Laboratory results and methods used for the analyses are presented in Appendix B:.

2.4 Seabed characteristics

Field sampling using a Ponar grab and SCUBA was conducted to describe benthic physicochemical and biological characteristics at the proposed site. The ponar grab (8.2 litres volume) was used to obtain sediment samples at 10 locations within the proposed farm area (Figure 2).

2.4.1 Sediment physicochemistry

For sediment physical and chemical analysis, a subsample of six of the 10 ponar grabs was taken from the top 2 cm of sediment of each sample and transferred to a 500 ml plastic jar. Samples were then stored chilled aboard the vessel,

transferred to a refrigerator overnight and then delivered to Hill Laboratories within 48 hrs for analysis of total organic matter, total recoverable phosphorous, total nitrogen, and total organic carbon. Laboratory results and methods used for the analyses are presented in Appendix B:. A second subsample was also taken, bagged and transported to the laboratory and stored frozen if subsequent analysis of sediment grain size distribution is required. A single dive was also conducted to obtain undisturbed sediment samples to aid in characterising sediment texture and to determine the depth of any RPD layer.

2.4.2 Infauna

Using the Ponar grab, seabed samples were obtained at 10 locations to characterise the infaunal community within the proposed site. The contents of all 10 ponar grabs (subsequent to sediment sub-sampling of the six sediment samples) were washed through a 0.5 mm sieve in the field and the retained material transferred to a plastic jar and preserved in 70% ethanol. In the laboratory, samples were spiked with Rose Bengal dye prior to the animals being separated from detritus. Individuals from these “clean” samples were then identified to the lowest practicable taxonomic level and counted by Gary Stephenson of Coastal Marine Ecology Consultants.

2.4.3 Epifauna

The epifaunal community (i.e. large animals living on, or close to the sediment surface, such as starfish and snails), was assessed based on visual assessment of the surface of the same ten ponar grabs that were taken for assessment of seafloor infauna (Figure 2).

3 RESULTS

3.1 Bathymetry and substrate type

The seabed at the proposed site was relatively flat and featureless. The water depth at the site varied from ~18 m in the northeast corner to ~22 m in the southwest corner (Figure 4).

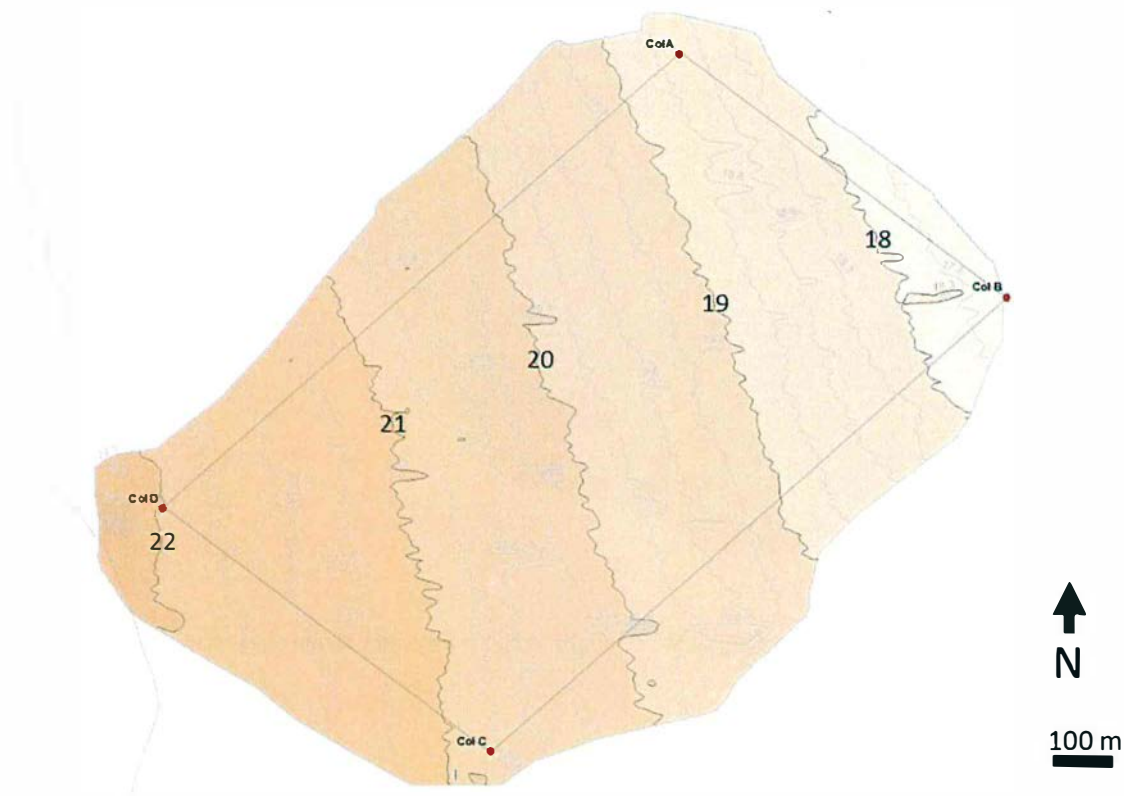


Figure 4: Isobathymetric chart of the proposed Colville spat farm generated via multibeam sonar survey. Depths in meters.

The seafloor hardness, determined via backscatter peak signal return strength (i.e. sonar reflection), is presented in Figure 5. Sonar signals sent to the seafloor are reflected in a different way depending on the composition and hardness of the seafloor. Broadly speaking, soft sediments such as mud absorb and diffuse the signal, while hard surfaces such as shell and rock reflect the signal more strongly. The hardness signature is colour coded during post-processing to represent different seafloor physical characteristics. Soft sediment, in this case mud, is recorded as green. The shades of light to darker green in Figure 6 both represent mud habitats.

The north-eastern corner of the site appeared to show a slightly different signature, but this signifies similar mud habitat and was not differentiated in terms of other seabed features sampled (i.e. texture of recovered samples or the biota). 'Harder' surfaces, such as rock, would be recorded in a sharply contrasting colour. No rock or reef was recorded.

Ponar grabs and a targeted dive survey of an area of the site that showed the most topographic variation during the sonar survey confirmed the seabed was composed of a mud to sandy mud substrate containing very low quantities of shell hash and some small gravel particles. The small variations in seafloor hardness likely represent small changes in sand/shell-hash/gravel content of the substrate. The variations could also be influenced by the distribution of biota (i.e. infauna) at the site.

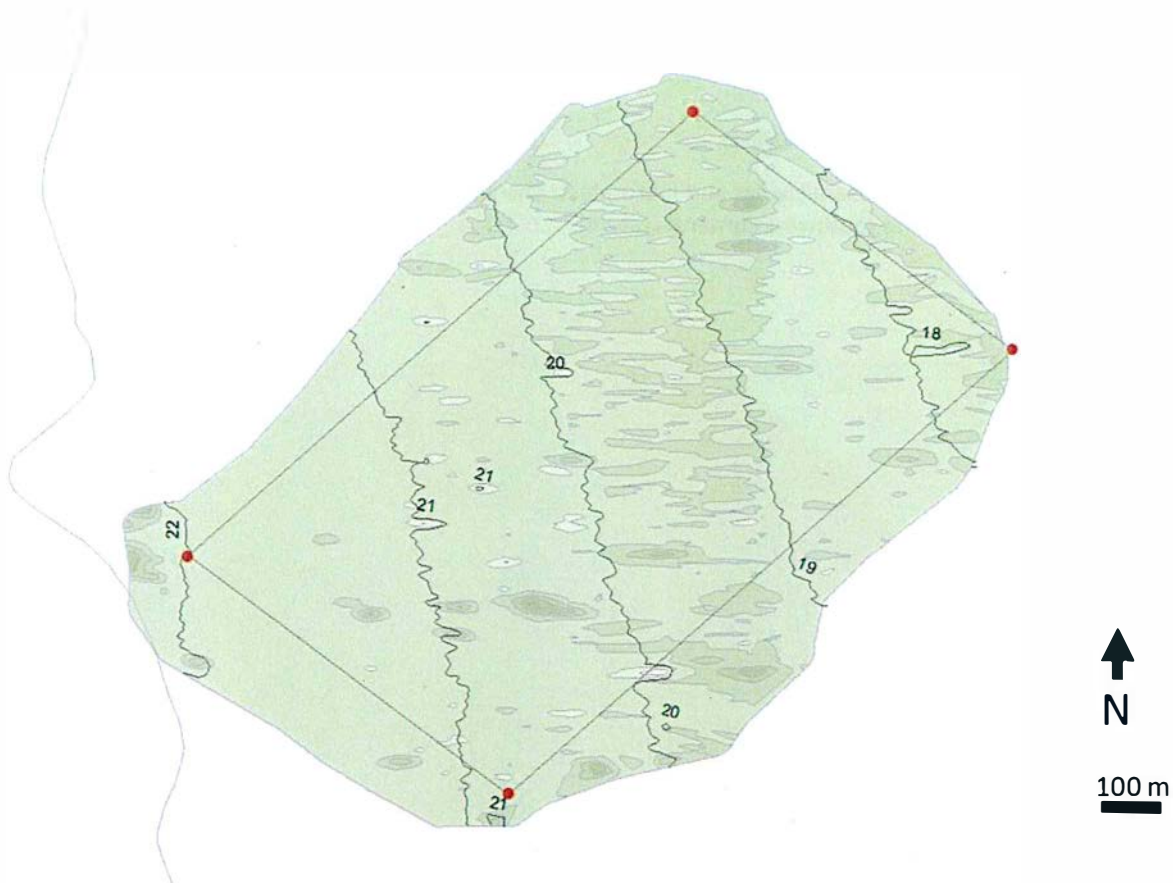


Figure 5: Seabed hardness based on sonar peak signal strength at the proposed Colville spat farm

3.2 Currents

3.2.1 ADCP transects

Vessel tracks and stick vector diagrams depict current direction and velocity data collected during ADCP transects (Figure 6). At the time of the survey (at approximately midday on 5/12/17), in the middle of the ebb phase (i.e. near peak flow), the ADCP data indicated that currents were flowing in an approximately NW direction. Average current speed during the north-south transect was $\sim 0.383 \text{ m.s}^{-1}$, and during the east-west transect was $\sim 0.378 \text{ m.s}^{-1}$ (Table 1). These data indicate that the currents at that time were relatively strong, and the site is likely to be well flushed by tidal flows.

Table 1: Mean current velocity and direction for the north-south and east-west ADCP transects

Transect	Start time	End time	Mean current speed (m.s^{-1})	Mean current direction ($^{\circ}$)
north-south	11:34.52	11:50.32	0.383	310.67
east-west	11:57:59	12:08:58	0.378	320.61

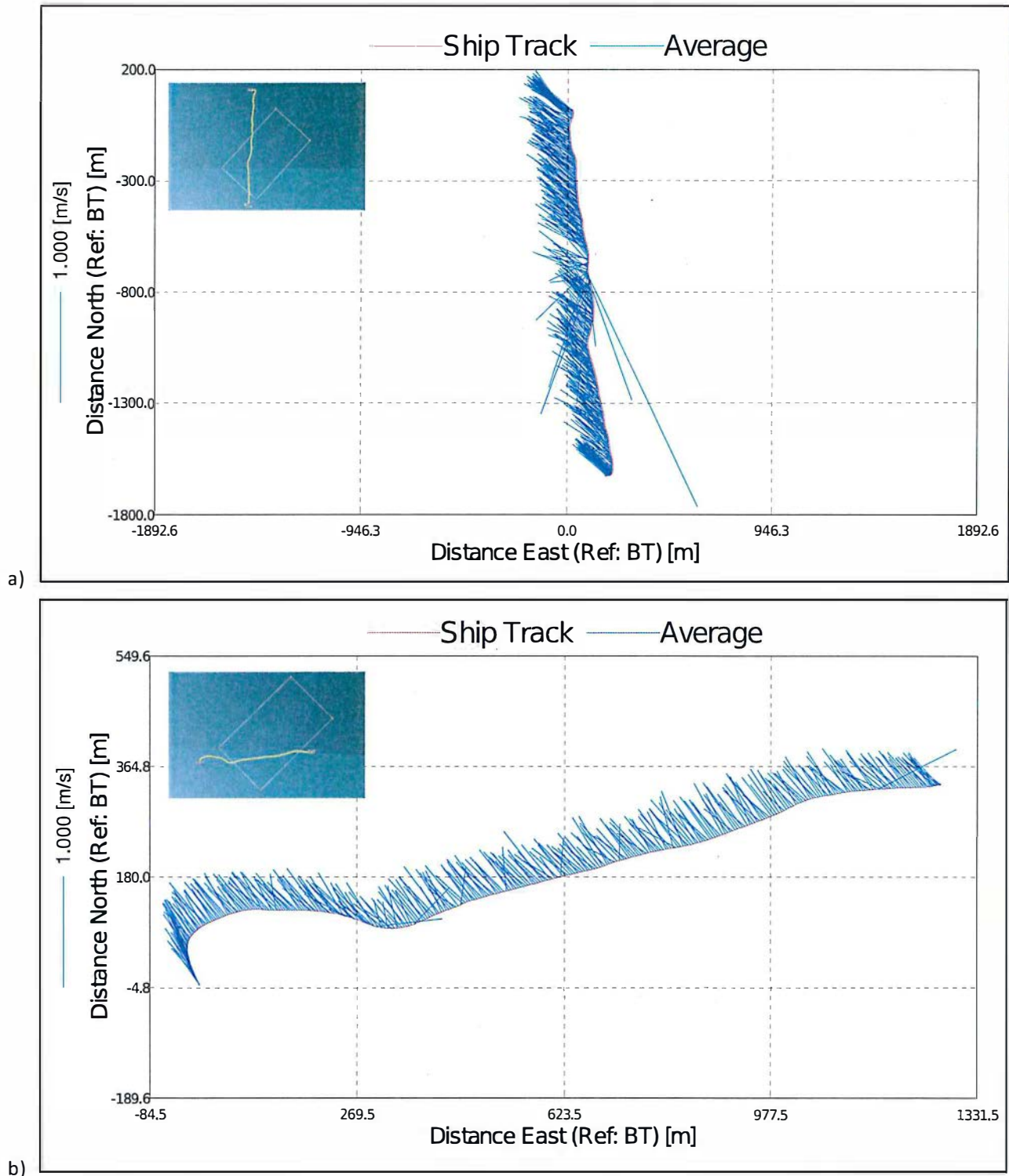


Figure 6: Vessel track and current stick vectors for ADCP transects at the proposed Colville spat farm - a) north-south transect and b) east-west transect. Yellow lines within blue insets depict track positions in relation to the site boundaries

3.2.2 Drogue deployment

A single sail drogue was deployed near the centre of the site at 1705 hrs and recovered at 1748 hrs. During this period the tide was near the middle of a flood phase (i.e. incoming at near peak flow) and there was a light easterly breeze of approximately 2 knots. The drogue travelled in a southerly direction for 715.38 metres over the duration of its deployment, indicating a near-surface southerly flow of $\sim 0.277 \text{ m.s}^{-1}$ at the site at the time of sampling (Figure 7). This is consistent with the documented tidally dominated nature of the currents in the Firth of Thames.

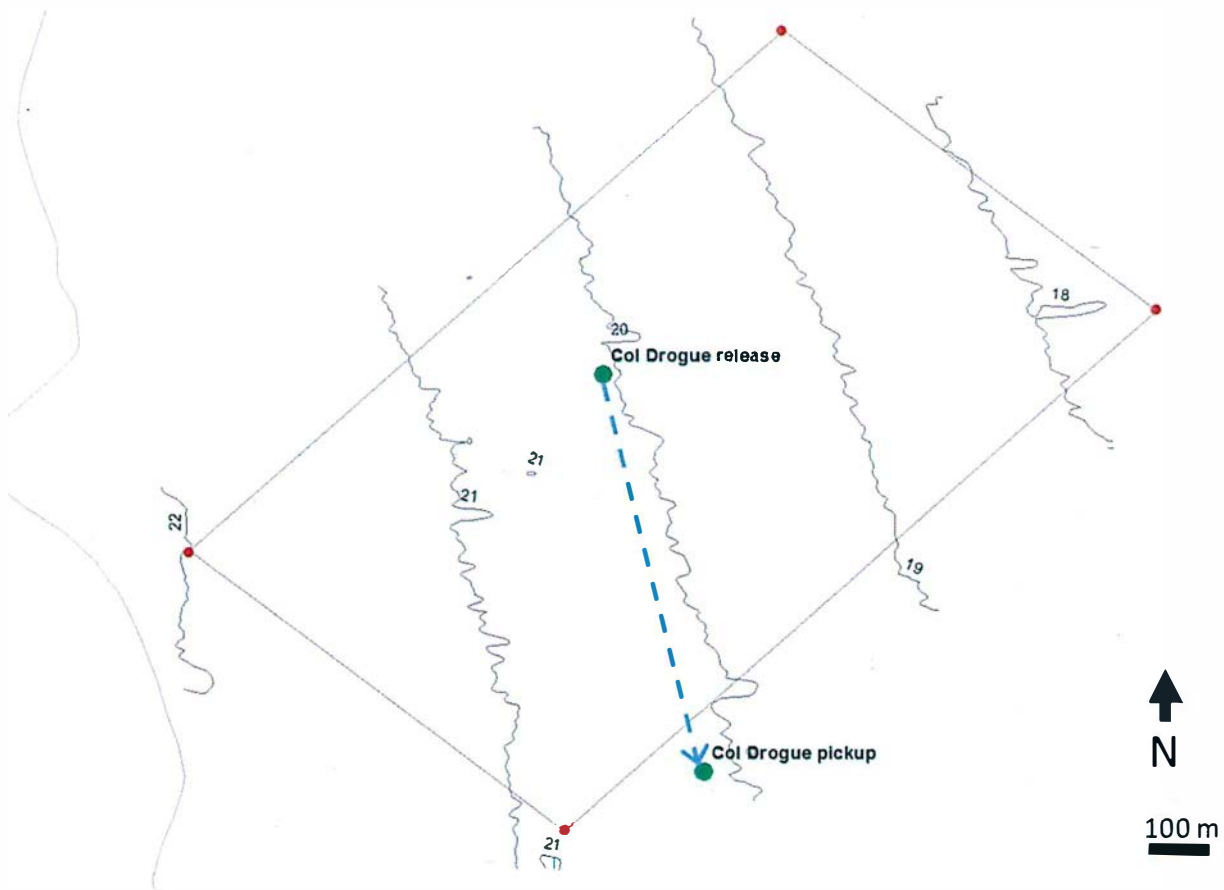


Figure 7: Release and retrieval sites for sail drogue

3.3 Water quality

Water sampling was undertaken between 1530 and 1630 hrs, over the time of low tide. (3.2m high tide at 0904 hrs and 0.1m low tide at 1513 hrs at Man O'War Bay, Kawau Island). The sea was calm with no discernible swell and a light wind from the east. Water temperature was $\sim 18^{\circ}\text{C}$ at the surface and $\sim 17^{\circ}\text{C}$ at the seafloor. It is noted that this temperature was 3 to 4°C lower than was recorded on the eastern side of the Firth of Thames in relation to survey work carried out on the following day. Results of the water quality sampling are presented in Table 2.

Salinity was consistent with well mixed open coastal waters (36 ppt).

Table 2: Laboratory results for analysis of nutrients and chlorophyll-*a* in samples taken from the surface (s) and midwater (m) at each water quality monitoring site.

Sample Name:	Colville WQ1s	Colville WQ1m	Colville WQ2s	Colville WQ2m	Colville WQ3s	Colville WQ3m
Salinity (ppt)	36	36	36	36	36	36
Total Nitrogen (g/m ³)	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nitrate-N + Nitrite-N (g/m ³)	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Total Kjeldahl Nitrogen (TKN) (g/m ³)	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Dissolved Reactive Phosphorus (g/m ³)	0.0071	0.0068	0.0076	0.0075	0.0064	0.0071
Total Phosphorus (g/m ³)	0.014	0.016	0.014	0.016	0.013	0.013
Chlorophyll- <i>a</i> (g/m ³)	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003

3.3.1 Nutrients

Nitrate (and total oxidized nitrogen) concentration was below the detection limit used in the laboratory analysis. This places recorded Nitrate concentrations at the low end of the range of values reported by Broekhuizen *et al.* (2002) for the Wilson Bay area.

Dissolved Reactive Phosphorous was present in the seawater samples at levels between 0.0064 to 0.0076 g/m³. This range is at the low end of values reported by Broekhuizen *et al.* (2002). This range is also below the ANZECC 2000 default guideline (South East Australian waters) of 0.01 g/m³ for marine waters and suggests that at the time of sampling levels of this nutrient were not elevated above the expected range.

Nutrient concentrations were consistent with the expectations for deep subtidal dominated estuaries in New Zealand (e.g. Dudley *et al.* 2017). The consistency of results among the surface and mid-water samples indicated well-mixed coastal water. All the values were below published stressor and toxicant guidelines for the protection of saltwater aquaculture species (Keeley *et al.* 2015).

3.3.2 Chlorophyll-*a*

Chlorophyll-*a* levels greater than the nominal detection limit of 0.003 g/m³ would be considered to be at the higher end of the range of values in the Firth of Thames and the Hauraki Gulf, given that previously reported concentrations ranged from 0.003 to 0.004 g/m³ in spring and 0.001 to 0.002 g/m³ in summer (Broekhuizen *et al.* 2002, James and Jamieson 2017). Zeldis (2008) reported seven annual mean chlorophyll-*a* values covering the years 2001-02 to 2007-08. Only one of those mean values exceeded the detection limit used in the present study. Hence, results in the present study are consistent and within previously reported seasonal ranges.

3.4 Seabed characteristics

3.4.1 Sediment appearance and texture

Visual assessment of grab samples showed that sediments at all stations were composed of a layer of soft fine-grained brown/grey sandy mud overlaying a harder packed layer of grey sandy mud with a component of shell hash and gravel (Figure 8). The RPD layer was indistinct in the cores sampled by divers, and the cores displayed a gradual or streaky transition from brown/grey sediment to a darker grey colour in the deeper portions of the sediment (Figure 9).



Figure 8: Representative ponar grab samples from stations Col1, Col3 and Col10 at the proposed Colville spat farm



Figure 9: Sediment cores sampled at dive site at the proposed Colville spat farm

3.4.2 Sediment chemistry

Results of chemical analyses in sediment samples are presented in Table 3. The total organic matter (TOM) content of the sediments (determined as a percentage of ash free dry weight) ranged from 9% at station Col1 to 11% at Station Col2. This is consistent with values obtained in previous studies from the Firth of Thames that reported values ranging from 4% to 11%, and mostly between 7-8% (e.g. Morrissey et al. 2016). Concentrations of total organic carbon and total nitrogen also fell within the range of previously reported values in the Firth (e.g. Giles et al. 2006). Total Nitrogen (determined as a percentage of ash free dry weight) ranged from 0.18% at station Col1 to 0.22% at stations Col2, Col4 and Col6. Total organic carbon (TOC) content (determined as a percentage of ash free dry weight) ranged from 1.22% at station Col1 to 1.56% at station Col5.

Table 3: Laboratory results for analysis of organic matter, nutrients and organic carbon in sediment samples.

Sample Name:	Col1	Col2	Col3	Col4	Col5	Col6
Organic Matter (g/100g dry wt)	9	11	10.6	10.7	10.8	10.6
Ash (g/100g dry wt)	91	89	89	89	89	89
Total Recoverable Phosphorus (g/100g dry wt)	720	750	710	700	730	700
Total Nitrogen (g/100g dry wt)	0.18	0.22	0.21	0.22	0.22	0.21
Total Organic Carbon (g/100g dry wt)	1.22	1.54	1.46	1.53	1.56	1.49

3.4.3 Infauna

A total of 42 infaunal taxa were identified from all grab samples (Appendix C:). The average taxon richness (number of separate taxa) per grab sample was 15.3, and the average abundance (number of individual specimens) per grab sample was 32.3. The most commonly sampled taxa were representatives from several families of polychaete worms (Nephtyidae, Onuphidae, Sigalionidae, Lumberinidae and Cossuridae), and small crustaceans from the orders Amphipoda, Cumacea and Tanaidacea. Brittle stars (Amphiuridae) were also commonly sampled. Taxa encountered were all considered typical and widespread in soft sediment habitat in and around the Firth of Thames (Keeley et al. 2009).

3.4.4 Epifauna

Visual assessment of ponar grabs did not reveal any large epifauna such as starfish or whelks. Organisms retrieved were similar in all ponar grabs conducted within the site. Conspicuous large bodied (macrofauna) present comprised heart urchins (*Echinocardium cordatum*), brittle stars (*Amphiura* sp.) and the tube casings of polychaete worms. Those taxa are common and widespread in the Firth of Thames and around New Zealand's coastal continental shelf (e.g. McKnight 1969, Brown and Asher 2000).

4 ASSESMENT OF EFFECTS OF PROPOSED SPAT COLLECTING FARM

Spat are 'caught' by placing frames wrapped in hairy rope, or dropper ropes, in the water column to provide surfaces that encourage larval settlement. The farm manager's aim is to synchronise spat collection with the time mussel larvae are most abundant in the water (broadly August to the following May), and then remove the spat gear with the attached spat crop for transfer to other mussel farms.

The Cawthron Review (Keeley et al. 2009) notes that 20-25% of the mussel industry presently sources its stock from designated spat catching farms, the balance being from the wild (largely from Northland beach-cast macroalgae). As noted, spat for mussel farms in the Firth of Thames is mainly sourced from Ninety Mile Beach in the Far North, at significant cost and risk.

Spat are filter feeders and hence extract phytoplankton from the water column and produce waste materials. This, along with the similar construction and positioning to grow-out farms, means spat collecting farms have the potential to cause analogous effects to full grow-out facilities, including benthic effects (e.g. deposition and enrichment), water column effects (e.g. phytoplankton depletion) and other ecosystem effects (e.g. interference with marine mammals). These are assessed below in relation to the proposed spat collecting farm. It is important to note that due to the small size of the spat in a spat collecting farm, the magnitude of the actual and potential effects is significantly less than those of a regular grow-out farm.

4.1 Benthic effects

The seabed at the proposed spat farm site is a flat, relatively featureless mud habitat that is common throughout much of the Firth of Thames. The macrofaunal assemblage inhabiting the seabed comprised common and widespread taxa dominated by deposit feeding organisms that are generally well adapted to muddy, depositional environments. The effects of mussel farming over that type of mud habitat and associated faunal communities is well documented from numerous surveys and studies conducted in the Firth of Thames and other areas around New Zealand (Cromey et al. 2002, Keeley et al. 2013). The accumulation of biodeposits (faeces and pseudofaeces), fouling organisms (organisms other than mussels growing on farm structures such as other shellfish, bryozoans, sponges and algae) and shell debris dropping from the farm structures may potentially occur (see e.g. Hayden et al. 2000). However, accumulation of significant biodeposits, fouling organisms and shell debris on the seabed beneath the proposed spat catching farm is unlikely for the following reasons:

- Operational management is most likely to be based on either a low density of spat lines, or short-term period of high density over a spatially limited area (or combinations of both strategies);
- Spat collection structures would likely be removed from the water regularly;
- The very small size of the mussel spat on the lines; and
- The water depth is ample and there is a relatively high current velocity and an exposed hydrodynamic setting. Biodeposits are therefore likely to be widely dispersed.

Field surveys based on sonar, dive and grab samples identified that the seabed at the proposed spat farm site is largely composed of poorly consolidated muds, intermixed with small amounts of gravel and detrital shell material. No evidence of reef or other potentially sensitive substrate types were documented. Even if such potentially sensitive substrates were present, given that the proposal is limited to spat collecting, there would be very low risk, if any, regarding shell drop or significant accumulation of biodeposits.

Experimental work has indicated that sites with mean current speeds $>0.1 \text{ m.s}^{-1}$ can be broadly described as 'dispersive' or 'high flow' sites (where the magnitude of deposition directly below a marine farm will be lower but the spatial extent of the footprint will be greater), and those with lesser current speeds can be considered non-dispersive (greater intensity of deposition beneath the farm, but spatial extent of footprint less) (James et al. 2001). The severity of depositional effects from mussel farming in New Zealand is generally considered to be low, and the dispersive nature of the site conferred by the relatively strong currents (measured as approximately 0.4 m.s^{-1} during field surveys) in addition to the ample water depth at the site, further reduces the risk of deposition from the spat farm causing any significant detrimental effects to the seabed.

In addition, The Cawthron Review notes in respect of spat, that the scope for enrichment effects is also mitigated by a further relevant factor. The Review notes that the energetic requirements of very small mussels are likely to be proportionate to their body mass and the feeding requirements of spat are likely to be correspondingly low. The Review comments '*... in one of the few studies that considers mussel size in relation to feeding and excretion rates (James et al. 2001), it was apparent that a non-linear (power) relationship existed. Extrapolating backwards to a c. 10 mm mussel would suggest that clearance (litres filtered/mussel/hr) and excretion rates would be very low indeed...*'

The Cawthron Review comments that monitoring results collected and reported by (Keeley and Forrest 2008) are consistent with this expectation and after four years of operation, the physical and biological properties of the sediments beneath seasonal spat catching sites (in Golden Bay) had not changed appreciably.

The Cawthron Review observes there is a [theoretical] potential for the densities of shellfish to increase beneath spat collecting structures to the point where they might cause ecological 'imbalances' and/or facilitate the spread of disease. However, the Review cites research as to natural environmental controls such as storm related sedimentation and resuspension of bottom sediments which may explain why in practice elevated shellfish densities have not been seen or observed to cause such effects.

Field surveys at the proposed spat farm site also identified that the benthic communities associated with the seabed are common assemblages and not typified by significant ecological values in terms of their biodiversity or rarity. A further consideration in relation to the low sensitivity of the existing benthic environment to mussel farming (and spat collecting) is that the present day substrate and benthic community is not indicative of the original natural state. The Firth once contained a large biomass of wild green lipped mussels (Reid 1969). This resource and the benthic ecosystem was largely destroyed by commercial dredging for mussels and along with ongoing sedimentation, the benthic ecosystem is considered to have changed, and is probably irreversibly modified.

In relation to the above, the recent field trials by the 'Revive Our Gulf' Project (to re-establish mussel beds in the Firth) is noted. That initiative has involved the dumping of many tons of live mussel on the muddy seabed off the eastern side of Waiheke Island. This has reportedly been successful to date and a healthy 'reef community' has been documented as establishing associated with the live mussel bed. Further live mussel is proposed to be dumped as part of the mussel restoration project and it is understood this has Auckland Council support. On this basis incidental loss or drop-off of spat is unlikely to be of concern in relation to the current proposal.

In summary, the common and widespread occurrence of the type of mud habitat and associated faunal community found at the proposed site, the dispersive nature of the site conferred by the hydrodynamic characteristics of the area and the relatively benign changes to the seabed ecology expected beneath the spat farm indicate that the benthic effects resulting from the proposed spat farm are expected to be less than minor.

4.2 Hydrodynamic and water column effects

The feeding activity of a farmed population of mussels suspended in the water column, removes organic material including phytoplankton, from the water column. The collective effect of the filtering by the mussels within a farm, can potentially lead to a halo of water depleted of phytoplankton (and changes to other water column properties such as nutrient concentrations) extending beyond the farm area.

The Cawthron Review notes in respect of water column effects from spat farms, that although a potential for a similar suite of water column effects exists as for grow out farms, the effects will be less because juvenile bivalves have lower rates of filtration. The Review observes that chlorophyll-*a* depletion and associated carrying capacity issues around spat farms are expected to be negligible (less than minor).

The complex and open hydrodynamic setting is another important factor in limiting any potential for cumulative changes spatially or temporally that might ultimately lead to trends that would approach a threshold of environmental concern, either in terms of benthic effects or water column effects.

The potential for sustained local scale impacts has also repeatedly been determined as unlikely to be significant. Zeldis et al. (2001) highlighted the important and dominating role of local and wider scale oceanographic influences (e.g. El NINO) on winds, currents, mixing and nutrient supply in the Firth in relation to two proposed 500 ha spat farms east of Waimango Point. These and other macro influences may override or mask local spatial and temporal effects. Various studies have observed and confirmed through measurements that the natural environment in the Firth is highly variable at a local scale and the extent and specific location of any phytoplankton depletion would likely vary day to day because of changing wind-driven circulation patterns (Stenton-Dozey et al. 2008). In relation to the Hauraki Gulf and the Firth and other regions such as the Marlborough Sounds, Stenton-Dozey et al. (2008) comment that historic data indicates there is enormous variability in plankton systems at scales of days, weeks or years and conclude that in comparison with the natural range in variability, modelled predicted impacts of mussel farming are small, particularly in the far field (i.e. at scales beyond the farmed area).

4.2.1 Colville spat farm phytoplankton effects

Taking consideration of this wider perspective, the effect of the proposed Colville application on water column and phytoplankton dynamics can be assessed.

The spat farm is to be set up in a conventional way. An overall indicative layout is presented in Appendix A of the Planner's Report. In summary, the area is 1225 m north/south and about 700 m east/west, but oriented with its major axis running NE/SW. It will be comprised of 6 farm blocks. The farm is a porous 'structure'. The indicative plan shows a 90 m central corridor through the farm, 50 m accessways between blocks, and 25 m between the lines, which will be orientated parallel to the current direction. The relatively deep water at this location (being ~18-22m) also means that there will be a significant water column beneath the farm structures and seabed. This water will be unaffected by the filtering effects of mussel spat on the farm ropes. Water passing through this deeper part of the water column may also do so at a faster rate than through the farm itself, due to the drag effect of farm structures above on water velocity. This will further encourage mixing and should reduce the extent of any phytoplankton depletion beyond the farm footprint.

Water circulation in the Firth is tidally driven with peak currents of more than 0.4 m.s^{-1} being recorded (Stephens 2003, Broekhuizen et al. 2004). Flood tides have been reported to be stronger on the eastern side of the Firth and ebb tides stronger on the western side (Stephens 2003, Broekhuizen et al. 2004). On average, 78% of the total current signal reported by Stephens (2003) was due to tidally driven currents with the remaining 22% being due to wind driven currents.

The average current velocities throughout the water column measured at the proposed spat farm site at the time of the present survey were $\sim 0.4 \text{ m.s}^{-1}$ ($\sim 0.383 \text{ m.s}^{-1}$ and $\sim 0.375 \text{ m.s}^{-1}$, during the N/S and E/W ADCP transects respectively) indicating that the site is well flushed. The tidal state at the time of the ADCP survey was near peak ebb flow, but there would likely be periods of even greater current speeds at the site at other times. The location also has a high exposure to near surface wind driven currents from all quarters and is relatively exposed to locally generated wave conditions. On that basis, residual (non-tidal) currents are likely to be highly variable. This is important as the actual location of any plume of plankton change will be strongly influenced by residual currents (Broekhuizen et al. 2004). Any phytoplankton depletion halo is likely to be highly variable and will not only change with each tidal state (ebb/flood) but also with prevailing conditions on any day. The tidal and residual currents at the site will enable good delivery of phytoplankton to mussels within the farm, and adequate mixing with the surrounding water mass thereby facilitating a rapid return to background phytoplankton concentration downstream of the farm. Mixing of waters within and downstream of the spat farm will also promote nutrient cycling and should limit the potential for sustained or significant impacts on phytoplankton production. There are no existing farms close enough to the proposed spat farm site that there is any risk of effects of phytoplankton consumption within the proposed farm affecting any other farms.

Detailed modelling and synoptic surveys of the Wilson Bay Marine Farm Zone have not shown significant adverse ecological effects in relation to phytoplankton depletion or other adverse water column effects (Broekhuizen et al. 2004). On that basis, and in combination with knowledge of other factors which are important in governing nutrient availability in the Firth (such as the complex and open hydrodynamic setting and the significant role of land derived nutrients in terms of the overall nutrient budget) the potential for off-site water column effects including phytoplankton depletion that might adversely affect other mussel farms, or the ecology of shorelines, or the wider marine ecosystem, is in our view negligible.

4.3 Other ecosystem effects

The Cawthron Review notes that mussel farms are well known to attract fish, starfish, crabs, other marine life and seabirds. In addition to growing the culture species, farms function as mid-water artificial reefs and create habitats. Artificial structures provide new foraging habitat, food sources, breeding habitat, and refuge from predators for some species. These are for the most part positive effects and they are likely also to accrue to spat collection areas.

Potential effects on marine mammals (seals, dolphins and whales) relate mainly to habitat modification, entanglement in structures and habitat exclusion. The Cawthron Review concludes that the scope for adverse interactions between marine mammals and shellfish aquaculture in New Zealand is low.

The Cawthron Review notes there are legitimate concerns regarding the proposed establishment of large offshore marine farms, particularly where these interact with seasonal migration patterns of whales. Seasonal whale migration issues are not likely to be a concern in this part of the Firth. Whale migration pathways are not recorded to directly overlap with the proposed spat farm (Lloyd 2003).

One 'resident' species that can be encountered throughout the year in the general area of the Hauraki Gulf to the north of the Firth is Brydes whale (*Balaenoptera brydei*). This is listed as having a 'nationally critical' threat status (Hitchmough et al. 2007). The Hauraki Gulf SOE report (Hauraki Gulf Forum 2014) cites records and research on Brydes whale sightings and mortality. Figure 6B of that report presents a map of sightings covering the period 2000-08. There are no records for the Colville Bay area, or other information that would suggest these whales are common in this area.

This is supported by the longer term records available through the Ministry of Fisheries database dating back to 1960s (Ministry for Primary Industries 2018). That information records that although Brydes whale is a surface feeder, it occurs mostly in waters of 40m depth or more. Most records are north of Waiheke although there are scattered records for what might be regarded as the outer Firth. The Lloyd (2003) report does note two whale deaths attributed to entanglement in mussel spat lines near Great Barrier Island in the mid 1990's.

We conclude that the risk of Brydes whale, or other whale species or dolphins becoming entangled in the proposed spat farm structures is small.

One major ecosystem feature that also requires mention is the Ramsar wetland site in the southern and southwestern Firth. This internationally recognised site contains about 9000ha of intertidal and coastal margins at Miranda. At its closest the site is more than 50km from the proposed spat farm. It has been recognised that given the localised footprint of marine farming effects as studied elsewhere in the Firth (Brownill 2008), effects on the Ramsar site are unlikely. We conclude that effects from the spat farm on the Ramsar site are negligible.

4.4 Management factors

While any potential adverse ecological or water column effects from the proposed activity are deemed negligible, they are further reduced by the likely variation in line densities throughout the year. From the backbone lines, the spat ropes are suspended in the water column at managed depths (by varying the buoy numbers) to 'capture' spat as it passes in the plankton. These are checked routinely, and usually at least twice weekly as part of normal farm operation. The checking involves both visual inspection and removal of sample lines for microscopic analysis.

This approach is possible because beyond a requirement that spat catching requires permanently placed long lines (including anchors, warps, bridles and backbones) with end floats and intermediate floats to maintain the buoyancy of the backbone line, the spat collection process itself is highly flexible. The spat collectors can be easily removed or deployed.

There will be months when no spat lines are deployed, times when a relatively low density of 'test spat' surveillance lines are deployed, and times when a relatively high density of spat collecting ropes and structures will be in the water, albeit for relatively short periods.

While spatfall of up to 9000 spat per metre of dropper have been cited for the Wilsons Bay area (Fisheries Consultancy Services Ltd 2002) spat lines are usually removed at much lower density; anything over 1000 spat per metre of dropper.

Biosecurity risk can also be considered in relation to farm management. Vessels to be used are currently operating within the Firth and will not be brought in from offshore or other regions of NZ. All structures will be new or will be removed from the waters within the spat farm and then redeployed in the same area. The high turnover of spat substrates and the short duration of immersion combined with the routine surveillance by the personnel operating the farm should facilitate detection of unusual species and limit the potential for establishment of biosecurity risk species. Potential biosecurity matters will be dealt with by a Biosecurity Management Plan, which is proposed as part of the applicants consent conditions and will have to regard the various protocols contained within industry existing guidelines and codes of practice (e.g. Aquaculture NZ Greenshell Mussel Industry Environmental Code of Practice (AQNZ 2007); NZ Marine Pest Identification Guide (Ministry for Primary Industries 2012)) as well as future codes and

response protocols that are in draft or being promulgated by the industry (e.g. the proposed Mussel Industry Biosecurity Contingency Plan and the draft “Exotic Disease Response Plan”).

5 MONITORING RECOMMENDATIONS

Schedule 4 of the Resource Management Act 1991 clause 1(i) requires that a description of proposed monitoring be provided ‘...where the scale and significance are such that monitoring is required...’

It is likely that the proposed spat collecting activity will have a less than minor effect on benthic habitats and water quality. These effects are at worst neutral and in some respects positive. Spat catching activity effects on marine habitats or water quality will be less than minor and this is supported by a significant body of related scientific research. On this basis no ecological, water column or water quality monitoring is proposed.

6 CONCLUSION

The following factors limit the risk of detrimental effects to the water column and benthic habitat from the proposed spat collecting activities:

- The site is located in relatively deep water and is subject to moderately strong tidally driven currents as well as exposure to residual wind driven currents from a wide aspect. Collectively, these environmental conditions will disperse and dilute any farm derived ‘particulates’, thus mitigating any potential adverse depositional effects.
- The site is located a significant distance from shore areas and will not affect shoreline habitats.
- Within the site, the deployment and intensity of spat ropes containing newly settled spat is likely to be highly variable, resulting in only partial use of the farm area at any particular time.
- The site is positioned over muddy and modified substrates that contain a common and widespread invertebrate assemblage, which are not considered to be sensitive to, or adversely affected by, the nature and scale of the proposed spat farming activities.
- This conclusion is supported by the New Zealand literature which indicates that mussel farming has minor effects in relatively open and well flushed environments and that spat catching has less of an ecological effect than mussel farming.

Further, it is concluded that:

- Effects on fish and fishing and seabirds are likely to be positive, or neutral and not adverse;
- The risk of entanglement of whales or dolphins in spat lines is remote and any effects on cetaceans are expected to be less than minor;
- Biosecurity at the farm can be managed through an appropriate Biosecurity Management Plan;
- There will not be adverse cumulative ecological or water quality effects, taking into account the existing approved grow-out and spat collecting farms in the Firth;
- There are likely to be positive ecological effects associated with spat collection structures (anchoring systems, backbone warps and buoys);
- Ecological or water column effects beyond the spat collecting farm will be less than minor; and
- No ecological or water quality monitoring is proposed.

7 ACKNOWLEDGEMENTS

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8 REFERENCES

- Aquaculture NZ. 2007. Greenshell Mussel Industry Environmental Code of Practice, version 06/2007-Refer Objective 5
- Besant, P., and S. Hooker. 1996. The history of the wild mussel (*Perna canaliculus*) fishery in the Firth of Thames and its relevance to present aquaculture of this species in the area.
- Broekhuizen, N., J. Ren, J. Zeldis, and S. Stevens. 2004. Ecological sustainability assessment for Firth of Thames shellfish aquaculture: Tasks 2-4-Biological modelling. Prepared for Auckland Regional Council, Environment Waikato and Western Firth of Thames Mussel Industry Consortium. Page NIWA Client Report HAM2003.
- Broekhuizen, N., J. Zeldis, S. A. Stephens, J. W. Oldman, A. H. Ross, J. Ren, and M. R. James. 2002. Factors related to the sustainability of shellfish aquaculture operations in the Firth of Thames: A Preliminary Analysis. Page prepared for Environment Waikato and Auckland Regional Council.
- Brown, S., and R. A. Asher. 2000. Benthic survey and assessment of effects for a proposed mussel spat catching site: Waimangu Point, Firth of Thames. Prepared for Thames Mussels Ltd. Cawthron report No S96.
- Brownill, B. 2008. Muddy Feet Phase II. Firth of Thames Ramsar Site Gap Analysis: Report prepared for the Muddy Feet Steering Group by Tikapa Kahawai Coastal/Marine Advisory Service Kaiaua, New Zealand.
- Cromey, C. J., T. D. Nickell, and K. D. Black. 2002. DEPOMOD-modelling the deposition and biological effects of waste solids from marine cage farms. *Aquaculture* 214:211–239.
- Dudley, B., J. Zeldis, and O. Burge. 2017. New Zealand Coastal Water Quality Assessment Prepared for Ministry for the Environment. National Institute of Water & Atmospheric Research Ltd, Christchurch.
- Fisheries Consultancy Services Ltd. 2002. Application for Resource Consent - Provision of Further Information to Waikato Regional Council.
- Forrest, B., C. Cornelisen, D. Clement, N. Keeley, and D. Taylor. 2015. Monitoring framework for the Waikato coastal marine area: Report 2-Regional aquaculture monitoring priorities and guidance.
- Giles, H., C. A. Pilditch, and D. G. Bell. 2006. Sedimentation from mussel (*Perna canaliculus*) culture in the Firth of Thames, New Zealand: Impacts on sediment oxygen and nutrient fluxes. *Aquaculture* 261:125–140.
- Hauraki Gulf Forum. 2014. State of our Gulf 2014. Page State of the Environment Report.
- Hayden, B., and T. Kendrick. 1992. Predicting the settlement of greenshell mussels, *Perna canaliculus*, from the abundance of larvae. Pages 7–10 Proceedings of the Second International Temperate Reef Symposium. NIWA, Wellington.
- Hayden, B., A. Ross, and G. Inglis. 2000. Sustainable carrying capacity: Ecological effects. *Aquaculture Update*.
- Hitchmough, R., L. Bull, and P. (Comps. . Cromarty. 2007. New Zealand Threat Classification System lists—2005. Wellington, N.Z.
- James, M., and S. Jamieson. 2017. Assessment of ecological effects of a proposed marine farm in the Western Firth of Thames Prepared for Western Firth Marine Farming Consortium.
- James, M., M. Weatherhead, and A. Ross. 2001. Size-Specific Clearance, Excretion, and Respiration Rates and Phytoplankton Selectivity for the Mussel *Perna Canaliculus* at Low Levels of Natural Food. *New Zealand Journal of Marine and Freshwater Research* 35:73–86.
- Keeley, N. 2013. Chapter 3 - Benthic Effects. Pages 0–33 Literature review of ecological effects of aquaculture. Ministry for Primary Industries - Aquaculture Unit, Port Nelson.
- Keeley, N. B., C. J. Cromey, E. O. Goodwin, M. T. Gibbs, and C. M. Macleod. 2013. Predictive depositional modelling (DEPOMOD) of the interactive effect of current flow and resuspension on ecological impacts beneath salmon farms. *Aquaculture Environment Interactions* 3:275–291.

- Keeley, N. B., B. M. Forrest, G. Hopkins, P. Gillespie, B. Knight, S. Webb, D. Clement, and J. Gardner. 2009. Sustainable Aquaculture in New Zealand: Review of the Ecological Effects of Farming Shellfish and Other Non-fish Species Prepared for the Ministry of Primary Industries. Cawthron Institute, Nelson.
- Keeley, N., C. Cornelisen, B. Knight, B. Forrest, and D. Taylor. 2015. Monitoring framework for the Waikato Coastal Marine Area: Report 3—seabed and water column monitoring and standards. Prepared for Waikato Regional Council. Hamilton.
- Keeley, N., and R. Forrest. 2008. Benthic effects of spat catching activities in Golden Bay. Prepared for Ringroad Consortium Ltd. Cawthron Report No. 1505.
- Lloyd, B. D. 2003. Potential effects of mussel farming on New Zealand's marine mammals and seabirds: A discussion paper. Page Department of Conservation, Wellington, New Zealand. DOC Science Publishing. vii + 34p. 2003.
- McKnight, D. G. 1969. Infaunal benthic communities of the New Zealand Continental Shelf. New Zealand Journal of Marine and Freshwater Research 3:409–444.
- Ministry for Primary Industries. 2013. Overview of ecological effects of aquaculture. Ministry for Primary Industries, Wellington.
- Ministry for Primary Industries. 2012. NZ Marine Pest Identification Guide.
- Ministry for Primary Industries. 2018. www.nabis.govt.nz
- Morrisey, D., N. Keeley, D. Elvines, and D. Taylor. 2016. Firth of Thames and Hauraki Gulf enrichment stage mapping. Prepared for the Waikato Regional Council. Cawthron Report No. 2824. Nelson.
- Mussel Reef Restoration Trust 2014. <http://reviveourgulf.org.nz/resources/RoG%20Newsletter%202014%20Sep.pdf>
- Reid, B. 1969. Mussel survey Hauraki Gulf and Firth of Thames. 1958. Fisheries Tech Report No 34.
- Stenton-Dozey, J. 2013. Chapter 2 - Pelagic effects. Pages 0–21 Literature review of ecological effects of aquaculture. Ministry for Primary Industries - Aquaculture Unit, Port Nelson.
- Stenton-Dozey, J., D. Morrisey, N. Broekhuizen, and J. Oldman. 2008. Fisheries Resource Impact Assessment (Wilsons Bay Area B Interim AMA). Prepared for Ministry of Fisheries. NIWA Client Report: CHC2008-145.
- Stephens, S. 2003. Ecological sustainability assessment for Firth of Thames shellfish aquaculture: Task 1-hydrodynamic modelling Prepared for Auckland Regional Council. Page Auckland Regional Council Technical Publication 252. Auckland.
- NABIS www.nabis.govt.nz
- Zeldis, J., B. Hayden, K. Image, J. Ren, S. Hatton, and M. Gall. 2001. Assessment of sustainable production issues for a marine farm proposal in Firth of Thames (Waimango Point) by Thames Mussels Ltd. NIWA Client Report CHC01/44.

¹ Aquaculture NZ Greenshell Mussel Industry Environmental Code of Practice, version 06/2007-Refer Objective 5

¹ NZ Marine Pest Identification Guide. Ministry of Primary Industries. July 2012

Appendix A:

Parameters to be Included in a Baseline Survey for New Marine Farms

(Waikato Regional Council guidelines)

Recommended parameters	Parameter measured in this survey
<u>Water quality</u>	
- Temperature	X
- Salinity	X
- Water clarity	X
- Ammonium (NH ₄ -N)	*NA
- Ammonia (NH ₃ -N)	*NA
- Oxides of Nitrogen (NO _x -N)	X
- Total N (TN)	X
- Dissolved reactive phosphorus (DRP)	X
- Total Phosphorus (TP)	X
- Chlorophyll a	X
<u>Sediment chemistry</u>	
- Organic carbon	X
- Nitrogen	X
- Phosphorus	X
<u>Benthic fauna and flora</u>	
- Macroinfauna species	X
- Macroinfauna community parameters (abundance, richness, diversity)	X
- Epifauna species	X
- Epiflora	*No macroalgae found
<u>Seafloor</u>	
- Sediment grainsize	*Samples archived for later analysis if required
- Substrate type (e.g. mud, sand, rock)	X
<u>Hydrodynamics</u>	
- Current speed	X
- Current direction	X
<u>Farm characteristics</u>	
- Farm layout	X

Appendix B:

Hill Laboratories Water and Sediment Quality Results and Methods



Hill Laboratories
TRIED, TESTED AND TRUSTED

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ANALYSIS REPORT

Page 1 of 2

Client:	4SIGHT Consulting Limited	Lab No:	1892115	SPv1
Contact:	Mark Poynter C/- 4SIGHT Consulting Limited PO Box 402053 Tutukaka 0153	Date Received:	08-Dec-2017	
		Date Reported:	27-Dec-2017	
		Quote No:	89151	
		Order No:	AA2684	
		Client Reference:	Colville	
		Submitted By:	Mark Poynter	

Sample Type: Saline					
Sample Name:	Colville WQ1s 05-Dec-2017 4:00 pm	Colville WQ1m 05-Dec-2017 4:00 pm	Colville WQ2s 05-Dec-2017 4:15 pm	Colville WQ2m 05-Dec-2017 4:20 pm	Colville WQ3s 05-Dec-2017 4:30 pm
Lab Number:	1892115.1	1892115.2	1892115.3	1892115.4	1892115.5
Salinity*	36	36	36	36	36
Total Nitrogen*	g/m ³ < 0.3	g/m ³ < 0.3	g/m ³ < 0.3	g/m ³ < 0.3	g/m ³ < 0.3
Nitrate-N + Nitrite-N	g/m ³ < 0.0010	g/m ³ < 0.0010	g/m ³ < 0.0010	g/m ³ < 0.0010	g/m ³ < 0.0010
Total Kjeldahl Nitrogen (TKN)*	g/m ³ < 0.2	g/m ³ < 0.2	g/m ³ < 0.2	g/m ³ < 0.2	g/m ³ < 0.2
Dissolved Reactive Phosphorus	g/m ³ 0.0071	g/m ³ 0.0068	g/m ³ 0.0076	g/m ³ 0.0075	g/m ³ 0.0064
Total Phosphorus*	g/m ³ 0.014	g/m ³ 0.016	g/m ³ 0.014	g/m ³ 0.016	g/m ³ 0.013
Chlorophyll a*	g/m ³ < 0.003	g/m ³ < 0.003	g/m ³ < 0.003	g/m ³ < 0.003	g/m ³ < 0.003

Sample Name:	Colville WQ3m 05-Dec-2017 4:35 pm				
Lab Number:	1892115.6				
Salinity*	36	-	-	-	-
Total Nitrogen*	g/m ³ < 0.3	-	-	-	-
Nitrate-N + Nitrite-N	g/m ³ < 0.0010	-	-	-	-
Total Kjeldahl Nitrogen (TKN)*	g/m ³ < 0.2	-	-	-	-
Dissolved Reactive Phosphorus	g/m ³ 0.0071	-	-	-	-
Total Phosphorus*	g/m ³ 0.013	-	-	-	-
Chlorophyll a*	g/m ³ < 0.003	-	-	-	-

Sample Type: Sediment					
Sample Name:	Colville 1 05-Dec-2017 1:10 pm	Colville 2 05-Dec-2017	Colville 3 05-Dec-2017	Colville 4 05-Dec-2017	Colville 5 05-Dec-2017
Lab Number:	1892115.7	1892115.8	1892115.9	1892115.10	1892115.11
Organic Matter*	g/100g dry wt 9.0	g/100g dry wt 11.0	g/100g dry wt 10.6	g/100g dry wt 10.7	g/100g dry wt 10.8
Ash*	g/100g dry wt 91	g/100g dry wt 89	g/100g dry wt 89	g/100g dry wt 89	g/100g dry wt 89
Total Recoverable Phosphorus	mg/kg dry wt 720	mg/kg dry wt 750	mg/kg dry wt 710	mg/kg dry wt 700	mg/kg dry wt 730
Total Nitrogen*	g/100g dry wt 0.18	g/100g dry wt 0.22	g/100g dry wt 0.21	g/100g dry wt 0.22	g/100g dry wt 0.22
Total Organic Carbon*	g/100g dry wt 1.22	g/100g dry wt 1.54	g/100g dry wt 1.46	g/100g dry wt 1.53	g/100g dry wt 1.56

Sample Name:	Colville 6 05-Dec-2017				
Lab Number:	1892115.12				
Organic Matter*	g/100g dry wt 10.6	-	-	-	-
Ash*	g/100g dry wt 89	-	-	-	-
Total Recoverable Phosphorus	mg/kg dry wt 700	-	-	-	-
Total Nitrogen*	g/100g dry wt 0.21	-	-	-	-
Total Organic Carbon*	g/100g dry wt 1.49	-	-	-	-



IANZ
ACCREDITED LABORATORY

This Laboratory is accredited by International Accreditation New Zealand (IANZ), which represents New Zealand in the International Laboratory Accreditation Cooperation (ILAC). Through the ILAC Mutual Recognition Arrangement (ILAC-MRA) this accreditation is internationally recognised. The tests reported herein have been performed in accordance with the terms of accreditation, with the exception of tests marked *, which are not accredited.

SUMMARY OF METHODS

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively clean matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis.

Sample Type: Saline			
Test	Method Description	Default Detection Limit	Sample No
Filtration, Unpreserved*	Sample filtration through 0.45µm membrane filter.	-	1-6
Total Kjeldahl Digestion*	Sulphuric acid digestion with copper sulphate catalyst.	-	1-6
Total Phosphorus Digestion*	Acid persulphate digestion.	-	1-6
Salinity*	Conductivity Meter (WTW Cond 340i with nonlinear temperature compensation according to EN 27 888). APHA 2520 B 22 nd ed. 2012.	0.2	1-6
Total Nitrogen*	Calculation: TKN + Nitrate-N + Nitrite-N. Please note: The Default Detection Limit of 0.05 g/m ³ is only attainable when the TKN has been determined using a trace method utilising duplicate analyses. In cases where the Detection Limit for TKN is 0.10 g/m ³ , the Default Detection Limit for Total Nitrogen will be 0.11 g/m ³ .	0.05 g/m ³	1-6
Nitrate-N + Nitrite-N	Saline sample. Total oxidised nitrogen. Automated cadmium reduction, Flow injection analyser. APHA 4500-NO ₃ -I 22 nd ed. 2012 (modified).	0.0010 g/m ³	1-6
Total Kjeldahl Nitrogen (TKN)*	Total Kjeldahl digestion, phenol/hypochlorite colorimetry. Discrete Analyser. APHA 4500-N ₆ D. (modified) 4500 NH ₃ F (modified) 22 nd ed. 2012.	0.10 g/m ³	1-6
Dissolved Reactive Phosphorus	Saline sample. Molybdenum blue colorimetry. Flow injection analyser. APHA 4500-P G 22 nd ed. 2012.	0.0010 g/m ³	1-6
Total Phosphorus*	Total phosphorus digestion, ascorbic acid colorimetry. Discrete Analyser. APHA 4500-P B & E (modified from manual analysis) 22 nd ed. 2012. Also modified to include the use of a reductant to eliminate interference from arsenic present in the sample. NAWASCO, Water & soil Miscellaneous Publication No. 38, 1982.	0.004 g/m ³	1-6
Chlorophyll a*	Acetone extraction. Spectroscopy. APHA 10200 H (modified) 22 nd ed. 2012.	0.003 g/m ³	1-6

Sample Type: Sediment			
Test	Method Description	Default Detection Limit	Sample No
Environmental Solids Sample Preparation	Air dried at 35°C and sieved, <2mm fraction. Used for sample preparation. May contain a residual moisture content of 2-5%.	-	7-12
Organic Matter*	Calculation: 100 - Ash (dry wt).	0.04 g/100g dry wt	7-12
Total Recoverable digestion	Nitric / hydrochloric acid digestion, US EPA 200.2.	-	7-12
Ash*	Ignition in muffle furnace 550°C, 6hr, gravimetric, APHA 2540 G 22 nd ed. 2012.	0.04 g/100g dry wt	7-12
Total Recoverable Phosphorus	Dried sample, sieved as specified (if required). Nitric/Hydrochloric acid digestion, ICP-MS, screen level. US EPA 200.2.	40 mg/kg dry wt	7-12
Total Nitrogen*	Catalytic Combustion (900°C, O ₂), separation, Thermal Conductivity Detector [Elemental Analyser].	0.05 g/100g dry wt	7-12
Total Organic Carbon*	Acid pretreatment to remove carbonates present followed by Catalytic Combustion (900°C, O ₂), separation, Thermal Conductivity Detector [Elemental Analyser].	0.05 g/100g dry wt	7-12

These samples were collected by yourselves (or your agent) and analysed as received at the laboratory.

Samples are held at the laboratory after reporting for a length of time depending on the preservation used and the stability of the analytes being tested. Once the storage period is completed the samples are discarded unless otherwise advised by the client.

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Graham Corban MSc Tech (Hons)
Client Services Manager - Environmental

Appendix C:

Infaunal Community Data

Species	Col1	Col2	Col3	Col4	Col5	Col6	Col7	Col 8	Col 9	Col10
ANTHOZOA	1									1
NEMERTEA			1							1
POLYCHAETA										
Cirratulidae				1				1		
Cossuridae	1	4	1				1	2	2	1
Dorvilleidae									1	
Flabelligeridae		3					1	1		2
Hesionidae		1		1					1	
Lumbrineridae		1	2		1	3	1	5		1
Maldanidae										1
Nephtyidae	2	4	1	4	2	4	2	3	1	3
Onuphidae	2	3	1	2	2	2	3	2	2	1
Phyllodocidae							1			
Polynoidae				1				1		
Sabellidae									1	
Sigalionidae	3	2	6	3	3	2	3	5	3	3
Spionidae	1									
Terebellidae		1	1	1				2		2
Trichobranchidae	1			2				1		2
GASTROPODA										
<i>Amalda northlandica</i>						1				
<i>Austrofusus glans</i>									1	
<i>Philine</i> sp.							1	1		
BIVALVIA										
<i>Arthritica bifurca</i>			1				1	3	1	
<i>Dosinia lambata</i>		1								1
<i>Linucula hartvigiana</i>							1			
<i>Theora lubrica</i>					1					
<i>Zenatia acinaces</i>							1			
CRUSTACEA										
Amphipoda except Caprellidae and Phoxocephalidae	1	6	10	4	9	6	8	6	6	2

Amphipoda Caprellidae							1			
Amphipoda Phoxocephalidae	1			2		5	1	2	1	3
Cumacea Bodotriidae	1		2			1				
Cumacea Diastylidae	1	2	3	1	4	2	3	3	2	
Decapoda Hymenosomatidae						1				
Decapoda Laomediidae			1	1			1		1	
Decapoda Majidae						1				
Decapoda (Portunidae?)										1
Isopoda Anthuridea	1		2		2					1
Isopoda Asellota		1								
Mysidacea						2				
Ostracoda	2		2				1			1
Tanaidacea		4		2		2	4	5	1	
OPHIUROIDEA										
Amphiuridae	1	4	1	2	2	2	5	1	3	1
ECHINOIDEA										
<i>Echinocardium cordatum</i>					1	2	1			2
Total abundance	19	37	35	27	27	36	41	44	27	30
Taxon richness	14	14	15	14	10	15	20	17	15	19

APPENDIX 3 LANDSCAPE ASSESSMENT

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COLVILLE MARINE FARM
FOR THE PURPOSES OF SPAT CATCHING
Hauraki Gulf

March 2019

Prepared by
Hudson Associates
Landscape Architects

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Introduction

1. Legal Shellfish Ltd proposes to establish a marine farm at a site approximately 3km off the western shoreline of the Coromandel Peninsula, in the eastern waters of the Hauraki Gulf for greenshell mussel spat catching. Hudson Associates Landscape Architects has been engaged to carry out an assessment of landscape, natural character and visual effects arising from the proposal.
2. This report provides an evaluation of existing landscape, natural character and visual amenity values at the site and in its wider setting, and an assessment of the nature and level of effects on those characteristics and values from the proposed farm.

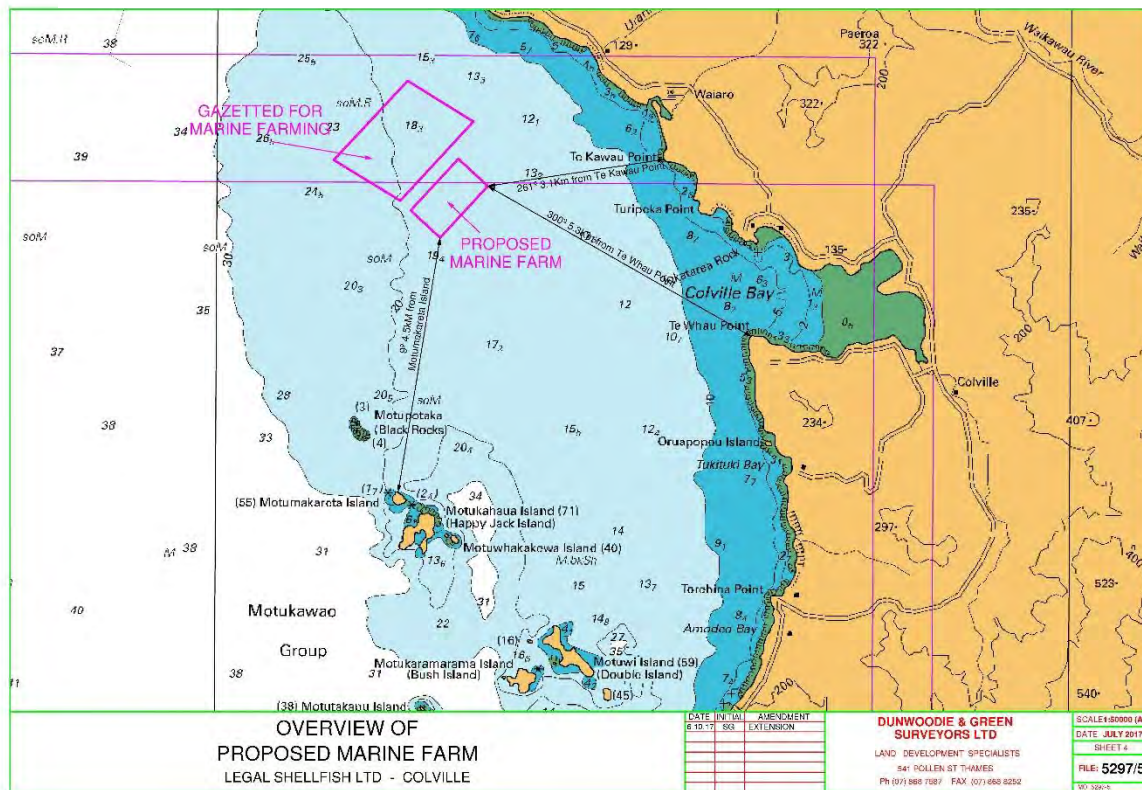
The Proposal

3. The proposed spat farm site is located around 3km off the Coromandel Peninsula coastline, approximately opposite the settlement of Waiaro (just north of Colville Bay), on the edge of the Hauraki Gulf. The site is in the eastern part of the Hauraki Gulf, to the north of the Firth of Thames. The approximate location of the site is shown below in [Figure 1 and 2](#).
4. The applicant proposes to establish a spat catching area to provide locally sourced spat for their existing marine farms, with any surplus to be on-sold to other marine farms within the Coromandel and Firth of Thames area. The applicant intends to undertake spat catching approximately from September through to April - May each year.

Figure 1: Proposal site location



Figure 2: Overview of proposed marine farm



- The proposal area is a total seabed area of 85.75 hectares (including accessways between spat catching blocks) and is orientated in a northeast direction to the coast. The proposed site is rectangular and is 1225m x 700m (refer to [Figure 3 and 4](#)).
- It is proposed that the spat catching area will be comprised of six blocks containing up to 16 permanent longlines each, with 50 metre accessways between the blocks. Each block will cover an area of 12.18 hectares (375m x 325m), equating to a total farmable area of 73.08 hectares.
- The number of spat lines established in each farm block will vary depending on the likelihood of “spat settlement” events occurring, as these vary with seasons. After spat settlement, spat lines will be transferred out of the area for on-growing at other mussel farms. Therefore, operationally, it is unlikely that all blocks will be fully developed at one time.

Figure 3: Marine farm layout plan

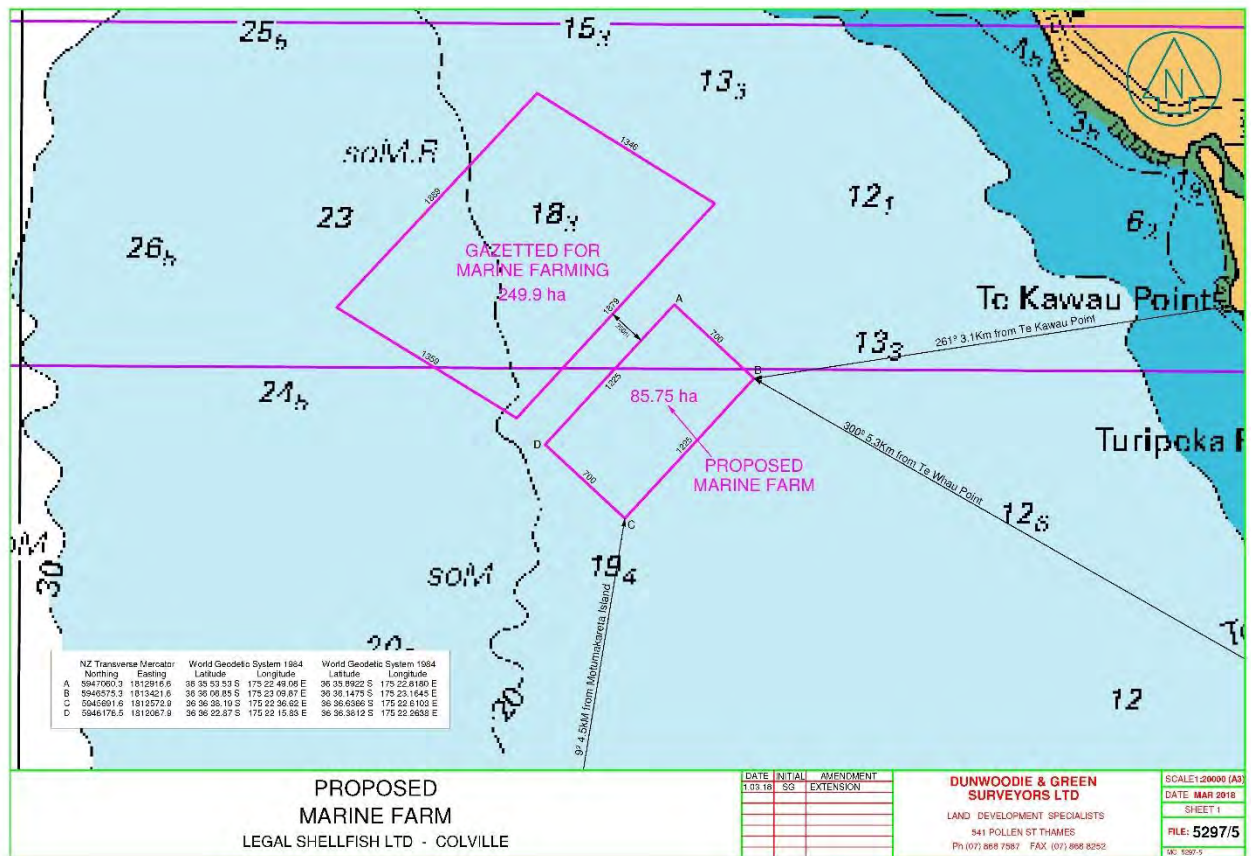
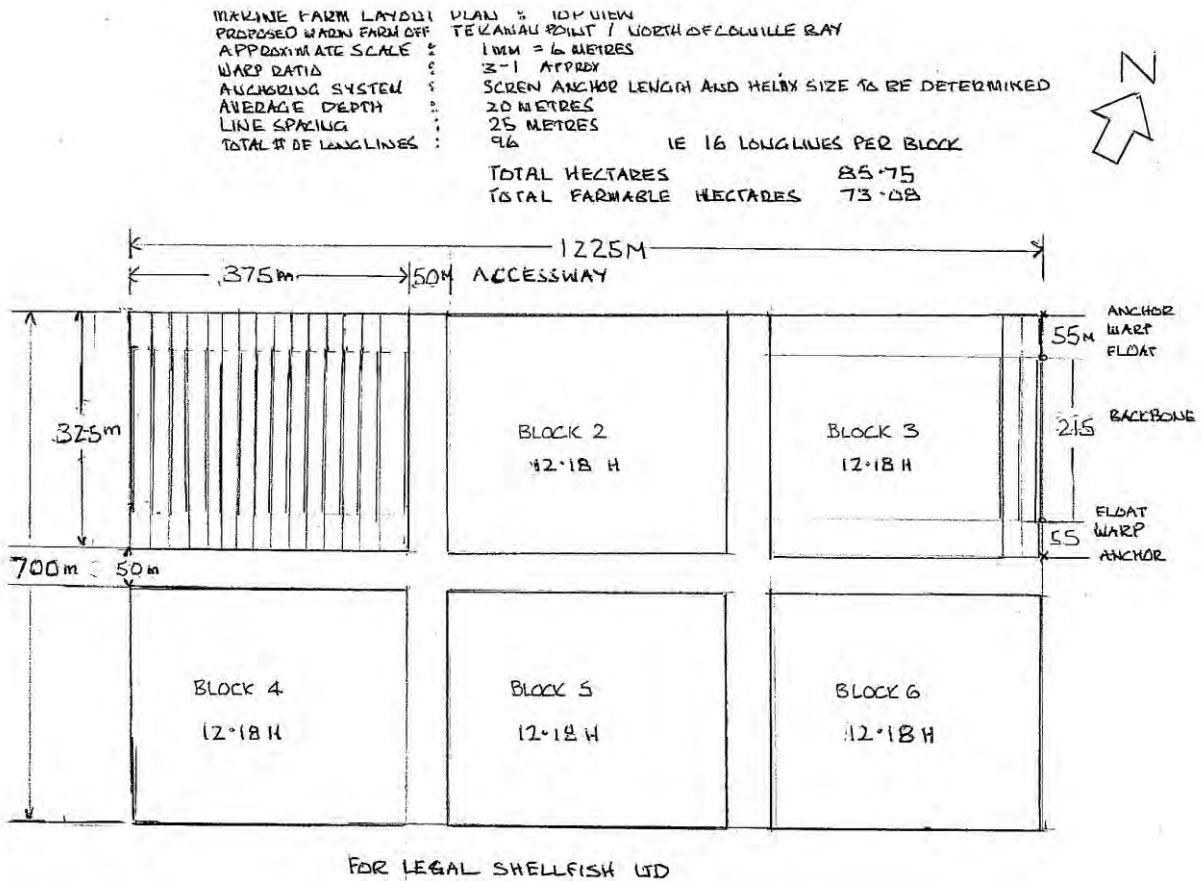


Figure 4: Marine farm layout plan



8. The applicant will use specifically designed spat catching ropes to provide a suitable substrate for spat settlement. Spat catching ropes will be placed into the water when a spawning event is anticipated. Prior to an anticipated “spat settlement” event, the spat catching area will have a limited number of spat ropes placed randomly across the site.
9. The spat catching will initially involve connecting spat collecting ropes to longlines at different locations across the area (up to a total of 18 longlines with spat ropes attached) early in the season (i.e. August/September) to monitor for the first occurrence of spat settlement. These trial lines will be inspected weekly, with spat ropes sampled and examined to check for spat settlement. If no settlement has occurred after three weeks the spat ropes will be removed to avoid settlement of detritus or fouling by other marine species on the spat ropes. This process will be repeated over the months from September to April – May each year. Given the unpredictable nature of spat occurrence in the water column, spat catching can be variable across an area, along a line or within the water column. Therefore, flexibility for the initial location of spat lines is required.
10. If spat settlement occurs, additional spat catching ropes will be installed across the blocks to collect spat. These spat ropes will be strategically placed onto backbones within the area to maximise spat collection based on location, and current flow and direction. It is anticipated that weekly inspections of the spat ropes will take place. Once spat is detected the spat lines will be shifted to existing mussel farms elsewhere for on-growing.
11. Due to the variability of spat settlement and its seasonality, spat catching ropes are only placed in the water on a temporary basis. The number of spat lines established in each block will vary throughout the spat catching season.
12. The proposal comprises the following:
 - Longlines and spat catching ropes:**
 - Six blocks of spat-catching ropes. Blocks are separated by 50m accessways, with 25m spacings between longlines. Longline density is a maximum of 1.3 longlines per hectare. The accessways between the blocks will provide areas of open water (north-south and east-west) for navigable accessways throughout the spat catching area.
 - Single or double backbone longlines will be used to support spat ropes. Each longline will be up to 215m in length.
 - Longlines will be orientated parallel to tidal flows (north-west to south-east).
 - If fully developed, each block could contain a maximum of 16 rows of longlines, making a total of 96 longlines if the entire farmable area was developed at one time.
 - Dropper length of spat ropes will be up to 10m below the sea surface.
 - Spat ropes will be attached to backbone lines with mussel floats attached to provide buoyancy.
 - The backbones and floats will be kept in place by warp ropes which will descend at an angle through the water column to the seabed where they will be attached to screw anchors.

Buoys:

- Floats will be a mix of orange and dark blue.
- Orange floats will be at each end of every longline. The seaward-most and landward-most lines in each block will also be marked with orange floats in the middle of the lines. These are to be no more than 50 percent submerged and maintained to be visible over the surface exposed.
- A mixture of 180 and 300 litre floats will be used to support longlines.
- It is estimated that up to twenty 300 litre floats per line will be required to hold the spat lines in the water column, taking into consideration sea conditions at the site.

Lighting:

- The four outer corners of the marine farm require marking with “special marks”. The special marks shall have the following characteristics:
 - the light must be yellow and flash 5 times every 20 seconds;
 - the light must be at least 2m above water level; and
 - must be visible at a minimum range of 2 nautical miles (nm).
- Radar Target Enhancers (radar reflectors) are to be fitted to the four outer corners on the special marks. These must be detectable at a minimum of 2nm.
- In addition to the proposed special marks fitted to the four outer corners, special marks must be installed midway between each outer side of the farm in accordance with the Maritime NZ Guidelines for Marine Farms (2005).
- The Waikato Regional Council’s Thames/Coromandel Harbourmaster has reviewed and approved the lighting plan in principle. Subject to the outcome of this application, but prior to a lighting application being submitted to Maritime NZ for approval, final approval must be obtained from the Harbourmaster.

Maintenance and servicing:

- The applicant has a private share base in the Sugar Loaf Wharf facilities and is a member of the Coromandel Marine Farmers Association (CoroMFA). The applicant currently owns and operates five mussel barges which use the land facilities at the Sugar Loaf Wharf at Coromandel for unloading/loading product and equipment for their existing marine farms.
- The use of Sugar Loaf Wharf is an authorised activity. The current resource consent does not limit the use of the wharf by way of restriction on vessel movements or tonnage crossing the facility. It is proposed that this facility will be used for servicing the new mussel spat catching farm.
- The applicant considers that the wharf facility has the capacity to service the additional mussel barge operations arising from the proposed spat catching farm without impacting on the current Sugar Loaf Wharf operations due to the low level of activity involved and the seasonal nature of it.
- The proposed site will be accessed by sea using two of the applicant’s existing barges which operate from the Sugar Loaf boat ramp, on the south side of the Coromandel Harbour. The barges proposed to be used to service the area are one 30m aluminium and one 24m aluminium barge vessel.

- A barge will visit the site regularly (1-2 times per week) to check the lines for spat settlement and undertake any maintenance required. The actual frequency of the visits will depend on the timing of anticipated spat events, timing of spat settlement, and the time involved in transferring spat ropes for on-growing in other farms.
 - The barges have navigation and communication equipment that comply with maritime regulations.
13. This assessment considers the effects of all the surface components described above, including lines, floats, lights and vessels tending the spat farm. It does not consider effects related to wharf and loading/unloading facilities as these will continue in areas where such activities are already provided for. The assessment also considers effects on natural character on the seabed from structures (i.e. anchors).

The Statutory Context

14. The statutory context for the proposal is provided by the Resource Management Act (**RMA**), New Zealand Coastal Policy Statement 2010 (**NZCPS**), Waikato Regional Policy Statement (**RPS**), Waikato Regional Coastal Plan (**RCP**), Thames-Coromandel District Plan (Operative and Proposed), and Hauraki Gulf Marine Park Act 2000 (**HGMPA**). Relevant non-statutory documents include the Natural Character Study of the Waikato Coastal Environment 2016 (**NCS**), and Sea Change – Tai Timu Tai Pari - Hauraki Gulf Marine Spatial Plan (**MSP**).

RMA

15. Those parts of the RMA most relevant to this assessment are:

- *Section 6 Matters of National Importance:*
 - 6(a) the preservation of the natural character of the coastal environment (including the coastal marine area), and its protection from inappropriate subdivision, use, and development;*
 - 6(b) the protection of outstanding natural features and landscapes from inappropriate subdivision, use, and development;*
- *Section 7 Other Matters*
 - 7(c) the maintenance and enhancement of amenity values.*

NZCPS

16. The most pertinent policies from the NZCPS are listed below. These should also be considered with the enabling provisions of Objectives 2 and 6, and Policies 6 and 8.

Policy 13: Preservation of natural character

- (1) To preserve the natural character of the coastal environment and to protect it from inappropriate subdivision, use, and development:*
- (a) avoid adverse effects of activities on natural character in areas of the coastal environment with outstanding natural character; and*
 - (b) avoid significant adverse effects and avoid, remedy or mitigate other adverse effects of activities on natural character in all other areas of the coastal environment.*

Policy 15: Natural features and natural landscapes

To protect the natural features and natural landscapes (including seascapes) of the coastal environment from inappropriate subdivision, use, and development:

- (a) avoid adverse effects of activities on outstanding natural features and outstanding natural landscapes in the coastal environment; and*
- (b) avoid significant adverse effects and avoid, remedy or mitigate other adverse effects of the activities on other natural features and natural landscapes in the coastal environment;*

RPS

17. The site sits within the Coastal Marine Area (CMA) of the Waikato Region, which is managed by the Waikato Regional Council through its RPS, and its Regional Coastal Plan (RCP – refer below). The RPS is a second-generation policy statement and became operative on 20 May 2016. It contains a number of objectives and policies aimed at preserving and protecting the landscape, natural character and amenity values of the region. With regard to the CMA, these objectives and policies are implemented through the provisions of the RCP (as discussed below, under the RCP heading).
18. While the site is positioned approximately 3km from the coastal edge, the nearest landforms (the Moehau and Coromandel Ranges) do provide part of the site’s context, and so objectives and policies contained within the RPS in relation to the protection of coastal terrestrial values also need to be considered in terms of potential effects from the proposal.
19. Section 12A of the RPS identifies Outstanding Natural Features and Landscapes (**ONFLs**) of the region. The site lies approximately 3km off the coast from ONFL 10/2 “Coastal areas of Coromandel – northern tip of the Coromandel Peninsula and western slopes of Moehau Range out to coast”. Refer to [Figure 5](#) below. It also lies west of ONFL 5 “Coromandel Range and Moehau Range”. Refer to [Figure 5a](#) below.

Figure 5: Waikato Regional Policy Statement ONFL 10/2



Map 12-12: ONFL 10/2 – Northern tip of Coromandel Peninsula and western slopes of Moehau Range out to coast

Figure 5a: Waikato Regional Policy Statement ONFL 5



20. Characteristics and values for ONFL 10/2 are listed in the RPS in Table 12-1 as follows:

- *Combination of pasture and bush running out to cliffs and bays. Dramatic and vivid with distinctive coastal features. Steep slopes between native forest above and coastal edge. Pōhutukawa along coastline.*
- *Botanical interest in the indigenous forest. Historic and Māori. Pā sites on headlands – battles between Māori tribes.*

21. Characteristics and values for ONFL 5 are listed in the RPS in Table 12-1 as follows:

- *Massive volcanic landform. Forms the distinctive backbone to the whole peninsula – peaks, pinnacles and rocks. Bush on the tops.*
- *Significance to tāngata whenua – pā sites. Remote and wild. High natural character in places. Historic/early Pākehā settlers.*

22. The most relevant RPS policies and objectives regarding terrestrial areas include:

Policy 12.1 Outstanding natural features and landscapes

Identified values and characteristics of outstanding natural features and landscapes (including seascapes) of regional or district significance are protected from adverse effects, including cumulative effects, arising from inappropriate subdivision, use and development.

Policy 12.2 Preserve natural character

Ensure that activities within the coastal environment, wetlands, and lakes and rivers and their margins are appropriate in relation to the level of natural character and:

- a) where natural character is pristine or outstanding, activities should avoid adverse effects on natural character;*
- b) where natural elements/influences are dominant, activities should avoid significant adverse effects and avoid, remedy or mitigate other adverse effects on natural character;*
- c) where man-made elements/influences are dominant, it may be appropriate that activities result in further adverse effects on natural character, though opportunities to remedy or mitigate adverse effects should still be considered;*
- d) promote the enhancement, restoration, and rehabilitation of the natural character of the coastal environment, wetlands and lakes and rivers and their margins; and*
- e) regard is given to the functional necessity of activities being located in or near the coastal environment, wetlands, lakes, or rivers and their margins where no reasonably practicable alternative locations exist.*

Policy 12.3 Maintain and enhance areas of amenity value

Areas of amenity value are identified, and those values are maintained and enhanced. These may include:

- a) areas within the coastal environment and along inland water bodies;*
- b) scenic, scientific, recreational or historic areas;*
- c) areas of spiritual or cultural significance;*
- d) other landscapes or seascapes or natural features; and*
- e) areas adjacent to outstanding natural landscapes and features that are visible from a road or other public place.*

23. While the RPS sets out criteria for the identification of high and outstanding natural character in the coastal environment (Section 12C Table 12-3), these are not mapped within the RPS.

RCP

24. The RCP implements the RPS with regards to the Coastal Marine Area (CMA), within which lies the proposal site. The RCP became operative in 2005 and is currently under review.

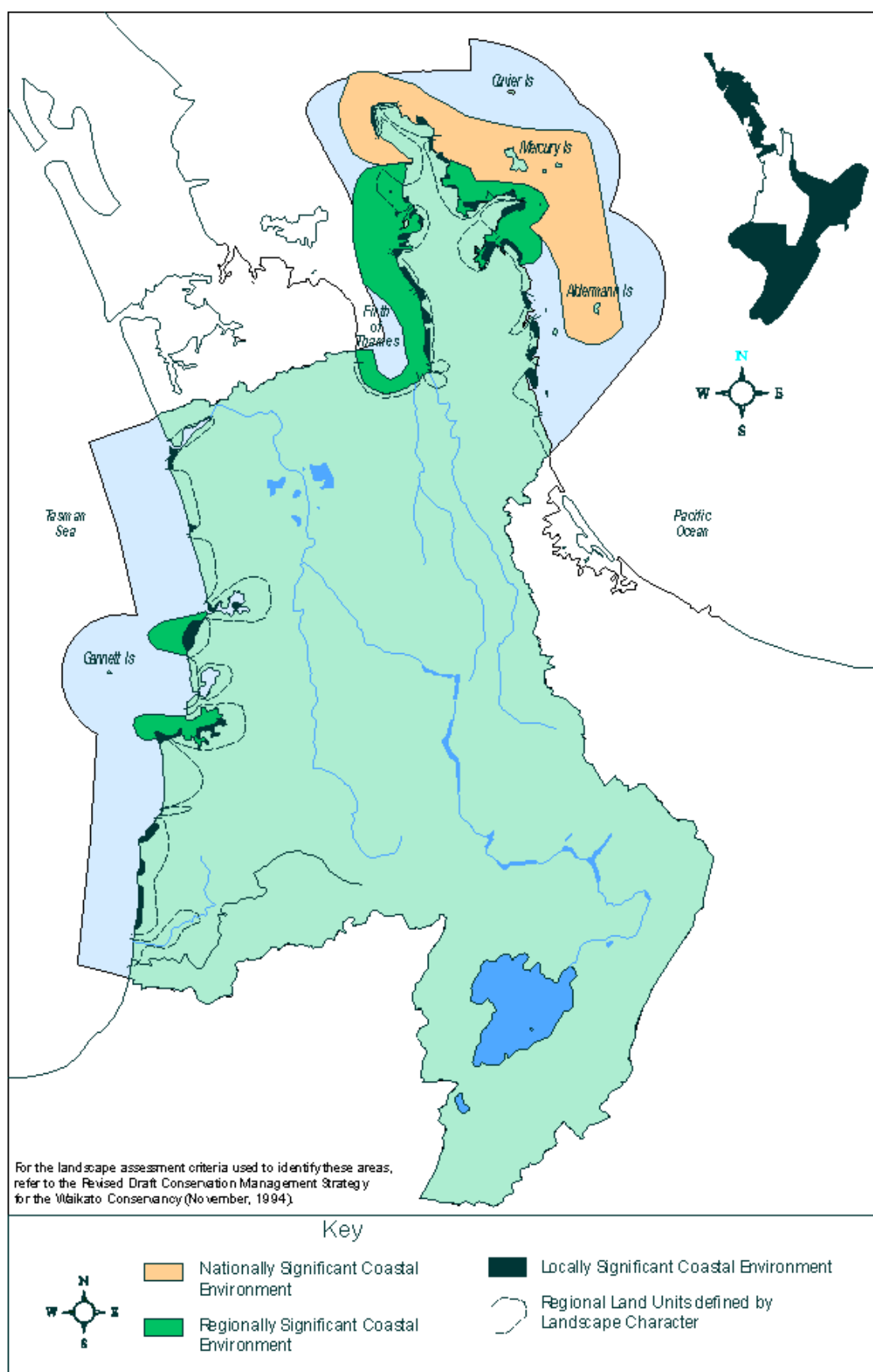
25. Under the RCP the application for spat catching purposes is a Discretionary Activity under Rule 16.5.1.
26. Within the RCP mapping (General Map 3, Appendix III) the site lies inside a Nationally Significant Coastal Environment (as shown in [Figure 6](#) below). The landscape assessment criteria used to identify the coastal environments on this map is referenced to the “Revised Draft Conservation Management Strategy for the Waikato Conservancy (November 1994)”. However, this is a draft non-statutory document and is unable to be sourced to check the basis of the landscape criteria used to establish these areas.
27. The current “Conservation Management Strategy for the Waikato Region 2014-2024” was made operative on 29 September 2014. Volume I describes the conservation values present in the Waikato and provides guidance through a vision, objectives, policies and outcomes for managing conservation of those places identified in the strategy.
28. Volume II contains a series of maps which the Place Maps: Map 8.1 Hauraki Islands Place; Map 8.1.1 Hauraki Islands Place – Detail and Map 8.2 Hauraki – Coromandel Peninsula Place depict areas identified for conservation management. These maps do not contain any map identifying the Regionally and Nationally Significant offshore coastal environments as depicted on General Map 3, Appendix III of the RCP.
29. As such, Appendix III references to information contained within the “Draft Waikato Conservation Management Strategy dated 1994” has been superseded by the 2014 Operative CMS for the Waikato Conservancy Area. Furthermore, the 1994 draft CMS is a non-statutory document and the information in Appendix III is considered out of date and no longer relevant to this application.¹
30. There are several Areas of Significant Conservation Value² in the wider area surrounding the site. The closest of these is Colville Bay, over 5.5km from the site. Appendix IV to the RCP lists the conservation values relating to Colville Bay as:
- *Site of significance to Hauraki iwi.*
 - *Significant breeding site for NZ dotterel.*
 - *Resident and frequenting threatened and rare waders, coastal and freshwater bird species.*
 - *Nationally significant archaeological sites.*

¹ Conservation Management Strategy Volume 1: <https://www.doc.govt.nz/Documents/about-doc/role/policies-and-plans/waikato-cms/waikato-cms-volume-one.pdf>

Waikato CMS Volume 2: <https://www.doc.govt.nz/Documents/about-doc/role/policies-and-plans/waikato-cms/waikato-cms-volume-two-maps-8-9.pdf>

² Appendix IV to the Waikato Region Coastal Plan.

Figure 6: Waikato Regional Coastal Plan Appendix III; General Map 3 Coastal Landscape



31. The RCP contains objectives and policies aimed at preserving and protecting the natural character and amenity values of the CMA. Provisions of the RCP most pertinent to this assessment include:

Chapter 3 Natural Character Habitat and Coastal Processes

3.1.1 Policy - Protection of Representative Features

Identify regionally significant and/or representative landscapes, seascapes, landforms and geological features and protect them from the adverse effects of use and development.

3.1.2 Policy - Protection of Other Natural Features

Ensure that any use and development avoids or remedies adverse effects on those natural features, landscapes, seascapes and landforms that define natural character.

3.1.3 Policy - Remote and Isolated Areas

In areas identified for their remote and isolated characteristics, ensure that any use or development avoids adverse effects in these areas.

3.1.4 Policy - Inappropriate Use and Development

Consider any application for use or development which:

- a) does not have functional need for location in the CMA; or*
- b) could be located in an alternative area where natural character is already modified or compromised; or*
- c) contributes to sprawling or sporadic use or development to be 'inappropriate'.*

3.2.1 Policy - Protection of Significant Vegetation and Habitat

a) Identify areas of significant indigenous vegetation and significant habitats of indigenous fauna and protect by:

- (i) avoiding any adverse effects of subdivision, use and development on the areas and habitats listed in Policy 1.1.2(a) of the NZCPS;*
- (ii) avoiding or remedying any adverse effects of subdivision, use and development on the areas listed in Policy 1.1.2(b) of the NZCPS.*

3.2.2 Policy - Protection of Habitats of Commercially, Traditionally or Culturally Important Species

Protect the habitats of species in the CMA that are important for commercial, recreational, traditional or cultural reasons from the adverse effects of use or development.

3.3.1 Policy - Amenity Values

Maintain existing amenity and recreational values, including open space qualities and coastal recreation opportunities. Seek to enhance areas where amenity and recreational values have been compromised or require improvement.

3.3.2 Policy - Protection of Heritage Values

Ensure the protection of the Region's heritage resources, including historic places, areas, sites and structures from any adverse effects of use and development.

3.4.2 Policy - Recognising Coastal Processes

Ensure that any activity in the CMA avoids, as far as practicable, any adverse effects on coastal processes, both in the immediate vicinity, along the shore, and offshore from the location.

3.4.3 Policy - Biodiversity

Ensure the protection of biodiversity, the inter-relatedness of coastal ecology, and the natural movement of biota within the CMA.

Chapter 4 Water Quality

4.1 High Water Quality Maintained

Objective: Water quality in the CMA maintained or enhanced.

4.1.1 Policy - Maintaining or Enhancing Water Quality Characteristics

Identify the characteristics for which coastal waters are valued, and manage these waters to ensure that those characteristics are maintained or enhanced by avoiding, remedying or mitigating the adverse effects of activities on water quality.

32. Marine farming is provided for under Chapter 6 of the RCP. Relevant provisions are:

Chapter 6 Marine Farming

Objective: Marine farming developed in an efficient and sustainable manner which avoids adverse effects on the coastal environment as far as practicable.

6.1.1 Policy - Marine Farm Structures

Take a precautionary approach to marine farm development by ensuring that the erection, placement, use of, and occupation of space by any marine farm structure in the coastal marine area avoids as far as practicable any adverse effects (including cumulative effects) on the coastal environment. Where complete avoidance is not practicable, adverse effects should be remedied or mitigated.

6.1.2 Policy - Recreation and Navigation

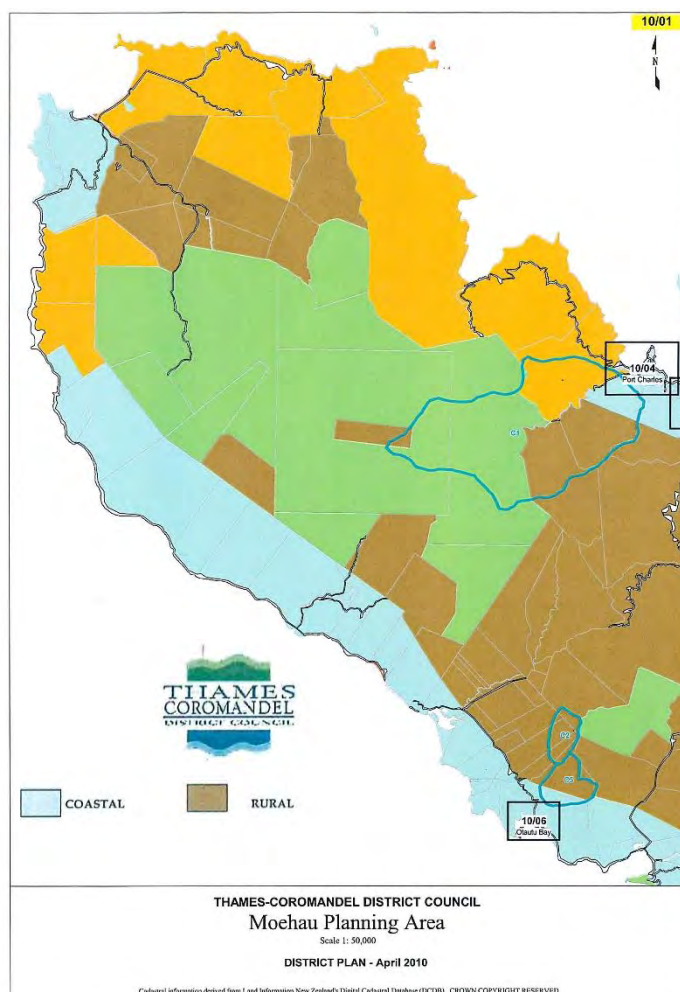
Ensure marine farms are located, constructed and maintained in a way which does not compromise safe recreation and navigation.

Thames-Coromandel District Plan (Operative and Proposed)

33. The Thames-Coromandel District Council (TCDC) has responsibility for managing the coastal terrestrial areas closest to the site. While the proposed site does not lie inside the boundaries of the Thames-Coromandel District Plan (the site is positioned in the CMA, 3km from the Thames-Coromandel shoreline), these coastal terrestrial areas still provide part of the site's wider context. Potential adverse effects from the proposal on the characteristics and values of the terrestrial areas, particularly any areas identified as holding an Outstanding Natural Feature and Landscape or Outstanding and High Natural Character will still need to be considered.

34. The TCDC is currently operating under two district plans: an Operative District Plan (operative 2010 and under review since 2012) and a Proposed District Plan (Appeals Version; July 2016 – updated and amended as at 13 August 2018). Parts of the Proposed Plan are currently subject to appeal, including matters relating to landscape and natural character. Those provisions under appeal have limited weight. However, this assessment has looked primarily at the planning maps and identified values in the proposed plan (particularly in relation to outstanding and high values areas) given the age of the operative plan, and that the proposed mapping will have been informed by different assessment methodology than the operative plan. The Operative District Plan does not identify any ONFLs or areas of outstanding or high natural character along the coastal environment. The map below in [Figure 7](#) shows that the land adjacent the site is in the coastal zone of the Operative District Plan. Also of relevance is the proposal’s location 3km from the shoreline. It is considered likely that effects on any outstanding or high value areas will be limited due to this distance, although potential effects still need to be considered.

Figure 7: Operative Thames-Coromandel District Plan



35. The following provisions in the Operative District Plan are considered of relevance to this application. Under 202 – Sustainable Resource Management Principles, the Operative District Plan recognises that *“landscape, amenity values and ecology are interrelated in a way that each relies on the other, often if one is enhanced the other two are enhanced as well... Landscape and amenity values provide a human perspective that ensures we live with nature and secure a future with a high standard of amenity and community wellbeing. For any development or proposal, the ecological, landscape and amenity values should be identified so that the most appropriate steps can be taken, in terms of project design and protective mechanisms.”*
36. The Operative District Plan contains the following objectives (under Landscape and Natural Character 212.3 – Objectives):
- .1 To recognise and protect the outstanding natural features and landscapes of the District.*
 - .2 To recognise, preserve and protect natural character of the coastal environment including outstanding natural features and landscapes.*
 - .3 To recognise, protect, or, where appropriate, enhance the landscape and natural character of the District.*
37. In addition, the plan has policies (under Landscape and Natural Character 212.4 – Policies) which include the following:
- .1 To ensure the outstanding natural features and landscapes of the District are protected from inappropriate subdivision, use and development.*
 - .2 To ensure natural character of the coastal environment including outstanding natural features and landscape are preserved and protected from inappropriate subdivision, use and development.*
 - .3 To encourage and provide for appropriate development, which will remedy or mitigate the adverse effects of past land uses and enhance the natural character and amenity values of the coastal environment.*
 - .4 To promote the restoration and enhancement of existing degraded natural features and landscapes.*
 - .5 To ensure activities or development provide suitable long term protection of outstanding and other identified natural features and landscapes and where appropriate enhancement of natural character, features and landscapes of an area.*
 - .6 To recognise the landscape values within the natural, cultural and built environments of the District’s towns, villages and countryside.*
 - .7 To recognise and provide for existing landuse activities while avoiding, remedying and mitigating any adverse effects of those activities on outstanding landscapes.*
38. Furthermore, Policy 213.4.5, under 213 - Settlements and Amenity Values, directs that the amenity values associated with open space, recreation, coastal and ecological areas are not degraded.

Proposed District Plan

39. The Proposed District Plan mapping (Appeals Version) identifies areas of ONFL in the terrestrial coastal environment facing the site (with the site being approximately off-shore from Waiaro). The ONFL is shown in relation to the site in Figure 8a and 8b. As shown, some small parts of the coastal environment in this area (generally opposite the site) are excluded. The Proposed District Plan information regarding this Outstanding Landscape appears to have flowed through from the Waikato Regional Policy Statement.

Figure 8a:

Thames-Coromandel District Plan (Appeals version) Outstanding Natural Features and Landscapes

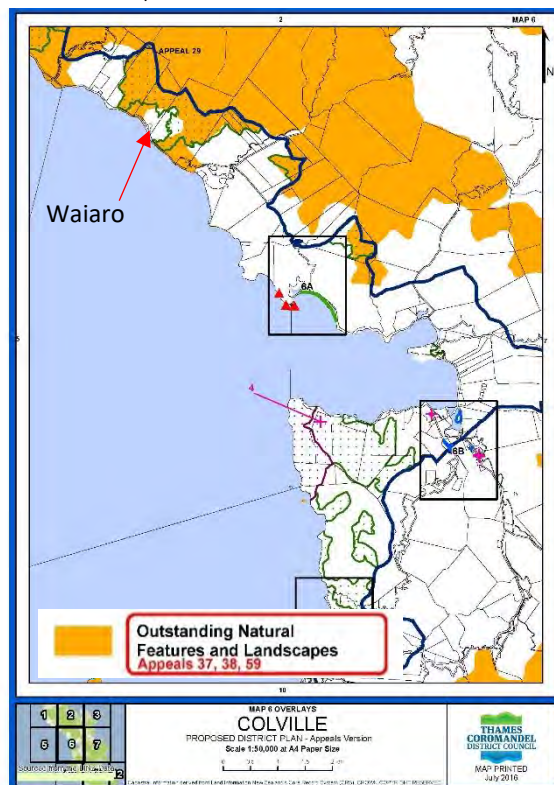


Figure 8b:

Waikato Regional Policy Statement Outstanding Natural Feature and Landscape Map 12-12 ONFL 10/2



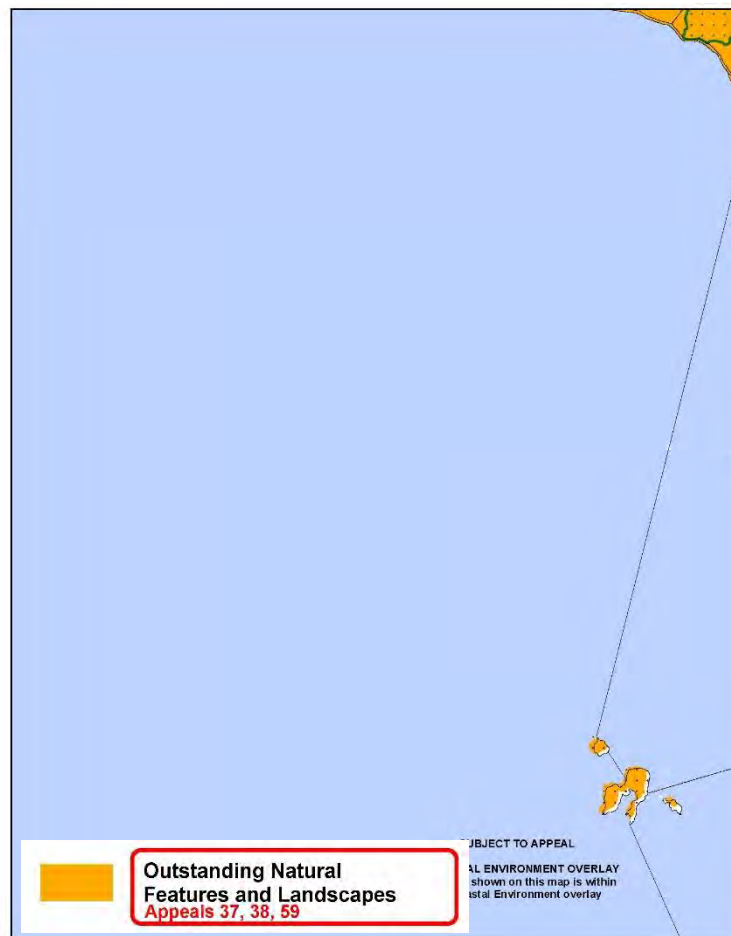
Map 12-12: ONFL 10/2 – Northern tip of Coromandel Peninsula and western slopes of Moehau Range out to coast

40. Characteristics and values informing the ONFL classification of the area closest to the application site in the District Plan are referenced through the Waikato RPS as:

- Coastal areas of Coromandel – northern tip of the Coromandel peninsula and western slopes of Moehau Range out to coast (ONFL 10/2).
- Combination of pasture and bush running out to cliffs and bays. Dramatic and vivid with distinctive coastal features. Steep slopes between native forest above and coastal edge. Pōhutukawa along coastline.
- Botanical interest in the indigenous forest. Historic and Māori. Pā sites on headlands – battles between Māori tribes.

41. In addition, the Motukawau Group of islands (approximately 4.5km south-west of the site) are identified as an ONFL in the Proposed District Plan, as shown below in [Figure 9](#).

Figure 9: Motukawau Group of islands (Appeals Plan): Outstanding Natural Feature and Landscape



42. Three areas of Outstanding Natural Character (ONC) and several areas of High Natural Character (HNC) are also identified within the site's broader context at some distance from the proposal site. These are shown below in [Figure 10](#) and [Figure 11](#). The maps on the Thames-Coromandel District Council's interactive SMART Maps show these areas of ONC and HNC as extending into the water. Importantly, this map information is scheduled to be replaced to remove the overlap of the natural character overlay within areas of water as it is recognised that coastal waters are outside the jurisdiction of the Thames-Coromandel District Council and fall within the responsibility of the Waikato Regional Council.

Figure 10: Thames Coromandel District Plan (Appeals Plan): Natural Character

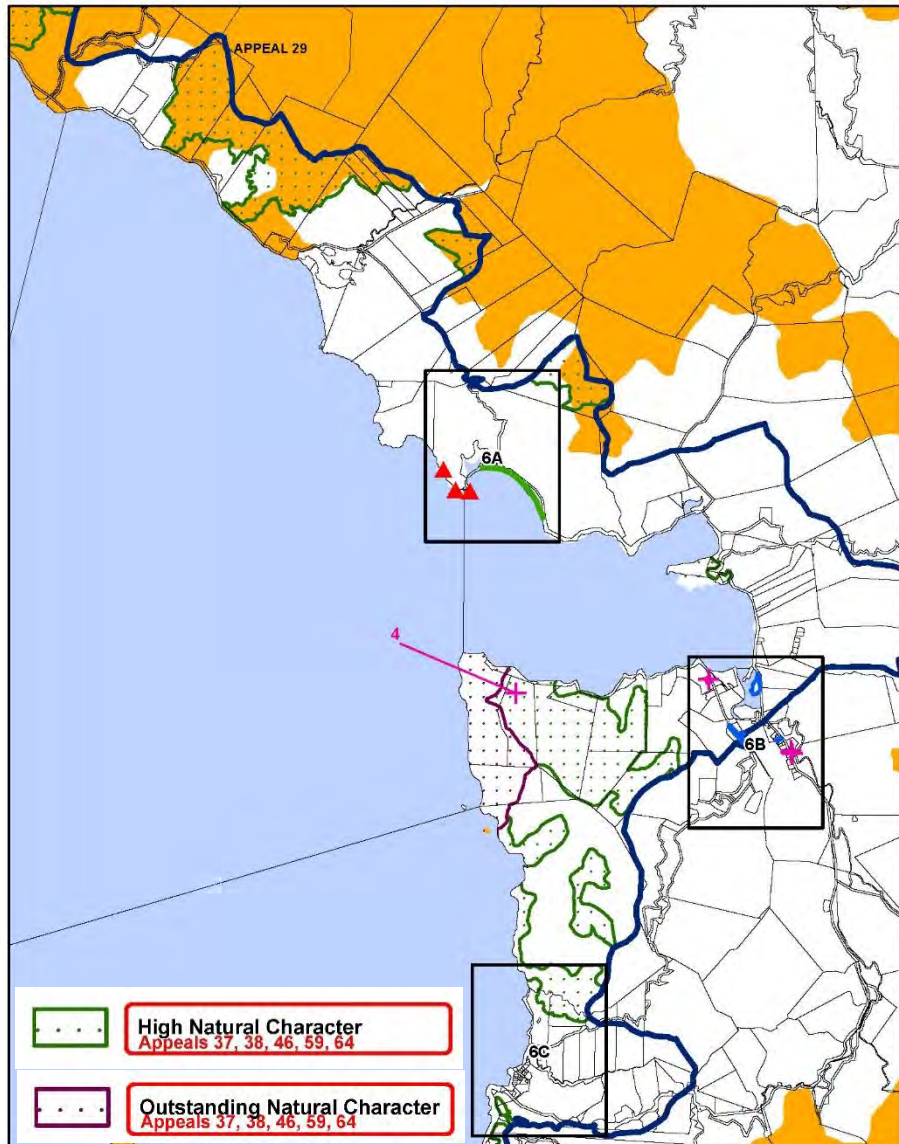
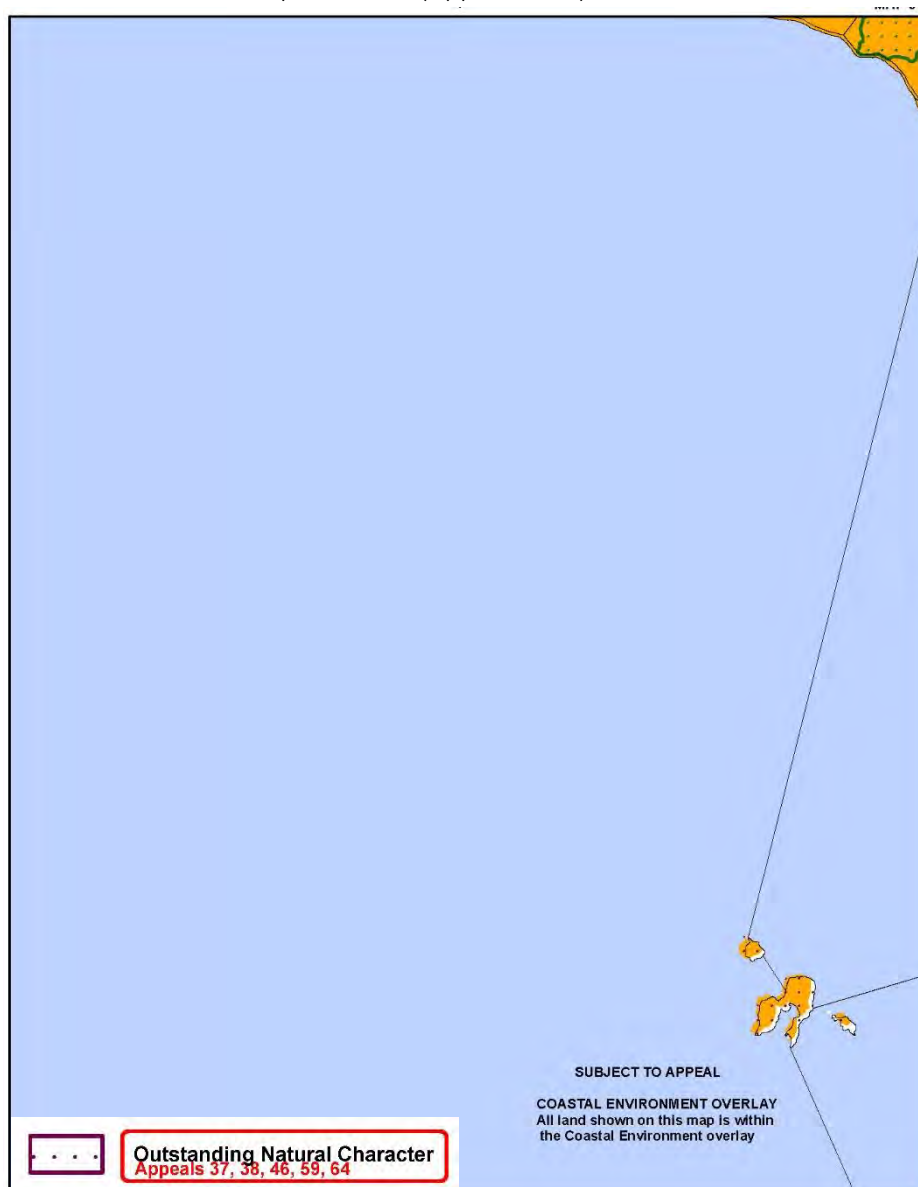


Figure 11: Motukawau Group of islands (Appeals Plan): Natural Character



43. The ONC overlay around Te Whau Point (the southern headland of Colville Bay) is 5.3km from the proposal site. The ONC overlay surrounding the Motukawau Group of islands is 4.5km from the proposed site. A third more distant ONC area (beyond the land depicted in Figure 9) is the Coastline and coastal foothills south of Fantail Bay but at a distance of approximately 10km from the site (to the north), this is considered too distant to be relevant.
44. Several areas of HNC are also identified on coastal slopes in the broader vicinity of the site at Moehau Range margins north of Te Kawau Point, at Moehau Range margins north of Hope Stream, at Tokawhero Point, and Coastline and coastal hill country north of Waitete Bay through to Tukituki Bay. The first two of these areas relate primarily to coastal hills extending inland and extend to the coastal edge in three limited areas. The other two HNC areas are located within Colville Bay and are over 5.6km south of the site.

45. Descriptions contained within TCDC online mapping for the natural character areas are:

ONC: Coastline & coastal hill country in the vicinity of Te Whau Point

Description: Headlands / bluffs / escarpments / slopes / shoals; extensive area of regenerating native forest; water area on the eastern side of the Hautapu Channel extending into Colville Bay; ecological sequence & connections from foothills to CMA.

Area (ha): 235.28

ONC: Motukawau Group of islands

Island landforms: headlands / slopes / escarpments / shoals; large tracts of remnant native forest; water area of the eastern Firth of Thames.

Area (ha): 2,098.95

HNC: Coastline & coastal hill country north of Waitete Bay through to Tukituki Bay

Description: Headlands / slopes / bluffs / shoals north of Waitete Bay; stands of remnant bush; the water area facing the eastern Firth of Thames.

Area (ha): 178.56

HNC: Tokawhero Point

Description: Headland / slopes / bays and tract of regenerating bush on the Tokawhero Point peninsula; the water area of inner Colville Bay.

Area (ha): 75.19

HNC: Moehau Range margins f north of Te Kawau Point

Description: The hill country landforms of the Moehau Range; extensive native coastal forest.

Area (ha): 159.06

HNC: Moehau Range margins f north of Hope Stream

Description: The hill country landforms of the Moehau Range; extensive native coastal forest

Area (ha): 191.52

HGMPA

46. The HGMPA promotes a co-operative approach to the integrated and sustainable management of the Hauraki Gulf. The HGMPA, in Section 7 and 8, has the status of an NZCPS.

Section 7

47. Section 7 recognises the national significance of the Gulf and emphasises the life-supporting capacity of the Hauraki Gulf and in particular identifies that this:

"...includes the capacity –

(a) to provide for the... relationship of the tangata whenua of the Gulf with the Gulf... and the... wellbeing of people and communities,

(b) to use the resources of the Gulf... for economic activities and recreation... and

(c) to maintain the... water and ecosystems of the Gulf".

Section 8

48. Section 8 identifies management objectives. These relate to a range of environmental, Māori and community matters. The protection of kaimoana is one objective. Sub-section 8(e) recognises the importance of the social and economic well-being of the people and communities of the Hauraki Gulf.

Other Relevant Studies/Documents

NCS³

49. This study was commissioned by the Waikato Regional Council to identify areas of High, Very High and Outstanding Natural Character across the Region. Although the study has no statutory standing, and has not informed the Regional Policy Statement (or any other regional or district planning documents to date), it may inform the review of the Regional Coastal Plan and may be considered by Council with regard to this application for consent. This assessment has, therefore, referred to its evaluative research with regards to existing characteristics and values in the proposal area and considered its findings.

MSP

50. MSP has been developed by the Hauraki Gulf Forum as part of its “Sea Change” project, under the legislation of the HGMPA. The MSP is a non-statutory document which sits under the HGMPA and gives effect to Section 7 and 8 of the HGMPA.
51. The MSP includes objectives aimed at making sure that marine farms in the Gulf are appropriately located. It identifies a number of areas where mussel farming is considered appropriate for future development, although it also acknowledges that these areas are only a preliminary guide, that growth will occur in the aquaculture industry, and that this is also appropriate.
52. The MSP is a non-statutory document, but still must be considered, as through the HGMPA Section 7 and 8 are deemed to be a NZCPS. The Waikato Regional Council is a partner agency to the MSP.
53. The proposal site is located within Site 7 – Colville, identified in the MSP as an area suitable for mussel farming (refer to [Appendix 1](#) of this report for a map and [Appendix 2](#) for the MSP assessment of Site 7).

³ Natural Character Study of the Waikato Coastal Environment, Boffa Miskell Ltd; 2016.

Assessment Approach and Methodology

54. The methodology used for this assessment of landscape, natural character and visual effects is based on the NZILA Landscape Assessment and Sustainable Management 10.1 best practice note,⁴ in conjunction with guidance on Landscape Assessment from the Quality Planning website.⁵ It comprises:

- a site visit to gain an understanding of the site and document its existing environment (a site visit was undertaken on 25-26 January 2018 and included both water and land-based inspection);
- description and characterisation of the existing environment (site and its wider context), and evaluation of existing characteristics and values, and the site's sensitivity to change;
- visual appraisal, including identification of the visual catchment, potential viewing audience, possible viewer sensitivities to the proposed change, and viewpoints likely to be impacted;
- selection of representative viewpoints and preparation of visual simulations to aid understanding of the potential effects on visual amenity;
- assessment of the nature and magnitude of proposed change and the significance of any resulting effects on the existing landscape, natural character and visual values;
- assessment of cumulative effects;
- assessment of the proposal against the relevant statutory provisions; and
- conclusions.

55. In assessing landscape effects, consideration is given to effects on all attributes (biophysical (abiotic and biotic), experiential/perceptual and associative) in coming to an overall conclusion.

56. For the assessment of effects on natural character, associative values (which comprise matters such as cultural, historical and shared/recognised values) are not taken into consideration, as these do not determine levels of natural character.

57. The assessment uses a seven-point scale (as follows) to rate effects:

Very Low (VL), Low (L), Low-Moderate (LM), Moderate (M), Moderate-High (MH), High (H), Very High (VH).

58. The NZILA best practice note 10.1 on Landscape Assessment does not make comment on how the suggested NZILA effects rating scale relates to RMA terminology. However, this assessment takes the following view as being sensible:

⁴ https://nzila.co.nz/media/uploads/2017_01/nzila_ldas_v3.pdf

⁵ www.qualityplanning.org.nz

NZILA Effects Rating Scale	RMA Terminology
Very Low	Negligible Effects
Low	Less than Minor Adverse Effects
Low-Moderate	Minor Adverse Effects
Moderate	More than Minor Adverse Effects
Moderate-High	More than Minor Adverse Effects
High	Significant Adverse Effects that may be able to be remedied or mitigated
Very High	Unacceptable Adverse Effects

59. Although, all proposed blocks within the farm may not be fully developed at all times, this report assesses the maximum block development possible, i.e. full development of all proposed blocks set up for spat catching purposes for assessment of effects.

Existing Environment: Description

Broad Context

60. The site's broad context is provided by the waters of the Firth of Thames to the south, the Hauraki Gulf waters to the north and west, and the slopes of the Coromandel Peninsula to the east. Landforms, including small islands, are visible in the distance to the west and south, and while the Coromandel Ranges are also relatively distant (at 3km from the site), their scale and elevation make them an influential part of the site's context in perceptual terms, as seen from the water.

61. Given the site's distance from landforms, biophysical attributes of the site's context relate mainly to the marine environment. Field surveys at the proposed site⁶ identified that the present-day benthic community is not indicative of the site's original natural state. The Firth once contained a large biomass of wild greenshell mussels. This benthic ecosystem was largely destroyed by commercial dredging for mussels and along with ongoing sedimentation, the benthic ecosystem is considered to have changed, and is probably irreversibly modified.⁷

62. The Firth of Thames is a complex and open hydrodynamic setting, with freshwater inflow, tides and local winds strongly influencing water flow in the Firth. The Firth is not well flushed, making it sensitive to excessive nutrients. In contrast to the rocky reefs around most of the surrounding coastline, the benthic environment of the Firth of Thames has been found to be composed of mainly soft sediments, especially mud.⁸

63. By the 1960s the Firth of Thames had undergone extensive dredging, which resulted in the near collapse of all hard, biogenic reefs (composed of species such as greenshell mussels). Research shows that more than 500m² of greenshell mussel beds have been lost from the Firth. These mussel beds would have performed important ecological functions such as water filtration and providing habitat and food for other species. While there are ongoing issues with water quality

⁶ 4Sight Consulting, Ecological Survey at a Proposed Mussel Spat Collecting Site: North-Eastern Thames, 2018

⁷ Ibid

⁸ Hauraki Gulf Marine Spatial Plan

in the Firth, the area is still considered important for spotted dogfish, juvenile snapper and a nursery for smooth hammerhead shark.⁹

64. The modern sediment microbenthic community of the Firth of Thames has adapted to the present muddier conditions since the reef collapse of the area (described above) and is likely to be quite resilient to ongoing deposition of fine sediment.¹⁰
65. One 'resident' whale species which can be encountered throughout the year in the general area of the Hauraki Gulf (north of the Firth) is the Bryde's whale.¹¹
66. There is a Ramsar wetland site in the southern and south-western Firth. This internationally recognised site contains around 9,000 hectares of intertidal and coastal margins at Miranda. At its closest the wetland is more than 50km from the proposed spat farm.¹²
67. The water context here is expansive. On travelling through the waters of this area the landforms most visible to the east exhibit a mix of landcovers, including indigenous forest, revegetating areas, and pastoral farming uses. Shoreline settlements and associated infrastructure are visible particularly in the south of this broader area, around the Coromandel area and generally along the edges of the Firth of Thames. The prevalence and influence of structural terrestrial modifications reduces when travelling north through the waters off the Coromandel Peninsula and as the site and the open Hauraki Gulf are approached. However, when approaching the site and the open Hauraki Gulf, leaving the Firth of Thames behind, the modified mix of landcovers is still evident.
68. Modifications are also present on the waters to the south in the form of several marine farms clustered along the western edge of the Coromandel Peninsula. A map showing existing consented marine farms in the area is included further into this report, as part of the cumulative effects assessment.
69. There is generally less water traffic in this part of the Hauraki Gulf¹³ (in the vicinity of the site) than in the waters to the south (the Firth of Thames), where there is more settlement, higher levels of recreational water use, a number of existing marine farms, and commercial water-routes between the Firth of Thames and Auckland. Within the Firth of Thames there is a continuous (although not extensive) presence of human activity in the vessels servicing numerous aquaculture activities in the waters, transporting goods to and from Thames, and from private water craft using the Firth for recreational purposes. Historically the Firth of Thames was the travel route for vessels involved in extraction industries since the 19th century.

⁹ Hauraki Gulf Marine Spatial Plan

¹⁰ Firth of Thames Water Quality and Ecosystem Health, Waikato Regional Council

¹¹ Potential Effects of Mussel Farming on New Zealand's Marine Mammals and Seabirds: a Discussion Paper, DOC

¹² 4Sight Consulting, Ecological Survey at a Proposed Mussel Spat Collecting Site: North-Eastern Thames, 2018

¹³ Hauraki Gulf Marine Spatial Plan; Appendix 2: Site 7 Colville

70. As experienced from on land, the context in the vicinity of the site is strongly rural. The large areas of indigenous vegetation on the elevated inland slopes of the Coromandel Ranges are generally much less visible from the road travelling up this western coastline of the Coromandel Peninsula than when on the water.
71. The prevalence of buildings and settlements reduces drastically when traveling north up the Coromandel Peninsula from around the township of Coromandel. When travelling north, the context becomes strongly rural, with a prevalence of coastal pastoral land, and buildings which tend to be widely scattered and few in number. In the vicinity of Colville Bay, the elevated vegetated slopes of the Coromandel Ranges are visible to the east of the road as the road passes through the farmed flats. North of this location the road (Port Jackson Road) is set against steep hillsides, and winds over and around the coastal cliffs, with limited views inland. From here it descends to the flat again at Otautu Bay, where there is a small settlement and permanent camping ground. The road then passes inland through farmland areas and mixed native and exotic vegetation including forestry, until it reaches Waiaro. There are no views out to the sea from this inland stretch of the road to Waiaro. North of Waiaro the road remains on the coastal edge, again often set against the steep hillside to the east without views inland.
72. Generally, in this area the road affords a range of views out to the water, including views from the shoreline and more elevated views where the road traverses coastal cliffs. On the more elevated parts of the road views out to the water are intermittent, often screened by vegetation. Where the road descends to flatter areas the landcover visible from the road is predominantly pastoral, generally rising above the road to the east. Overall, the character of the terrestrial context visible from the road is rural, with stretches of coastal indigenous vegetation primarily on the coastal cliff stretches of the road. By and large the inland slopes of the Coromandel Ranges are not highly visible from the coastal Port Jackson Road in the vicinity of the site due to the road being cut into a hillside.

Site and Localised Vicinity

73. The site itself is comprised of an area of open water, approximately 3km off the western shoreline of the Coromandel Peninsula, in the vicinity of Waiaro (just north of Colville Bay).
74. The site sits within an expansive and predominantly natural context (in perceptual terms). There are no structures present at the site, and few are visible within the wider context from the site. Landcover modification is visible, however, on the closest landform to the site (the western edge and west-facing slopes of the Coromandel Ranges). Slopes facing the proposal site exhibit mixed landcover, with large areas of indigenous forest on the elevated inland slopes, and pastoral land clearly visible on lower slopes coming down to the coastal edge.
75. From the closest terrestrial areas (Coromandel Ranges to the east of the site at about 3km away) the site is distantly seen as open waters.
76. The site forms part of the wider context of historical and ongoing mixed uses of the Firth of Thames and wider edges of the Hauraki Gulf for productive uses and water transport routes, as well as recreational fishing.

77. The benthic environment around the site has been the subject of study as part of the MSP in order to identify areas suitable for marine farming. The MSP identifies the area of the proposal as one of several areas which is suitable for aquaculture development and is identified in the plan as Site 7 - Colville. The MSP describes¹⁴ the area as follows:

The area is commercially fished for scallops (Pecten novaezelandiae). Dog cockle (Tucetona laticostata) and large, relatively dense horse mussel (Atrina zelandica) beds occur in some areas, although the extent of these beds has been substantially reduced by scallop dredging and trawling (Thrush et al. 1998). The presence of dog cockle and horse mussel beds increases infaunal invertebrate diversity, and live in-situ horse mussels are colonised by macroalgae and a variety of sessile invertebrates including sponges, anemones and ascidians increasing both epifaunal diversity and habitat complexity (Cumplings et al. 1998; Dewas 2008). Dead horse mussels are colonised by a variety of mobile invertebrates, including juvenile rock lobster (Jasus edwardsii), and small fishes (Allan & Walshe 1984). The increased habitat complexity created by horse mussels and their epibionts has also been shown to provide nursery habitat for juvenile snapper and significantly reduce mortality of post-settlement scallops (Thrush et al. 1998; Morrison et al. 2014a, b).

The area does not include any critical seabird habitat. Seabirds known to forage in the general area of the proposal include Australasian gannet (Morus serrator), fluttering shearwater (Puffinus gavia) and little penguin (Eudyptula minor). Common dolphins (Delphinus delphis) regularly occur in this area and there are occasional sightings of bottlenose dolphin (Tursiops truncatus), killer whale (Orcinus orca) and Bryde's whale (Balaenoptera edeni).

Adjacent to high intensity trawling areas and moderate intensity longline fishing.

Low level of recreational fishing.

No commercial traffic in this area.

Inshore from recognised cruising route (running north to south).

No surf breaks in vicinity

78. The water depth at the application site varies between 18m to 22m, with shallower water in the northeast portion of the site and deeper water in the southwest portion of the spat farm.

79. Benthic studies completed for this application¹⁵ have confirmed that the seabed habitat at the site is the same as what is present throughout much of the Firth. At the site the seafloor is a relatively flat and featureless mud habitat, containing very low quantities of shell hash and some small gravel particles. No rock or reef was recorded.

80. Biota observed in benthic grab samples taken from the site¹⁶ were considered well adapted to muddy conditions, as well as typical and widespread in the Firth of Thames. Samples included species such as brittle stars (*Amphiuridae*) and heart urchins (*Echinocardium cordatum*). In

¹⁴ Hauraki Gulf Marine Spatial Plan: Appendix 2 (Attached to this report as Appendix 2)

¹⁵ 4Sight Consulting, Ecological Survey at a Proposed Mussel Spat Collecting Site: North-Eastern Thames, 2018

¹⁶ Ibid

addition, nutrient concentrations were consistent with the expectations for deep subtidal dominated estuaries in New Zealand and indicated well-mixed coastal water.

81. Whale migration pathways are not recorded to directly overlap with the proposed spat farm.¹⁷

82. Surveys undertaken at the site¹⁸ recorded relatively strong currents and concluded that the site is likely to be well flushed by tidal flows. The location also has a high exposure to near surface wind driven currents from all quarters and is relatively exposed to locally generated wave conditions. On that basis, residual (non-tidal) currents are likely to be highly variable.

83. In terms of natural science attributes, landform values have less importance at this site due to its location in the water. Therefore, marine natural science values will be most relevant.

Existing Environment: Evaluation of Values

Broad Context Values

84. The site's broader context has been identified in the Waikato Natural Character Study (NCS) as Western Coromandel: Coastal Marine Area B.¹⁹ At this broad scale the levels of natural character have been assessed by the NCS as Moderate-High overall (including high levels of abiotic and experiential values, and moderate-high biotic values).

85. The NCS's evaluation of characteristics and values of the site's broader contextual marine area is as follows:

Abiotic: High NC

The coastal marine area contains a variety of habitats near the shore including mixed sand and gravel beaches, harbours and estuaries. Tidal currents are strong in central areas of the Hauraki Gulf extending into the Firth of Thames, and benthic sediment is varied along the Coromandel west coast. Sediment is mud from Papaaroha to just south of Fantail Bay (north of the site). Rocky shore is present on the coastal margin along this coast in many places.

*Shipping traffic is busy around the Port Jackson headland and along the east coast where vessels move along the coast of New Zealand to various Ports. The wharf at Te Kouma (Sugarloaf wharf) in southern Coromandel Harbour has busy shipping traffic as mussel barges regularly offload shellfish and is a popular yacht anchorage during summer. A passenger ferry service from/to Auckland and Waiheke Island also operates within this harbour.*²⁰

There are numerous boat ramps along the west coast of the Coromandel, including Te Kouma Harbour, Waipapa Bay, Coromandel township, Wyuna Bay, Long Bay, Oamaru Bay and Amodeo Bay. Elsewhere along parts of this coast boats are launched directly off the beach.

A linear reclamation is present within Coromandel Harbour, accommodating numerous jetties and moorings for commercial vessels most likely associated with the aquaculture industry.

¹⁷ 4Sight Consulting, Ecological Survey at a Proposed Mussel Spat Collecting Site: North-Eastern Thames, 2018

¹⁸ Ibid

¹⁹ Natural Character Study of the Waikato Coastal Environment, Boffa Miskell Ltd 2016, Section C, pgs 62-67

²⁰ This assessment considers that shipping and ferry services relate more to experiential and associative values. However, these are recorded here as evaluated in the Waikato Natural Character Study.

Biotic: Moderate-High NC

Within Coromandel Harbour and Colville Bay there are several important shorebird high tide roost sites and breeding sites for New Zealand dotterel (Dowding, 2013). North of Coromandel there are a number of New Zealand dotterel breeding sites. Brown teal also flock in Whangaahei Bay within Colville Bay.

The richness of reef fish species from Matariki Bay to Port Jackson is variable but in general increases from around 15 in Manaia Harbour to 25 at Port Jackson (Smith et al., 2013 referenced in SeaSketch).

Areas of very high conservation value for demersal fish occur at Te Kouma, around Whanganui, Waimate and Motuoruhi Islands and to the west of Port Jackson in deeper water. High conservation areas for demersal fish dominate Coromandel Harbour and adjacent to Colville Bay. The coastal water immediately seaward of Otautu Bay and to the north, up to and around Port Jackson, is of moderate to low conservation value for demersal fish (Smith et al., 2013, referenced in SeaSketch).

Orca, bottle-nose dolphin and common dolphin have been observed along the western coast of the Coromandel, with common dolphin being the most numerous. Whale sightings in the Firth of Thames are very rare.

Whale sightings from Manaia Harbour to Port Jackson have primarily been Bryde's Whale, with occasional sightings of southern right, minke and humpback whales.

Coastal vegetation sequences in parts of Manaia Harbour, Te Kouma Harbour and Coromandel Harbour grade from terrestrial vegetation to saltmarsh to mangroves and to seagrass. Mangroves and saltmarsh are present within Colville Bay and Whangaahei Bay. All of these estuarine vegetation types are important habitats for indigenous species.

Between Manaia Harbour and Moturua Island (Rabbit Island) there are a large number of approved aquaculture areas where mussels and oysters are currently cultured.

Recreational fishing is commonly undertaken along the west coast of the Coromandel Peninsula, with hot spots adjacent to Kereta, Coromandel township and Papaaroha.

Experiential: High NC

The coastal waters are accessible from numerous locations along this coast. Manaia harbour and its margins remain largely untouched with a large intertidal zone dominated by mangrove population and some boat ramps and the coastal road.

Coromandel Harbour is sheltered by a series of islands, (Rangipukea, Cow and Calf, Whanganui, Motutapere, Waimate and Motukakarikitahi), that are surrounded themselves by rocky shelves that are popular locations for recreational fishing. Scattered around these islands are smaller mussel farms that are also frequented by recreational fishing.

The intertidal shoreline of Coromandel Harbour is modified with Oyster farms and the shoreline also modified with coastal roading, reclamation and boat ramps and the main jetty at McGregor Bay. This harbour also supports the home of commercial fishing, the Auckland / Coromandel passenger ferry and its sheltered waters enable it to be frequented with recreational boating, fishing and swimming.

The modified harbour edges, marine farming, commercial use and frequented recreational use combine to lessen the experiential values of natural character in this area.

Further north along the coast, the islands of Motuoruhi, Motuokino, Motukaramea, Motumorirau, Hautapu Rocks are surrounded by rocky shelves and unmodified coastal waters. Whilst popular fishing spots, these areas are less frequented than Coromandel Harbour and provide a sense of

isolation and remoteness when amongst them. Similarly the cluster of islands around Motukaramea, Motuwi and Motukahaua Islands provide a similar environment and experience.

The coastal edge of Long Bay to Koputauaki Bay is relatively unmodified with some boat ramps within the bays and isolated moorings. Further north the waters become more inaccessible from the coast and the sense of remoteness greatens. From Colville to Port Jackson the coastal edge is remote and human activity on the water sparse. For this extent of the coastal waters the perceptions of naturalness are high.

86. The NCS identifies an area of HNC along the coastline opposite the proposal site, which stretches approximately 2km offshore (the site lies approximately 3km offshore).²¹ It also identifies an area of Very High natural character around the Motukawao Group (a grouping of islands) south of the site. It is 3km from the site to the nearest point of the natural character overlay surrounding the island group. These areas are shown below in [Figure 12](#), which is mapping taken from the NCS.
87. While being in general agreement with the NCS's evaluation of the broader context of this defined area, it is noted that the CMA described is large-scale and includes several areas far removed from the proposal site. It is also noted that the high values described by the NCS on the north-west coastline are largely linked to the variety of habitats present near the shore, and the low levels of modification present on the coastal edge. Further, the NCS area extends generally to around 2km off the coastal edge only.²² The proposal site lies 3km from the shoreline.
88. Associative values will also be relevant to this assessment. These have not been separately identified within the NCS as associative values do not form part of a natural character assessment. At this scale associative values are high, primarily due to the well-known use of the Coromandel area as a holiday destination and for recreation in general. There are also associative values connected to the historical and ongoing productive uses of both terrestrial and marine areas, and the working use of the waters in this broad area for transport and servicing of marine farms. Cultural values will relate to historical and current uses of the area's waters, and there will be physical and spiritual values associated with mana whenua, mana moana, and tangata whenua taonga, mauri, customary practices and the exercise of kaitiātanga. Several archaeological sites have been identified on the coastal edge generally opposite the site, including pa sites and middens.²³ No specific cultural values have been identified that would be compromised by this proposal, however it is noted that a cultural impact assessment has not been undertaken.

²¹ Natural Character Study of the Waikato Coastal Environment, 2016 pg 67

²² Ibid

²³ TCDC Smart Maps: Historical Sites Layer

Figure 12: WRC Natural Character Study: Areas of High/Very High Value in CMA B: Western Coromandel.



Site and Localised Vicinity Values

89. The following evaluation of values present at the site and in its more localised vicinity is based on the description of the existing environment given earlier in this report, which drew on work undertaken for the Hauraki Gulf Marine Spatial Plan and the ecological report of the site by 4Sight Consulting, as well as site visits carried out for this assessment. There are no values identified at the site-scale within the NCS commissioned by the Waikato Regional Council as the site lies beyond the boundary of the natural character areas identified in the study.

Biophysical Values (Abiotic and Biotic)

90. The only physical contact that this application will have with a landform will occur on the seabed where the warp ropes are anchored. However, the seabed has been degraded by historic

commercial dredging, as well as by historic and present-day sedimentation and, thus, is presently regarded as being highly modified. Effects from anchoring on the landforms are therefore considered negligible.

91. Ecological reporting²⁴ indicates that the Firth of Thames plankton systems have a naturally enormous range in variability and this type of variability was also recorded at the site. In addition, the impacts of mussel farming are small beyond their farmed area, and the impacts of spat will be even less.
92. Reporting notes that the relatively deep water at the site (approximately 18-22m) means that there will be a significant water column beneath the farm structures and seabed. This water will be unaffected by the filtering effects of mussel spat on the farm ropes. Water passing through this deeper part of the water column may also do so at a faster rate than through the farm itself due to the drag effect of farm structures above. This will further encourage mixing and should reduce the extent of any phytoplankton depletion beyond the farm footprint.
93. Furthermore, residual (non-tidal) currents at the site are likely to be highly variable, meaning that the location of any plume or plankton change will be strongly influenced by residual currents. Any phytoplankton depletion halo is likely to be highly variable and will change with both tidal state and prevailing conditions. The tidal and residual currents at the spat farm will enable adequate mixing with the surrounding water. This will facilitate a rapid return to background phytoplankton concentration downstream of the spat farm.
94. Mixing of waters within and downstream of the spat farm will also promote nutrient cycling and should limit the potential for sustained or significant impacts on phytoplankton production. There are no existing farms close enough to the proposed spat farm site for there to be any risk of effects of phytoplankton consumption within the proposed farm affecting any other farms.
95. Benthic reporting²⁵ concludes that the seabed is a widespread mud habitat and has a common associated faunal community, the site has a dispersive nature, it is expected that the spat farm will only cause relatively benign changes to the seabed ecology beneath the site, and there is the potential for the farm to result in some positive ecological effects.
96. Mussel farms are known to attract fish, starfish, crabs, other marine life and seabirds. In addition to growing culture species, farms function as mid-water artificial reefs and create habitats. Artificial reef structures provide new foraging habitat, food sources, breeding habitat, and refuge from predators for some species. These are for the most part positive effects and they are likely to accrue to spat collection areas.²⁶
97. Ecological reporting²⁷ concludes that the risk of Bryde's whale or other whale species and dolphins becoming entangled in the proposed spat farm structures is small.

²⁴ 4Sight Consulting, Ecological Survey at a Proposed Mussel Spat Collecting Site: North-Eastern Thames, 2018

²⁵ Ibid

²⁶ Ibid

²⁷ Ibid

98. Reporting also concludes that given the localised footprint of marine farming effects as studied elsewhere in the Firth, effects on the Ramsar site are unlikely and that effects from the spat farm are negligible.²⁸ In addition, the area does not include any critical seabird habitat.²⁹
99. In summary, ecological reporting completed for this application concluded it is likely that the spat farm will have a less than minor effect on benthic habitats and water quality, ecological or water column effects beyond the spat collecting farm will be less than minor, and the farm will not affect shoreline habitats. Any ecological effect is likely to be positive, neutral, minor or less than minor.³⁰

Experiential

100. The site contains high levels of perceived naturalness primarily due to the lack of structures in the waters, and the very small number of structures visible on land, which are only distantly visible if seen at all from the on-water areas around the site. This promotes a sense of remoteness, however, perceptions of naturalness and values such as remoteness, isolation and wildness are influenced and reduced by the modified landcover on the Coromandel Ranges to the east, with extensive areas of pastoral farming clearly visible from the site on the lower slopes, as well as some plantation forestry. The visual contrast between areas of indigenous forest and pastoral farmland is high, reducing visual cohesion on the terrestrial areas as seen from the site and its vicinity. It is clear that parts of the ranges are in use as a working landscape.
101. The scale at the site is expansive, both in terms of the open expansive waters, which are distant from landforms (especially to the north, west and south), and in terms of the closest landform (Coromandel Ranges to the east), which comprise slopes highly elevated above the site, rising steeply and in great bulk from the shoreline. These natural elements dominate visually.
102. Transient values are also high, with marine wildlife seen at times, exposure to the elements, and changes to the character of the water dependant on weather.
103. Other values at the site include tranquillity and quietness. Water traffic in this area is less than in other parts of the broader on-water context.³¹
104. From land, the site is experienced as an area of distant open water, contributing to the remote feel of the area and the lack of structures creates a high perception of naturalness. However, from land the site is also often viewed from within a context of settlement or from a rurally modified context, i.e. from a terrestrial area where perceptions of naturalness are lowered by human modifications.

²⁸ 4Sight Consulting, Ecological Survey at a Proposed Mussel Spat Collecting Site: North-Eastern Thames, 2018

²⁹ Hauraki Gulf Marine Spatial Plan, Appendix 2, Site 7: Colville.

³⁰ 4Sight Consulting, Ecological Survey at a Proposed Mussel Spat Collecting Site: North-Eastern Thames, 2018

³¹ Hauraki Gulf Marine Spatial Plan; Appendix 2: Site 7 Colville

Associative Values

105. These relate more to the wider area than to the site itself and are connected to the reputation of the Coromandel region as a holiday/recreation destination, as well as to the historical and ongoing use of the area for productive uses, water-transport, and the cultural values relating more generally to the wider area.

Sensitivity of the Site to Change

106. Although the site is currently free of structures it is considered that its sensitivity to change is reduced by past modifications (dredging and sedimentation) and the resulting lowered biophysical values, as well as the lack of any identified biophysical features which could be more sensitive (such as reefs). Sensitivity is also reduced by the broader context, which includes visible modifications (pastoral landcover and plantation forestry), the vicinity's large scale, and by the site's distance from land-based views (at least 3km).

Visual Appraisal

107. This section identifies the visual catchment (where views of the proposal will be possible), the potential viewing audience, and possible viewer sensitivities. It also identifies several viewpoints to indicate and understand potential effects on visual amenity of the proposal.
108. Different viewing audiences tend to have differing levels of sensitivity to visual change, with resident populations tending to be more sensitive to change than visitors to an area, for whom views are transient. The biases of individual viewers towards the proposed activity can also have an effect.
109. Further, some views can be considered more "important" than others, for example where there are prominent lookouts or tourist spots which are frequented by a large number of people and are considered a particularly stunning, unique or rare view. Such views would typically be considered to have a higher level of sensitivity to change than views which are generally not experienced by many people and/or are not considered to exhibit stunning, rare or unique qualities. There are no such specific viewpoints in the local area or along this section of the Port Jackson Road.
110. Visual effects and effects on amenity and landscape character also occur on a continuum depending on factors such as distance, elevation, angle of view, context and capacity of the environment to absorb the change, intervening screening from structures, landform or vegetation, and factors which alter visibility in the setting such as weather and light conditions.

Visual catchment/Viewing audience

111. Views of the proposal will be gained from boats travelling across or through this part of the Hauraki Gulf/northern Firth of Thames. This on-water audience will gain the closest possible views of the proposal. Indications are that water traffic past the site will be lower in numbers than for some other parts of the Hauraki Gulf and Firth of Thames, with the Hauraki Gulf Marine Spatial Plan noting that the site is off the route of commercial vessels and in an area with lower numbers of recreational fishers. Additionally, it is considered that viewers on work vessels and

some recreational fishers will likely have lowered sensitivity to the presence of a spat catching area.

112. Views of the proposal may also be possible from some land-based positions on the Coromandel Peninsula facing the site, including from roads and from areas of shoreline. Elevated positions are likely to gain the most prominent views of the proposal. Generally, Port Jackson Road, opposite the site, affords a range of views out to the water, including views from the shoreline and more elevated views where the road traverses coastal cliffs. On the more elevated parts of the road views out to the water are intermittent as they are often screened by vegetation.

113. It is noted that the Coromandel Peninsula is a popular tourist/visitor destination, and there are camping/caravan sites on the coastal edge facing the site. Visitor numbers tend to be higher for areas south of the proposed site, closer to the centres of Coromandel, Thames and other nearby settlements. However, the sensitivity of visitors to the proposal may be higher, with views out over the water likely to be appreciated for their scenic/visual amenity values, and their contribution to the sense of remoteness in the area. Although, balanced against this is the distance of the proposed farm from the shore and the reduced visibility this entails.

114. There is only a very small number of buildings scattered along the coast north of Colville Bay. All these buildings (which may be rural outbuildings/sheds or residential buildings) are positioned east of and above the road. It should be noted that viewpoints selected for analysis as part of this assessment are from public areas.

115. In general, it is considered that visibility of the proposal from land is likely to be limited due to its distance from the shoreline (3km at the closest point of the farm) and lack of elevated public views.

Viewpoints

116. Three viewpoints from public land-based positions were identified to understand potential effects of the proposal on existing visual amenity. After visiting the land-based areas facing the proposal site, the viewpoints below were considered representative of the most prominent public views likely from land, and positions with the highest likely number of viewers.

Viewpoint 1

117. This viewpoint is located on the shoreline at the southern end of Otautu Bay, a sub-bay of Colville Bay on the northern side of Colville Bay. The viewpoint is at the southern end of Otautu Bay Farm Camp, approximately 5.5km from the proposal site. A caravan park occupies about two-thirds of the length of this sub-bay, with a large number of permanent caravans. The proposed site will be most visible from this end of the bay. As a viewer approaches the northern end of Otautu Bay the proposed site becomes hidden behind intervening landform. The view is currently of open, undeveloped waters, stretching out to the horizon.

Viewpoint 2

118. Located on the shoreline, approximately 1.5km north of Waiaro, at the Macdonald Recreation Reserve Campground. This viewpoint is approximately 3km from the proposal site and is representative of views for travellers on Port Jackson Road, as well as stationary views from the shoreline. The view is of open, undeveloped waters, with the Motukawau Group of islands visible, and the landforms more distantly visible to the east on the horizon.

Viewpoint 3

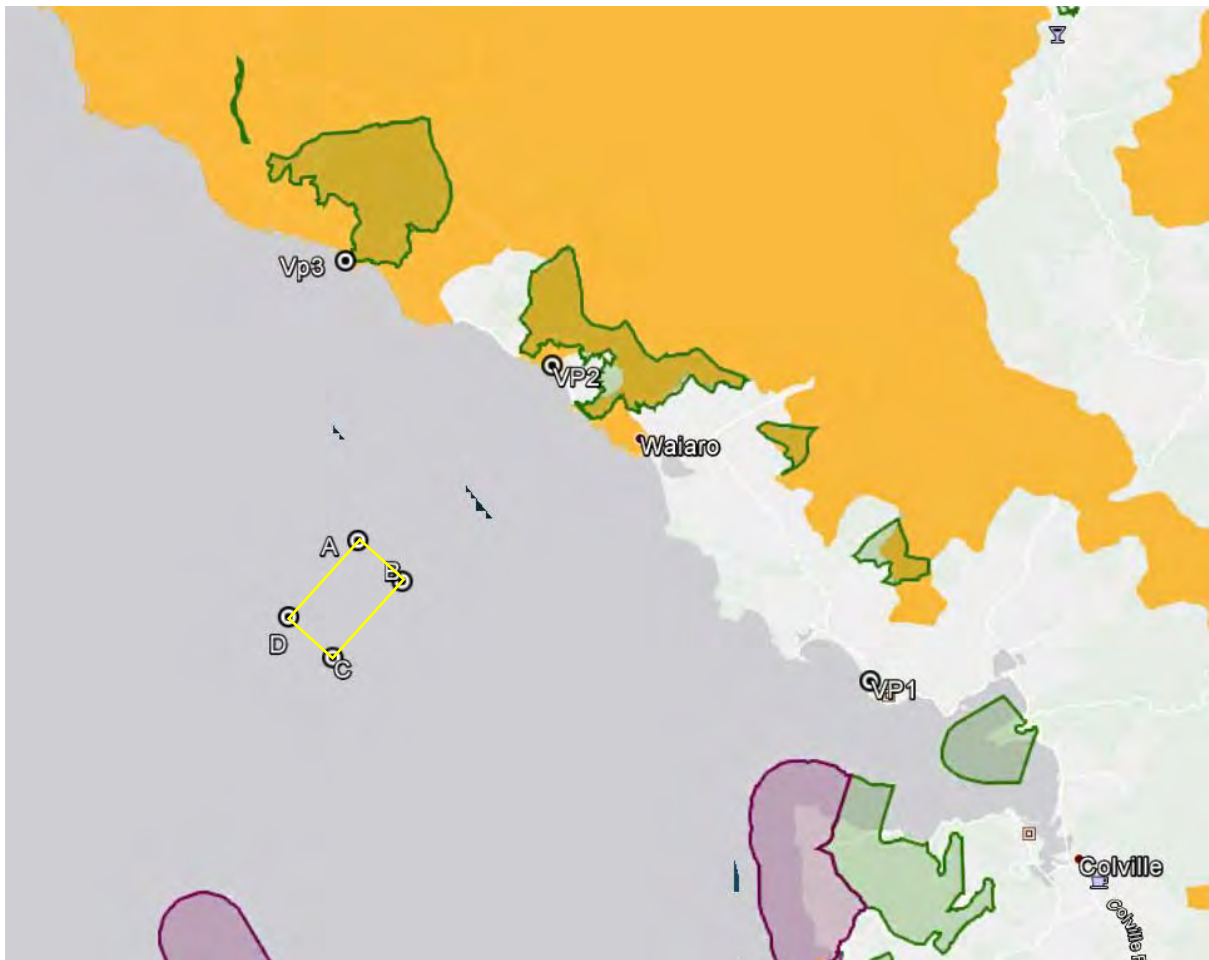
119. This viewpoint is located approximately 30m north of Hope Stream mouth, on the shoreline beside Port Jackson Road. It is located approximately 3.2km from the proposal site and is representative of views for travellers on Port Jackson Road, as well as stationary views from the shoreline.

120. The locations of the viewpoints are shown below in [Figure 13](#) and [Figure 14](#). [Figure 13](#) also illustrates landcover in the vicinity of the viewpoints. [Figure 14](#) shows the viewpoints in relation to ONFLs, and ONCs and HNCs identified in the Thames-Coromandel District Plan.

Figure 13: Viewpoints Location Map



Figure 14: Viewpoint Locations in relation to TCDC ONFL, ONC and HNC areas.



Assessment of Effects

Broader Context

Effects on Biophysical Values

121. There will be no effects on terrestrial biophysical values due to the proposal site being located 3km offshore.
122. The proposal will result in new structures in the water where currently there are none. However, biophysical values of the broader area around the site are unlikely to be adversely impacted by the proposal due to the open and expansive nature of the context waters and the physical effects of mussel farms generally known to be limited to within the footprint of the farm, or to only very small distances beyond the footprint. It is anticipated that the physical effects of spat catching will be less than mussel farming. Biophysical values are known to be already modified in this area by commercial dredging and ongoing sedimentation.

123. While areas of high abiotic value have been identified by previous work within this broader context,³² these relate to the variety of habitat provided along the coastal edge some 3km from the site.

124. Adverse effects on biophysical values on the broader context are assessed as being **very low**.

Effects on experiential/perceptual values

125. The broader context of the site is considered more remote and isolated than areas to the south, where tourism and recreational uses are at a higher level, terrestrial modifications in the form of settlements are larger and more frequent, and marine farming is more prevalent. Perceived naturalness is also high due to a general lack of structures. However, these values are also influenced and reduced by the extensive land cover modifications in the surrounding context, with the landscape character largely experienced as rural, pastoral farming, with some plantation forestry, interspersed with coastal cliff indigenous character on those terrestrial areas adjoining the coastal edge.

126. From land-based positions adverse effects on terrestrial experiential values from the proposal will be very limited due to the distance of the proposal from shoreline, and its limited visibility. It is unlikely to be visible from land during the day, although night lights may be distantly visible (refer to the section on Visual Effects further into this report for further detail on visibility). Aesthetic/scenic values of the Gulf waters and values such as isolation and remoteness, as appreciated from the shoreline of the Coromandel Peninsula, are unlikely to be affected due to the distance from the proposal and limited visibility.

127. From water-based positions considered at this broader scale, the proposal needs to be considered alongside views of pastoral land and plantation forestry on the Coromandel Peninsula to the east, and existing marine farms to the south. The broader context is of a working landscape, which the proposal will be in-keeping with. The on-water context here is considered large-scale enough to absorb the proposal, even at the scale proposed, with the expansive waters of the Hauraki Gulf and the highly elevated and visually dominant landform to the east (Coromandel Ranges) remaining the dominant visual elements within the context. Also of relevance is the generally lower level of recreational fishing and water traffic in this area.

128. Overall adverse effects on experiential values are assessed as being **low** at this scale.

Effects on associative values

129. The proposal will be an additional working element in a context recognised for its tourism value. However, the scale of the context and the distance of the proposal from most viewers (land-based) will mean that effects on those attributes valued by tourism (such as scenic and aesthetic qualities and values such as remoteness and isolation) will be **low**. The wider area is also associated with productive uses such as marine farming and the proposal will fit with that known use.

³² Natural Character Study of the Waikato Coastal Environment, Boffa Miskell, 2016.

Site and localised vicinity

Effects on biophysical values

130. Effects on biophysical values will relate to marine values only given the site's location 3km offshore.
131. The proposal will involve the introduction of new structures into the water column and seabed where there are currently none. However, biophysical values at the site are not considered to be high, primarily due to modifications to the seabed from commercial dredging and ongoing sedimentation.
132. Ecological reporting³³ concludes that the proposed spat collecting activity will have a less than minor effect on benthic habitats and water quality. These effects are at worst neutral and in some respects positive.
133. The site is located in relatively deep water and is subject to moderately strong tidally driven currents as well as exposure to residual wind driven currents from a wide aspect. Collectively, these environmental conditions will disperse and dilute any farm derived 'particulates', thus mitigating any potential adverse depositional effects.³⁴
134. The site will not affect shoreline habitats and the site itself is not considered to be sensitive to, or adversely affected by, the nature and scale of the proposed spat farming activities. The risk of entanglement of whales or dolphins in spat lines is remote and any effects on cetaceans are expected to be less than minor.³⁵
135. There will not be adverse cumulative ecological or water quality effects from the proposal. Furthermore, there are likely to be positive ecological effects associated with spat collection structures.³⁶
136. As such, adverse effects on biophysical values at the site are assessed as being **very low**.

Effects on experiential values

137. The site currently has high levels of perceived naturalness due to there being no structures present, although perceptions of naturalness are influenced and reduced by the land cover modifications clearly visible from the site on the closest landforms to the east (Coromandel Ranges). Values such as remoteness and isolation are also apparent, primarily due to the very low number of structures visible from the site in the wider context. These values will be reduced by the proposal in close water-based views. However, the significance of the adverse effect is considered very low due to the character of the context, which is large-scale and clearly contains elements of a working/productive nature, with the proposal being a fit with that character, as well as due to the low number of likely up-close viewers, with many of those viewers also likely to have reduced sensitivity to the proposal.

³³ 4Sight Consulting, Ecological Survey at a Proposed Mussel Spat Collecting Site: North-Eastern Thames, 2018

³⁴ Ibid

³⁵ Ibid

³⁶ Ibid

138. The introduction of new structures is not always inappropriate. Although this context is valued for its remoteness, the site itself is distant from most people's experience of that value. The distance from most viewers limits its visual impact. For the most part the proposal will not be visible from land. This is discussed further in the section of this report which addresses effects on visual amenity.

139. Overall adverse effects on experiential values at the site and localised vicinity are assessed as **low**.

Effects on associative values

140. Associative values currently relate more to the context than to the site itself. As mussel farms are known to attract fish, it may be that the proposal for spat catching provides new fishing spots and so could have positive effects on associative values for this site.

Effects on Visual Amenity

141. This section considers the effects on visual amenity from those viewpoints selected as being representative of the most prominent views or views with high numbers of viewers from land-based positions (refer to viewpoint selection under the Visual Appraisal earlier in this report). Visual simulations of the proposal extent have been prepared from the viewpoints, as well as from an additional aerial perspective, to illustrate and understand effects on visual amenity. These are attached in [Appendix 3](#).

142. It is considered that the buoys (floats) and the farm's night lighting will be the components most likely to generate adverse visual effects. There will be a service vessel present approximately one to two times a week tending the proposed spat catching area but this is considered to be an expected visual element within the coastal environment. Given the distance of the proposal from the shoreline the impact of the service vessel on visual or other amenity values (such as adverse effects arising from noise) is considered likely to be very low.

143. Visibility of the buoys is affected by a wide range of factors including weather conditions, time of day and time of year, calmness or roughness of the sea, atmospheric haze, the sun angle, the focus or framing of the view, the brightness or dullness of the day, the frequency of buoys, the number of buoys and size of the farm, the degree of submergence of buoys and longlines, the elevation and angle of view they are seen at, the backdrop, and the viewing distance.

144. This assessment uses a visibility table for mussel farms, developed by landscape architect Mr Graham Densem,³⁷ as a guide to ground-truth the visual simulations. Mr Densem's findings have been quoted in several cases, including two Environment Court Decisions, and I have found the table to be a reliable guide in my experience when visiting and assessing the visual effect of mussel farms. In the context of this coastal application proximity is the primary factor influencing the dominance that the application may potentially have on views.

³⁷ Pigeon Bay Aquaculture Limited v Canterbury Regional Council: Decision C32/99

145. Mr Densem concluded that significant adverse visual effects can occur for views from sea-level up to 500m from a marine farm. When the viewer is elevated, such as looking down from a point on land, this distance can be up to 1km. Over these distances the effects decrease to the point where no effect occurs at distances over 1.3km for sea-level views and 2.5km from elevated views. Mr Densem's ratios can be summarised as follows:

Effect	From the water	From elevated position
Significant Effect	<500 m	<1 km
Some Effect	500 – 1km	1 – 2 km
No Effect	>1.3km	>2.5 km

146. It should be noted that the sensitivity of the viewing audience needs to be considered, along with the character of the context, when determining the overall significance of visual effects.

147. The following tables assess the nature and scale of the proposed change at each viewpoint selected for this proposal using the prepared visual simulations and expert judgement to determine the significance of resultant effects on visual amenity.

148. Viewpoint 1:

<i>Viewpoint location</i>	On the shoreline at the southern end of Otautu Bay (sub-bay of Colville Bay), at the southern end of Otautu Bay Farm Camp.
<i>Distance to proposal site</i>	5.5 km
<i>Comment on nature and scale of proposed change and significance of the effect</i>	<p>The proposal is positioned on the horizon but is not visible. This is due to distance, with the proposal unlikely to be visible during the daytime even in the clearest conditions from this shoreline position.</p> <p>Boats may be visible on the horizon at this distance as they tend the farm, however boats are considered an expected and usual visual element in this context and not inappropriate in this view. Service vessels will only be distantly visible. It is not considered that service vessels will adversely impact visual amenity from this viewpoint.</p> <p>At night, lighting from the proposed farm (visible for 2nm/3.7 km) may be distantly visible on the horizon from this viewpoint but the adverse effect is considered very low given the distance to the proposal and that there will be other closer sources of lighting in the more immediate surroundings. In adverse weather conditions the farm lighting may not be visible.</p>
<i>Effects rating</i>	Low Adverse

149. Viewpoint 2

<i>Viewpoint location</i>	On the shoreline beside Port Jackson Road, approximately 3km north of Waiaro. This viewpoint is representative of views for travellers on Port Jackson Road as well as stationary views from the shoreline.
<i>Distance to proposal site</i>	3km
<i>Comment on nature and scale of proposed change and significance of the effect</i>	<p>The proposal is positioned partly on the horizon but mostly backdropped by landform and is not visible. This is due to distance, with the proposal unlikely to be visible during the daytime even in the clearest conditions from this shoreline position.</p> <p>Boats may be visible on the horizon or backdropped by landform in the distance as they tend the farm, however boats are considered an expected and usual visual element in this context and not inappropriate in this view. Service vessels will be only distantly visible as they tend the farm. It is not considered that service vessels will adversely impact visual amenity from this viewpoint.</p> <p>At night, lighting from the proposed farm (visible for 2nm/3.7km) may be distantly visible from this viewpoint. This viewpoint is located on the edge of an ONFL and given the lack of surrounding development here there are unlikely to be other stationary light sources close by. There may be occasional lights on the road from vehicles. However, given the distance of the proposal from the shoreline (3km) any adverse effects on the appreciation of the ONFL values from the farm's night lighting are considered very small. The context is expansive, lights will be distant and the area will remain predominantly natural with feelings of remoteness and isolation, and darkness at night time. The same will be true for the HNC area just north of this viewpoint location.</p> <p>The significance of adverse effects from lighting from this viewpoint is also reduced due to the likelihood that most views from here will be transitory, as viewers travel on Port Jackson Road, as well as intermittent (concealed at times by vegetation).</p>
<i>Effects rating</i>	Low Adverse

150. Viewpoint 3

<i>Viewpoint Location</i>	Just north of Hope Stream (north of Waiaro), on the shoreline beside Port Jackson Road. The viewpoint is representative of views for travellers on Port Jackson Road as well as stationary views from the shoreline in this area.
<i>Distance to proposal site</i>	3.2km
<i>Comment on nature and scale of proposed change and significance of the effect</i>	<p>The proposal is not visible during the daytime due to its distance from the shoreline.</p> <p>At night, lighting from the proposed farm (visible for 2nm/3.7km) may be distantly visible from this viewpoint. This viewpoint is located in an ONFL and HNC area, as identified in the TCDC Proposed (Appeals Version) District Plan. Given the lack of surrounding development here there are unlikely to be other stationary light sources close by. There may be occasional lights on the road from vehicles. However, given the distance of the proposal from the shoreline (3.2km) any adverse effects on the appreciation of the ONFL and HNC values from the farm's night lighting are considered very small. The context is expansive, lights will be distant and the area will remain predominantly natural with high feelings of remoteness and isolation, and high levels of night-time darkness.</p> <p>The significance of adverse effects from lighting from this viewpoint are also reduced due to the likelihood that most views from here will be transitory, as viewers travel on Port Jackson Road, and intermittent (concealed at times by vegetation).</p>
<i>Effects Rating</i>	Low Adverse

151. There will be opportunities along Port Jackson Road for more elevated views of the proposal. However, it is considered unlikely that adverse visual effects will be anything more than very low due to the distance of the proposal from the shoreline. The mussel farm visibility table referenced earlier in this report indicates that from an elevated position mussel farms have no visual effect beyond 2.5km. The proposal is positioned 3km from the shoreline at the closest point. Effects from night-time lighting will be similar to those effects described for the above viewpoints and are likely to have a low adverse effect.

152. No viewpoints have been prepared to illustrate the farm location from on-water views as it is clear that the proposal will form a prominent part of the view for those in close range to the spat farm. The mussel farm visibility table indicates that the spat catching area is likely to have a significant visual effect at a distance of 500m and closer, reducing to no visual effect beyond 1.3km. However, the existing context is of relevance in determining the significance of the effect on visual amenity, as is the likely sensitivity of viewers at this close range. In this context, with pastoral farming uses and plantation forestry clearly evident on the adjacent Coromandel Ranges, and productive uses in the coastal marine area existing further to the south, the

significance of the visual effect is lowered. Although the proposed spat catching site is relatively large in size, it will be seen in the context of productive terrestrial uses (farmed land and forestry), and viewers at this close range are likely to be either from work vessels or recreational fishers. Commercial boat operators are deemed as having reduced viewer sensitivity. Viewers from recreational fishing vessels are likely to have mixed sensitivities. Recreational fishers may enjoy visual amenities as part of their fishing experience, however, marine farms can also result in increased fishing opportunities. Furthermore, water traffic in this area is relatively low in volume.

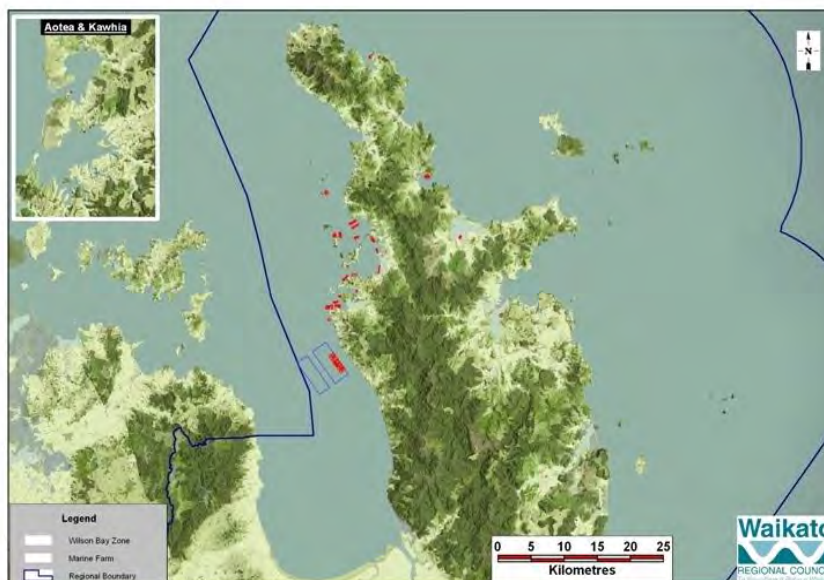
153. The context here is expansive and the closest landforms are large-scale and visually dominant. The context will be able to absorb the farm at the scale proposed with visual amenity remaining high and the natural elements of water and landform remaining visually dominant.

154. Adverse effects on visual amenity for on-water viewers in close range (500m and closer) are assessed as being **moderate**.

Cumulative effects

155. To assess cumulative effects the proposal has been considered in conjunction with other existing consented marine farms in the area. There are a number of existing marine farms south of the proposal site. The closest of these is 9.3km south of the proposal. Existing marine farms are generally considerably smaller in coverage than the proposal but are positioned in closer proximity to the shoreline. [Figure 15](#) below is taken from the Waikato Regional Council website and shows consented marine farms in the broader area around the site.

Figure 15: WRC Marine Farm Map



156. Cumulative effects have been considered in terms of the following:

- Simultaneous views: where two or more marine farms are seen within the context at the same time from a viewpoint.

- Successive views: where two or more marine farms are present in views from the same viewpoint but cannot be seen at the same time as the viewer needs to turn their head.
- Sequential views: Where two or more marine farms are seen one after the other as a viewer moves through the landscape/seascape but are not present in views from the same viewpoint and cannot be seen at the same time, even if the observer turned their head and moved around their arc of view.

157. Only sequential views are of relevance in this case as it is not possible to see other marine farms from the site either in simultaneous or successive views.

158. The proposal site is located 9.3km from the closest marine farm to the south. This is of sufficient distance to make the addition of the proposal to the area acceptable in terms of sequential cumulative effects.

159. It is relevant to note that the site is located in an area identified in the Hauraki Gulf Marine Spatial Plan (Site 7 - Colville) as suitable for inclusion of marine farming.

Summary of Effects on Values

Effects at the site/localised scale

Value	Effect
Biophysical	Very Low Adverse
Experiential/Perceptual	Low Adverse
Associative	Neutral
Visual Amenity (on-water views 500m and closer)	Moderate Adverse

Effects at the scale of the broader context

Value	Effect
Biophysical	Very Low Adverse
Experiential/Perceptual	Low Adverse
Associative	Very Low Adverse
Visual Amenity	Very Low Adverse

Cumulative Visual Effects

Type	Effect
Simultaneous views	None
Successive views	None
Sequential views	Very Low Adverse

Assessment against the Statutory Framework

Waikato Regional Policy Statement (RPS)

160. The site lies 3km off the edge of ONFL 10/2 as identified in the Waikato RPS, and even further from ONFL 5. The RPS contains several policies aimed at protecting the values related to ONFLs. The values identified for ONFL 10/2 and ONFL 5 are listed in Table 12-1 of the RPS. For ONFL 10/2 these values primarily relate to the dramatic character of the landform, the indigenous vegetation value, as well as cultural and historical values linked to headland pa sites and battles between Māori tribes. For ONFL 5 values relate to the massive volcanic landform, remote and wild characteristics, and cultural values.
161. The RPS also contains provisions to maintain and enhance amenity value in the coastal environment and in areas adjacent to ONFLs that are visible from the road or other public places (Policy 12.3).
162. At 3km from the edge of ONFL 10/2 the proposal is not considered adjacent to this identified area and, as such, neither is ONFL 5 which is at an even greater distance from the proposal. In addition, the site will not be visible from land during the day. From on-water the proposal will be seen in the context of existing farmed areas and plantation forestry of the Coromandel Ranges, and will be in-keeping with that context.
163. The proposal is considered sufficiently distant from the ONFLs for the identified ONFLs' values to remain protected. From on-water views near the site the Coromandel Ranges are sufficiently large enough in scale and visually dominant with their vivid and dramatic character to remain intact and dominant. When looking out to the Hauraki Gulf from the shoreline edge of ONFL 10/2, the proposal will not be visible during the daytime and is likely to be only distantly visible at night as a result of night time lighting. For these reasons the proposal's impact on ONFL values will be minimal, with values remaining intact.
164. The RPS also contains provisions related to the preservation of natural character. These are implemented through the provisions of the Regional Coastal Plan, which is commented on below.

Waikato Regional Coastal Plan (RCP)

165. The RCP contains objectives and policies aimed at preserving and protecting the natural character and amenity values of the CMA, natural character habitat and coastal processes, and representative and other natural features. The RCP identifies the proposal site as lying inside a Nationally Significant Coastal Environment. However, as the assessment criteria used to identify this area dates back to 1994 and have been succeeded by the 2014 Operative CMS for the Waikato Conservancy Area, it is considered likely that the Council will take into consideration the more current findings of its recently commissioned Natural Character Study of the Waikato Region (NCS). This NCS identifies an area of HNC along the north-western coastline of the Coromandel Ranges opposite the site. It should be noted that this HNC area extends approximately 2km offshore, while the proposal site is located 3km offshore. Values identified for the HNC area also relate primarily to habitat close to the shoreline.

166. The site has not been identified as holding HNC or any representative, significant or sensitive natural features. Further, any ecological effect from the proposal has been assessed as likely positive, neutral, minor or less than minor by benthic experts.³⁸ For these reasons it is assessed that objectives and policies aimed at protecting natural character, habitat, coastal processes and natural features will be met.
167. RCP policies around values such as remoteness and isolation and amenity values will also be met as adverse effects on these values are deemed as avoided. Although the context of the proposal site is relatively high in these values, the proposal will not be visible during the day from land, and lights will only be faintly visible at night, mostly in transitory views. From water-based views the wider context also contains extensive areas modified for terrestrial productive use, which are easily visible from the site. The proposal is in-keeping with these. Further, the context of the site is large enough scale for the natural elements of water and elevated landform to remain visually dominant, with visual amenity remaining high. The proposal is low-lying in nature, further reducing its impact and ensuring that open space qualities will remain unaffected.
168. It should also be noted that the RCP makes specific provision for marine farming, recognising that this is an acceptable activity in the coastal marine area as long as it is appropriately located (refer also to the section on the Marine Spatial Plan below).

Thames-Coromandel District Plan (TCDC) (Operative/Proposed)

169. Due to the proposal being a marine based activity and the land-based nature of the provisions in the Operative TCDC, it is concluded that the marine farm will have minimal adverse effect on landscape values identified by the provisions in the Operative District Plan.
170. As the proposal will not be visible from land during daylight hours, and lighting is likely to be intermittent and only very distantly visible from land, this assessment considers that land-based appreciation of the values relating to ONFL and HNC areas identified in the proposed district planning documents (which relate to landform and vegetation cover) will not be affected.
171. From on-water views near the site the Coromandel Ranges are large-scale and dramatic enough to remain the dominant visual element, with their natural and scenic qualities remaining intact. The lower slopes also contain pastoral uses, and the proposal will be in-keeping with this.
172. Areas identified by the Proposed District Plan as ONC (Motukawau Group of islands and Coastline and coastal hill country) are at closest 4.5km and 5.3km respectively from the site. As such, these ONCs are considered too distant from the proposal site to be affected. Due to the localised footprint of marine farming effects as studied elsewhere in the Firth,³⁹ these ONC values will not be affected.

³⁸ 4Sight Consulting, Ecological Survey at a Proposed Mussel Spat Collecting Site: North-Eastern Thames, 2018

³⁹ 4Sight Consulting, Ecological Survey at a Proposed Mussel Spat Collecting Site: North-Eastern Thames, 2018

Hauraki Gulf Marine Park Act and Marine Spatial Plan

173. Section 7 of the HGMA recognises the national significance of the Hauraki Gulf and emphasises the life-supporting capacity of the Gulf. The proposed spat farm has the potential to enable the social and economic well-being of people and communities of the Hauraki Gulf. The spat farm structures have the potential to act as a floating reef, providing habitat for other fish species, and increasing fishing opportunities. Therefore, the proposal is deemed to be in-keeping with the objectives of Section 7.
174. Section 8 of the HGMPA identifies management objectives relating to environmental, Māori, and community matters. The protection of kaimoana is one objective. There will be no adverse effects on this resource due to the distance of the proposal from the shore and the negligible impact on nutrients in the water column. It is also considered that the application meets the policy directive of sub-section 8(e), which recognises the importance of the social and economic well-being of the people and communities of the Hauraki Gulf. It is considered that the proposal is consistent with the HGMPA and meets the Act's objectives.
175. The MSP was written as part of the "Sea Change – Tai Timu Tai Pari" project established in 2013. The MSP was authored by a Stakeholder Working Group whose members have a diverse range of interests including environmental, mana whenua, and aquaculture.
176. Part of the MSP objectives include ensuring marine farms in the Gulf are appropriately located. The site lies inside an area identified in MSP as an appropriate area for marine farming (Site 7 - Colville). Although the MSP is a non-statutory document, the Waikato Regional Council is a partner to it and it must be considered as it gives effect to Section 7 and 8 of the HGMPA, which have the effect of a NZCPS.

Conclusions

Landscape Effects

177. There will be no physical effects on terrestrial values due to the proposal's location 3km offshore.
178. Effects on marine biophysical values (biotic and abiotic) have been assessed as being very low. Any effects from the spat farm will be within a localised footprint and will be reduced by the expansive open waters of the context. The seabed beneath the proposed spat catching site is already modified by past commercial dredging and ongoing sedimentation, and no representative or significant natural features or biota have been identified at the site.
179. In experiential/perceptual terms there will be a reduction in perceived naturalness, with a related reduction in feelings of remoteness and isolation in on-water views close to the proposal. However, this needs to be considered in terms of the proposal context, which is expansive and contains large areas of modified terrestrial land (pastoral and plantation forestry) visible from the site and the waters around the site. The proposal will be in-keeping with this context and the existing productive character. The scale of the open waters and the adjacent landforms (Coromandel Ranges) will also ensure that these natural elements remain

the visually dominant features at the site. Visual amenity and open space qualities will remain intact. Furthermore, many of the viewers gaining up-close views are likely to have a low sensitivity to the inclusion of the proposal, such as commercial fishers. Water traffic in this area is low.

180. From land-based positions (shoreline and slopes of the Coromandel Ranges) the proposal is unlikely to be visible during the daytime, and night lighting will be distant and viewed either from within contexts which include existing lighting or in mostly transitory and intermittent views from vehicles travelling on Port Jackson Road. As such, associative values related to the area's reputation as a destination for holidays and tourism will remain unaffected.
181. Effects on ONFL areas identified in planning documents are assessed as being negligible due to the distance of the proposal site from these areas (at least 3km).
182. Overall adverse effects on landscape character and landscape values are assessed as being **low** at the site-scale and **very low** at the scale of the broader context.

Natural Character Effects

183. Effects on the ecological naturalness of the site and its broader context have been assessed as being very low. Any effects from the spat farm will be within a localised footprint and will be reduced by the expansive open waters of the context. The seabed beneath the proposed spat catching area is already modified by past commercial dredging and ongoing sedimentation, and no representative or significant natural features or biota have been identified at the site.
184. Effects on perceived naturalness will be highest for close on-water viewers (500m from the proposal and closer). However, the effect is not considered significant due to the presence of other existing productive uses in the context (pastoral land on the lower slopes of the Coromandel Ranges and plantation forestry), as well as the scale of the context. The expansive waters of the Hauraki Gulf, as well as the bulk and large-scale of the highly elevated landforms to the east (Coromandel Ranges), will ensure that these natural features remain the dominant visual elements at the site.
185. There will be no impact on identified areas of outstanding or high natural character in the area due to the distance of the proposal from these, and due to the confined and limited nature of the biophysical effects arising from the proposed spat catching site.
186. Overall effects on natural character are assessed as being **low** at both the site-scale and the scale of the broader context.

Visual Amenity Effects

187. While adverse effects on visual amenity will be more pronounced from close on-water views, the significance of the adverse effects will be reduced by the scale and character of the context, which is expansive and already contains other productive uses. Furthermore, many viewers gaining such views are likely to have a reduced sensitivity to the proposal, such as commercial fishers.

188. From land the proposal will not be visible during the day and night lighting will only be distantly visible and viewed either from within contexts which include existing lighting, or in mostly transitory and intermittent views (screened at times by vegetation) from vehicles travelling on Port Jackson Road.

189. Overall effects on visual amenity are assessed as being **low**.

Cumulative Effects

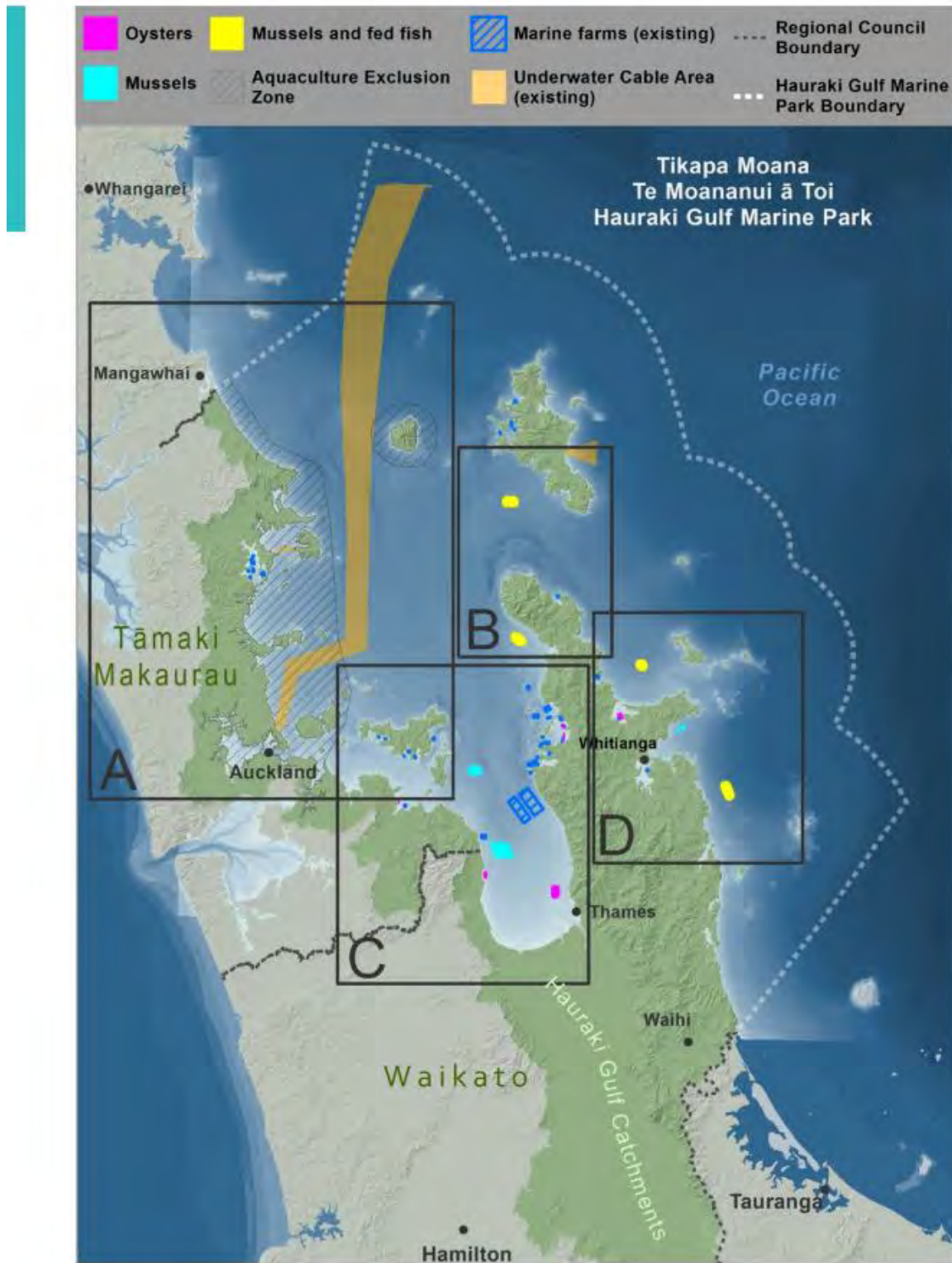
190. It will not be possible to see the farm together with any other existing marine farm in the same view or from the same position by the viewer turning their head. Although the proposal will be seen in sequence with other marine farms when travelling through the area by water, the distance between the proposal and all other marine farms means that the cumulative visual effect will be very low.

191. Biophysical effects of the spat farm will have a localised footprint and there will not be adverse cumulative ecological or water quality effects from the proposal.

192. Overall, due to its limited visibility from land, its distance from other existing farms (9.3km), and the absence of cumulative ecological impacts, cumulative effects on landscape, natural character and visual amenity will be **very low**.

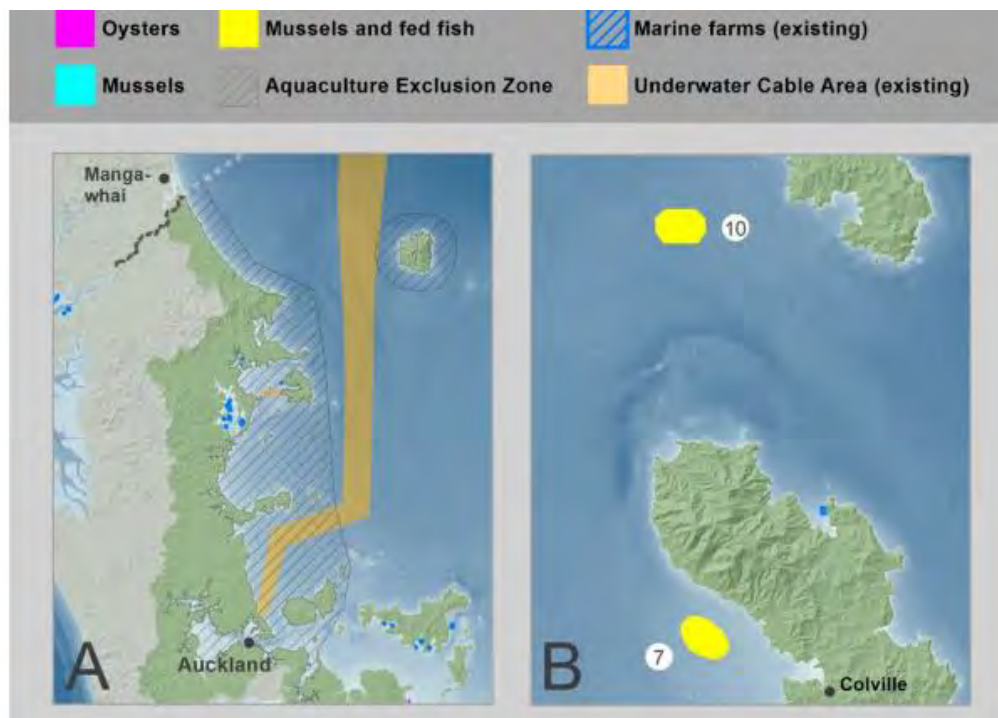
Appendix 1

Hauraki Marine Spatial Plan: Map A2.1 Proposed Aquaculture Areas



Map A2.1 Proposed Aquaculture Areas

Hauraki Marine Spatial Plan: Map A2.2 Location of proposed aquaculture and aquaculture exclusion areas



Enlargement of Hauraki Marine Spatial Plan above: Application site boundary indicated.



Appendix 2

Hauraki Gulf Marine Spatial Plan: Appendix 2

APPENDIX 2: AREAS IDENTIFIED FOR FUTURE AQUACULTURE DEVELOPMENT PIRINGA 2: NGĀ ROHE KUA TOHUA HEI WHANAKE AHUMŌANA MŌ ĀMURI

Site 7 – Colville

This area is located close to the western coastline of the Coromandel Peninsula, north of Colville.

Assessment of the proposed area

CRITERIA	COMMENTS
SOCIO-ECONOMIC	Creates potential for aquaculture jobs in new area, possibly serviced out of Colville or from existing facilities at Coromandel.
ECOLOGICAL BENEFITS	Filtering of water by shellfish removes sediment and nutrients. Structures in water create shelter and habitat for wildlife. Shell drop adds structure to seafloor.
BIOPHYSICAL SUITABILITY FOR FARMING	Ok. Water depths around 20m. Some exposure to north-west. Mud and muddy sand substrate.
WATER DEPTH	15 to 30m
SUBSTRATE	Mud and sandy mud. Reef and dog cockle beds to north. Area reduced and moved offshore to avoid reef. Horse mussel beds present in some areas.
MEAN SIGNIFICANT WAVE HEIGHT	0.3m
SALINITY	> 35‰ (Broekhuizen & Zeldis 2005)
CURRENT (METRES/SECOND)	0.20-0.37
BIOTA	<p>The area is commercially fished for scallops (<i>Pecten novaezelandiae</i>). Dog cockle (<i>Tugetona laticostata</i>) and large, relatively dense horse mussel (<i>Atrina zelandica</i>) beds occur in some areas, although the extent of these beds has been substantially reduced by scallop dredging and trawling (Thrush et al. 1998). The presence of dog cockle and horse mussel beds increases infaunal invertebrate diversity, and live in-situ horse mussels are colonised by macroalgae and a variety of sessile invertebrates including sponges, anemones and ascidians increasing both epifaunal diversity and habitat complexity (Cummings et al. 1998; Dewas 2008). Dead horse mussels are colonised by a variety of mobile invertebrates, including juvenile rock lobster (<i>Jasus edwardsii</i>), and small fishes (Allan & Walshe 1984). The increased habitat complexity created by horse mussels and their epibionts has also been shown to provide nursery habitat for juvenile snapper and significantly reduce mortality of post-settlement scallops (Thrush et al. 1998; Morrison et al. 2014a, b).</p> <p>The area does not include any critical seabird habitat. Seabirds known to forage in the general area of the proposal include Australasian gannet (<i>Morus serrator</i>), fluttering shearwater (<i>Puffinus gavia</i>) and little penguin (<i>Eudyptula minor</i>). Common dolphins (<i>Delphinus delphis</i>) regularly occur in this area and there are occasional sightings of bottlenose dolphin (<i>Tursiops truncatus</i>), killer whale (<i>Orcinus orca</i>) and Bryde's whale (<i>Balaenoptera edeni</i>).</p>
NATURAL CHARACTER	Adjacent to a high natural character area. Twokm from an outstanding natural character area to south.
NATURAL FEATURES AND LANDSCAPES	Twokm from an ONFL.
COMMERCIAL FISHING	Adjacent to high intensity trawling areas and moderate intensity longline fishing.
RECREATIONAL FISHING	Low level of recreational fishing.
COMMERCIAL BOAT TRAFFIC	No commercial traffic in this area.
YACHTING ROUTES AND ANCHORAGES	Inshore from recognised cruising route (running north to south).
SWELL CORRIDORS FOR SURF BREAKS	No surf breaks in vicinity.

Appendix 3



Title:
Viewpoint 1

Farm Location

DWG#
J8-1-A

Revision#

Client:
Peter Bull

Issue Date:
1 March 2018

Drawn By:
JJH



Checked By:
JRH

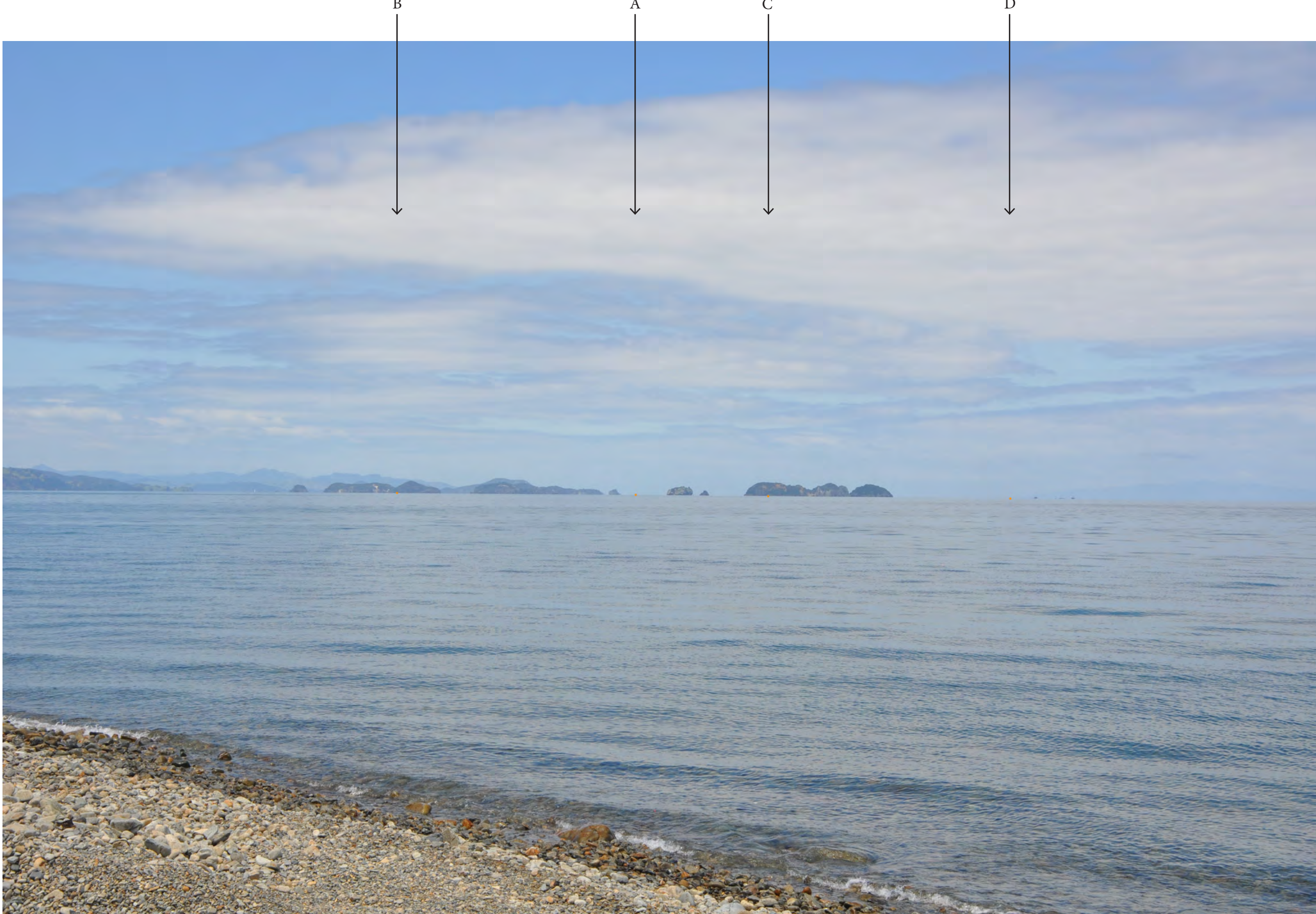
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Viewpoint Longitude: 175° 26.814'E
Distance to Application: 3.2km
Photo Taken: 25/01/2018 11:47 a.m.
Camera: Nikon D90
Lens: 50mm Equivalent
Reading Distance: 475mm away from page
Horizontal Field of View: 40°

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<i>Title:</i> Viewpoint 2
Farm Location
<i>DWG#</i> J8-1-A
<i>Revision#</i>
<i>Client:</i> Peter Bull
<i>Issue Date:</i> 1 March 2018
<i>Drawn By:</i> JJH
<i>Checked By:</i> JRH
<i>Photomontage Details:</i> Viewpoint Latitude: 36° 34.804'S Viewpoint Longitude: 175° 24.330'E Distance to Application: 3.0km Photo Taken: 25/01/2018 11:23 a.m. Camera: Nikon D90 Lens: 50mm Equivalent Reading Distance: 475mm away from page Horizontal Field of View: 40°
 Proposal Area
 HUDSON ASSOCIATES LANDSCAPE ARCHITECTS PO BOX 8823 Havelock North Hawke's Bay 41 57 P 06-877 9808 E john@hudsonassociates.co.nz W www.hudsonassociates.co.nz



Title:
Viewpoint 3

Farm Location

DWG#
J8-1-A

Revision#

Client:
Peter Bull

Issue Date:
1 March 2018

Drawn By:
JJH

Checked By:
JRH

Photomontage Details:

Viewpoint Latitude: 36° 34.145'S

Viewpoint Longitude: 175° 22.714'E

Distance to Application: 5.5km

Photo Taken: 25/01/2018 11:01 a.m.

Camera: Nikon D90

Lens: 50mm Equivalent

Reading Distance: 475mm away from page

Horizontal Field of View: 40°



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LANDSCAPE ARCHITECTS

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Havelock North
Hawke's Bay 41 57

P 06-877 9808
E john@hudsonassociates.co.nz
W www.hudsonassociates.co.nz



Title:
Viewpoint 4

Farm Location

DWG#
J8-1-A

Revision#

Client:
Legal Shellfish Ltd

Issue Date:
15 November 2018

Drawn By:
CLW

Checked By:
JRH

Photo Details:

Viewpoint Latitude: 36° 37.24'S

Viewpoint Longitude: 175° 23.43'E

Distance to Application: 2.3km

Photo Taken: 12/01/2018 1:45 p.m.

Camera: Nikon D90

Lens: 27mm Equivalent

Reading Distance: 259mm away from page

Horizontal Field of View: 67°



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W www.hudsonassociates.co.nz

APPENDIX 4 SEA CHANGE – SITE 7 COLVILLE

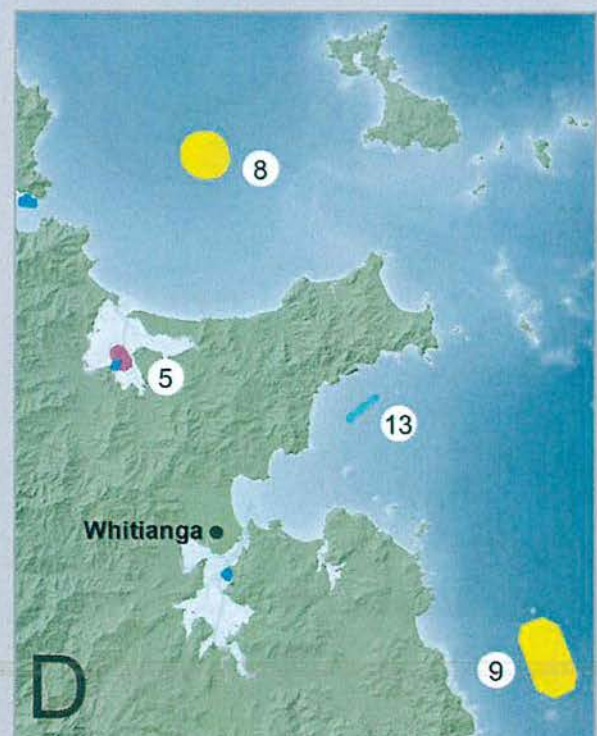
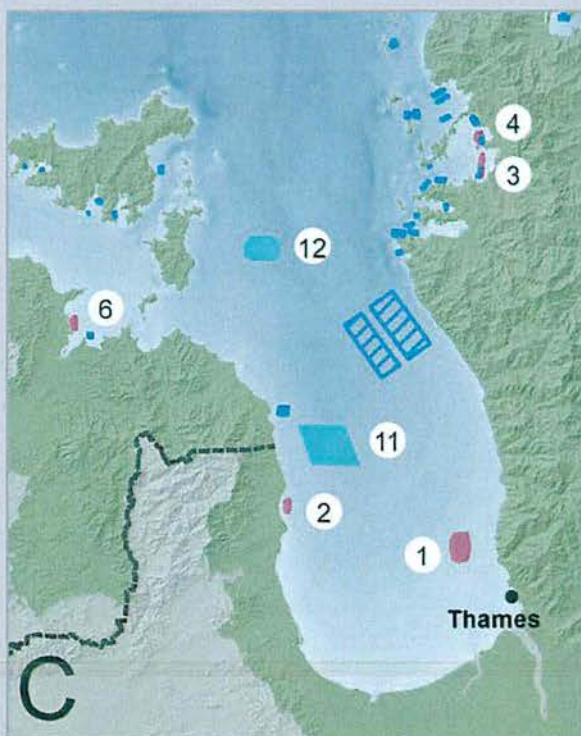
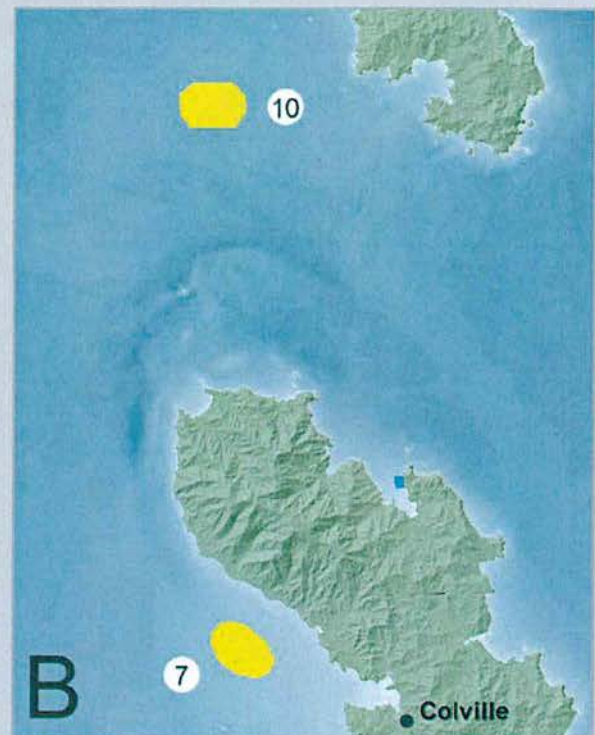
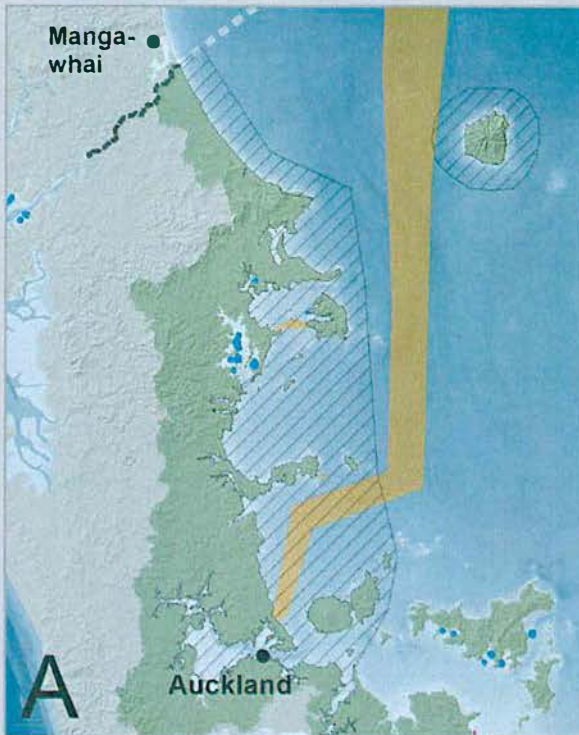
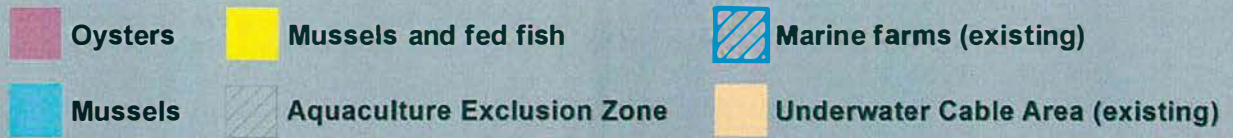
Site 7 – Colville

This area is located close to the western coastline of the Coromandel Peninsula, north of Colville.

Assessment of the proposed area

CRITERIA	COMMENTS
SOCIO-ECONOMIC	Creates potential for aquaculture jobs in new area, possibly serviced out of Colville or from existing facilities at Coromandel.
ECOLOGICAL BENEFITS	Filtering of water by shellfish removes sediment and nutrients. Structures in water create shelter and habitat for wildlife. Shell drop adds structure to seafloor.
BIOPHYSICAL SUITABILITY FOR FARMING	Ok. Water depths around 20m. Some exposure to north-west. Mud and muddy sand substrate.
WATER DEPTH	15 to 30m
SUBSTRATE	Mud and sandy mud. Reef and dog cockle beds to north. Area reduced and moved offshore to avoid reef. Horse mussel beds present in some areas.
MEAN SIGNIFICANT WAVE HEIGHT	0.3m
SALINITY	> 35‰ (Broekhuizen & Zeldis 2005)
CURRENT (METRES/SECOND)	0.20-0.37
BIOTA	<p>The area is commercially fished for scallops (<i>Pecten novaezelandiae</i>). Dog cockle (<i>Tucetona laticostata</i>) and large, relatively dense horse mussel (<i>Atrina zelandica</i>) beds occur in some areas, although the extent of these beds has been substantially reduced by scallop dredging and trawling (Thrush et al. 1998). The presence of dog cockle and horse mussel beds increases infaunal invertebrate diversity, and live in-situ horse mussels are colonised by macroalgae and a variety of sessile invertebrates including sponges, anemones and ascidians increasing both epifaunal diversity and habitat complexity (Cummings et al. 1998; Dewas 2008). Dead horse mussels are colonised by a variety of mobile invertebrates, including juvenile rock lobster (<i>Jasus edwardsii</i>), and small fishes (Allan & Walshe 1984). The increased habitat complexity created by horse mussels and their epibionts has also been shown to provide nursery habitat for juvenile snapper and significantly reduce mortality of post-settlement scallops (Thrush et al. 1998; Morrison et al. 2014a, b).</p> <p>The area does not include any critical seabird habitat. Seabirds known to forage in the general area of the proposal include Australasian gannet (<i>Morus serrator</i>), fluttering shearwater (<i>Puffinus gavia</i>) and little penguin (<i>Eudyptula minor</i>). Common dolphins (<i>Delphinus delphis</i>) regularly occur in this area and there are occasional sightings of bottlenose dolphin (<i>Tursiops truncatus</i>), killer whale (<i>Orcinus orca</i>) and Bryde's whale (<i>Balaenoptera edeni</i>).</p>
NATURAL CHARACTER	Adjacent to a high natural character area. Twokm from an outstanding natural character area to south.
NATURAL FEATURES AND LANDSCAPES	Twokm from an ONFL.
COMMERCIAL FISHING	Adjacent to high intensity trawling areas and moderate intensity longline fishing.
RECREATIONAL FISHING	Low level of recreational fishing.
COMMERCIAL BOAT TRAFFIC	No commercial traffic in this area.
YACHTING ROUTES AND ANCHORAGES	Inshore from recognised cruising route (running north to south).
SWELL CORRIDORS FOR SURF BREAKS	No surf breaks in vicinity.

Appendix 4



- | | | |
|----------------------------|-----------------|-------------------------------|
| 1 Thames | 5 Whangapoua | 9 East Coromandel |
| 2 Kaiaua | 6 Maraetai | 10 South Great Barrier Island |
| 3 Coromandel Harbour South | 7 Colville | 11 Western Firth |
| 4 Coromandel Harbour North | 8 Great Mercury | 12 Ponui |
| | | 13 Whitianga |

APPENDIX 5 CONSULTATION

1/29/2019

RE: Marine farm lighting plan

From: "Stuart Crawley" <Stuart.Crawley@waikatoregion.govt.nz>
Subject: RE: Marine farm lighting plan
Date: Tue, May 22, 2018 12:11 pm
To: "kathryn.schicker@actrix.co.nz" <kathryn.schicker@actrix.co.nz>
Cc: "Richard Barnett" <Richard.Barnett@waikatoregion.govt.nz>

Hi Kathryn,

Thank you for sending through the marine lighting plan for Legal Shellfish LTDs proposed 84 ha marine farm west of Te Kawau Point.

In addition to the proposed special marks (and lights) fitted to A, B, C & D we would require special marks (and lights) to be installed midway between A & D and B & C in accordance with the Maritime NZ Guidelines for Marine Farms (2005). As the proposed farm is in an area where ships >500T take shelter on occasion we would require Radar Target Enhancers (Radar Reflectors) fitted to corners A, B, C, & D along with the special marks.

Please feel free to contact me if you have any further enquiries.

Stuart Crawley
Thames/Coromandel Harbourmaster

-----Original Message-----

From: kathryn.schicker@actrix.co.nz [mailto:kathryn.schicker@actrix.co.nz]
Sent: Monday, 21 May 2018 5:20 p.m.
To: Stuart Crawley <Stuart.Crawley@waikatoregion.govt.nz>
Subject: Marine farm lighting plan

Hi Stuart,

Further to our telephone conversation today. I have attached a copy of the survey plan and location plan of the proposed marine farm. In accordance with the Maritime NZ Guidelines for Marine Farms (2005), the Aids to Navigation requirements that apply are set out below.

I consider that the proposed marine farm which is sited more than 200m offshore fits within the category for an Offshore Marine Farm and will require the following:

- orange floats same size as backbone floats at each end of every longline and be no more than 50% submerged and maintained to be visible over the surface exposed (refer Section 6.3.1 of the Guidelines). The four corners (marked A,B,C,D) on the survey plan will also require marking with "special marks" as set out in Section 6.3.3 of the guideline refer below.

6.3.3 The corners of any site containing any offshore marine farm shall be marked using special marks that have the following characteristics:

- (i) The light must be yellow and flash 5 times every 20 seconds.
- (ii) The light must be at least 2 metres above water level.
- (iii) Have intensity as specified in the technical specifications at the end of this section, so as to be visible at a minimum range of 2 nautical miles.
- (iv) For the purpose of navigation and safety, harbourmasters may require radar reflectors to be fitted on these special marks. Such reflectors (active, passive or top-mark) to be detectable at minimum 2 nautical miles in all sea conditions reasonably anticipated at the site.

Can you please advise if this proposed lighting plan is appropriate for the proposed farm location.

If you wish to discuss further please contact me,

Kind regards
Kathryn Schicker
RMA Planner

Achieve Environmental Planning Limited
PO Box 213
Morrinsville 3340

Ph: 027 473 2014
Email: kathryn.schicker@actrix.co.nz

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1/29/2019

RE: Marine farm lighting plan

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1/29/2019

FW: Te kawau point

From: pmbull@xtra.co.nz
Subject: FW: Te kawau point
Date: Fri, December 14, 2018 12:13 pm
To: kathryn.schicker@actrix.co.nz

Hi Kathryn

FYI

Regards

Raewyn

From: Liane Ngamane <liane.ngamane@hotmail.com>
Sent: Tuesday, 5 December 2017 12:15 p.m.
To: pmbull@xtra.co.nz
Subject: Re: Te kawau point

Kia ora Peter

Sorry for the delay.

This area is within the rohe of Ngati Tamatera, it being seaward of one of the most significant settlements of Waiaro and is located within important mahinga mataitai of Ngati Tamatera. Ngati Tamatera strongly opposes your application to establish a marine farm in this area on cultural, environmental and economic grounds. This is not the appropriate use of the coastal marine area in this location for a number of reasons. I note your comments about kaitiaki. This is not the situation in this instance. In this instance both the Ngati Tamatera Treaty Settlement Trust and local kaitiaki object to this proposal.

I am not sure what you anticipate next. I will therefore await your response.

Nga mihi

Liane

Liane Ngamane

Ngati Tamatera

0211332760

From: pmbull@xtra.co.nz <mailto:pmbull@xtra.co.nz> <pmbull@xtra.co.nz <mailto:pmbull@xtra.co.nz> >
Sent: Friday, November 17, 2017 2:05 PM
To: Liane Ngamane
Cc: pmbull@xtra.co.nz <mailto:pmbull@xtra.co.nz>
Subject: FW: Te kawau point

1/29/2019

FW: Te kawau point

Hi Liane

Just touching base regarding the email below and wondering whether you have made any progress?

Thanks and regards

Pete Bull

Paddy Bull Ltd

0274972295

From: Peter [mailto:pmbull@xtra.co.nz]
Sent: Thursday, 5 October 2017 10:50 a.m.
To: 'Liane Ngamane' <liane.ngamane@hotmail.com>
<mailto:liane.ngamane@hotmail.com> >
Subject: RE: Te kawau point

Hi Liane

Please find attached the map showing the location of the application.

In past negotiations we have dealt with the kaitiaki of the area. They have then engaged in consultation with the other iwi in the area that may be affected. The reason behind dealing with the kaitiaki is this will give local iwi a direct involvement in the mussel industry going forward.

Thanks and regards

Pete Bull

Paddy Bull Limited

Ph: 0274972295

From: Liane Ngamane [mailto:liane.ngamane@hotmail.com]
Sent: 2 October 2017 4:49 p.m.
To: Pete
Subject: Re: Te kawau point

Kia ora Pete

Your email went to my junk mail so apologies for the non-response.

Yes it is Ngati Tamatera. It may possibly be Ngati Maru and Ngati Whanaunga also depending on the location of your application.

Liane

0211332760

From: Pete <<mailto:pmbull@xtra.co.nz> pmbull@xtra.co.nz>
Sent: Thursday, September 7, 2017 12:02 PM
To: <mailto:liane.ngamane@hotmail.com> liane.ngamane@hotmail.com
Cc: Bull Pete
Subject: Te kawau point

Hi Liane

I'm looking to apply for water space west of Te Kawau Point, north of Colville Bay and are keen to involve Iwi in some way. Would we be right in suggesting that Ngati Tamatera are the kaitiaki of this water space and the Iwi we have consultations with?

Thanks and Regards
Pete Bull
Paddy Bull Ltd
027 497 2295

Attachments:

untitled-[2].html

Size:14 k

Type:text/html

2/15/2019

Colville Proposed marine farm

From: kathryn.schicker@actrix.co.nz
Subject: Colville Proposed marine farm
Date: Thu, December 13, 2018 11:36 am
To: aholdom@doc.govt.nz

Good morning Alaine,

Thank you for contacting me back yesterday regarding my client's proposed marine farm application for a spat catching area off Colville.

I would like to consult with the Department of Conservation to gauge whether the Department has any concerns with the proposal.

I have attached a summary of the proposed spat catching activity with a map showing the location and some information from the Hauraki Gulf Marine Spatial Plan which covers the area.

If you require any other information please let me know.
I look forward to hearing from you in the near future.

Kind regards
Kathryn

Kathryn Schicker
RMA Planner

Achieve Environmental Planning Limited
PO Box 213
Morrinsville 3340

Ph: 027 473 2014
Email: kathryn.schicker@actrix.co.nz

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Attachments:

Summary of Proposal Colville MF.pdf

Size:748 k

Type:application/pdf

2/15/2019

MACA Applications & proposed marine farm application

From: kathryn.schicker@actrix.co.nz
Subject: MACA Applications & proposed marine farm application
Date: Wed, January 30, 2019 11:11 am
To: gsharrock@rightlaw.nz
Cc: ngatihako-maca@ranfurlychambers.co.nz,mbaker@ngaatiwhanaunga.maori.nz,james.brown@ngaitai-ki-tamaki.co.nz,info@bekindbeauty.co.nz

Good morning

We understand that your group has Customary interests under the Marine & Coastal Area (Takutai Moana) Act 2011 in the Firth of Thames / Hauraki Gulf Area that maybe affected by our client's application for a coastal permit for a marine farm application for spat catching purposes.

Under the MACA Act, applicants for coastal permits are required to notify and seek views of any group that have applied for recognition of customary interests in the area, on their proposals.

Attached you will find a covering letter and brief summary which describes the spat catching activity to enable better understanding of the proposal; for your groups consideration.

If you would like to discuss any aspect of the proposal please contact me.

We would appreciate your comments on the proposal either by email or in writing and I look forward to your response.

Kind regards

Kathryn Schicker
RMA Planner

Achieve Environmental Planning Limited
PO Box 213
Morrinsville 3340

Ph: 027 473 2014
Email: kathryn.schicker@actrix.co.nz

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Attachments:

MACA - Summary of Proposal Colville MF.pdf

Size:1001 k

Type:application/pdf

MACA Letter.pdf

Size:364 k

Type:application/pdf



Kathryn Schicker

MSc (Hons) PG Dip REP

027 473 2014 | kathryn.schicker@actrix.co.nz
P O Box 213 | Morrinsville 3340

30 January 2019

DIGITALLY DELIVERED

Dear Sir/Madam

**Customary interests under the Marine & Coastal Area (Takutai Moana) Act 2011
Legal Fishing Limited - Spat Catching Area Colville**

A resource consent application is currently being prepared for a spat catching farm to be located off-shore from Colville. The area applied for is in the common Marine & Coastal Area.

As a group that has applied under the Coastal Area (Takutai Moana) Act 2011 for recognition of customary marine title and/or protected customary rights in the common Marine & Coastal Area, the applicant, is required to notify and seek your views on their proposal.

We have included a brief summary of the spat catching activity along with a map showing the location of the proposed marine farming area, for your consideration.

If you wish to discuss any aspect of the proposal could you please contact me either by email kathryn.schicker@actrix.co.nz or telephone on 027 473 2014.

If you would like to make any comments on the proposal could you please provide these at your earliest convenience.

Yours faithfully

Kathryn Schicker
RMA Planner

Achieve Environmental Planning Limited
PO Box 213
Morrinsville 3340
Ph: 027 473 2014
Email: kathryn.schicker@actrix.co.nz

Cc:

Rihari Dargaville - NZ Maori Council - gsharrock@rightlaw.nz
John Linstead - Te Kupenga o Ngatis Hako - ngatihako-maca@ranfurlychambers.co.nz
Mike Baker - Ngāti Whanaunga Incorporated Society - mbaker@ngaatiwhanaunga.maori.nz
James Brown - Ngāi Tai ki Tāmaki Trust - james.brown@ngaitai-ki-tamaki.co.nz
Jack Ralston Wyllie - Ngapuhi Nui Tonu-Kota-toka-tutaha-moana o Whaingaroa - info@bekindbeauty.co.nz

Summary of Proposal for Marine Farm off-shore from Colville

An application is currently being prepared for a spat catching farm to be located off-shore from Colville. The purpose of this summary is to provide you with some initial information of the applicant's proposal.

Applicants: Legal Shellfish Ltd.

Location & Size: The farm is proposed to be located approx 3.0 km off-shore as per the layout attached. The farm relates to a total area of 85.75 hectares in which there will be 6 blocks, separated by 50 metre wide access ways. The farm has been positioned so it is 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 fishers and boats will still be able to utilise the area.

The proposed site lies approximately 250 metres southeast of the coastal marine area gazetted as an Aquaculture Settlement Area.

Reason for Application: the marine farming industry is facing increasing risk from poor spat supply. Most spat is sourced from Ninety Mile beach in Northland, however for the past few seasons there has been extremely high mortality rates for spat transported from there. This is not only a significant business cost but a significant risk to the industry's future viability. The proposed farm aims to provide a more certain supply of spat for the future and provide for more commercial certainty for the industry.

The Hauraki Gulf Marine Spatial Plan: Sea Change – Tai Timu Tai Pari (April 2017): In the Spatial Plan, this area was identified as been suitable for future aquaculture development including mussel farming. Refer Extract attached.

Species: The farm will be used for spat catching of the green shelled mussel (*Perna canaliculus*) and once caught it would then be set out on other consented farms for on-growing.

Structures: The spat catching area proposed is 85.75 hectares orientated in a northeast direction to the coast. The proposed site is rectangular in shape with the following dimensions: inshore (A-B) and outer (D-C) boundaries being 700 metres long and the north (A-D) and south (B-C) boundaries being 1225 metres in length. It is proposed that the spat catching area will comprise of 6 x 12.18 hectare blocks occupied by up to 16 permanent longlines per block. The farm will be set out like other mussel farms with backbone lines with spat catching dropper ropes. The dropper ropes are very hairy that would be looped and attached to the backbones at intervals.

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.

Spat catching

The applicant proposes to manage the spat catching area to maximise spat capture. To achieve this, prior to the time of an anticipated "spat settlement" event, the spat catching area will have a limited

number of spat ropes placed randomly across the site. In the event that spat settlement is found to occur then the farm manager will install additional spat catching ropes, across the blocks to collect spat. These spat ropes will be strategically placed onto other backbones within the area to maximise the potential to catch spat. When spat settlement has occurred ropes will be removed and transferred to mussel farms for on growing.

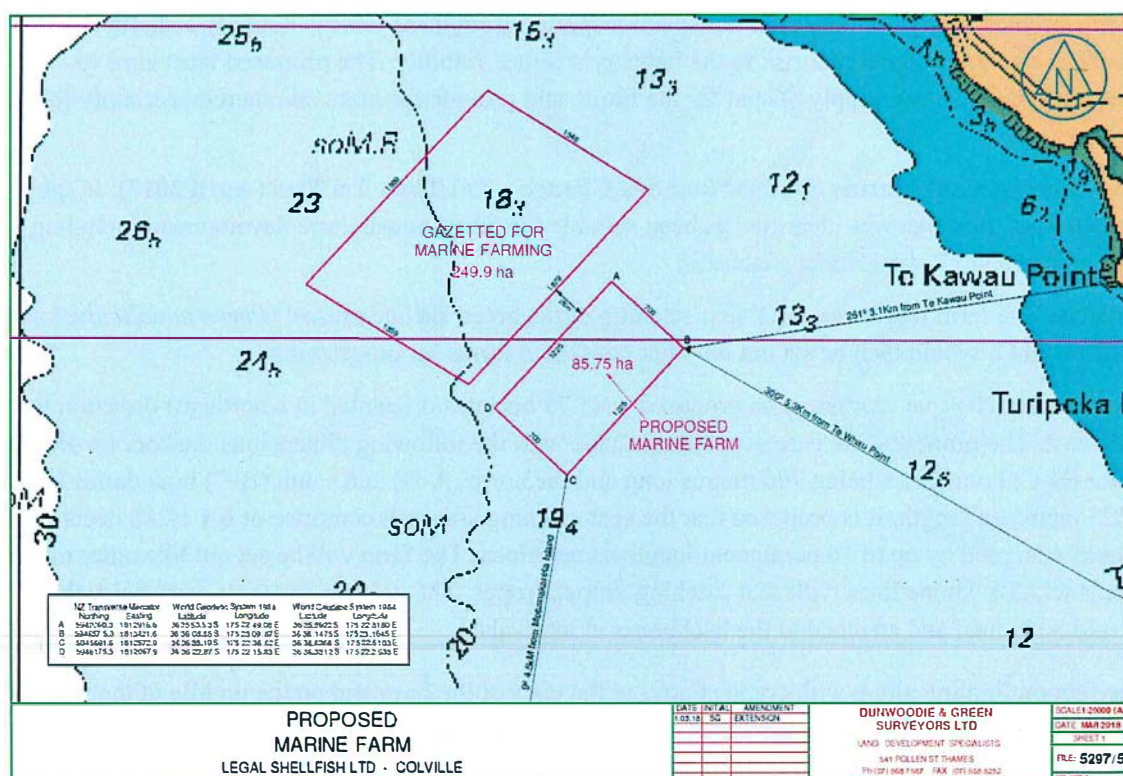
If no spat is caught the spat ropes will be removed to avoid fouling of the ropes by other marine species in the interim. Spat ropes will be re-laid at different times during the spat catching season, when settlement events are likely to occur.

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 via equipment.

Landscape/ visual effects: a landscape report is currently being prepared on this issue.

Benthic and ecological issues: a scientific report is currently being prepared of the seabed and the species currently located there. Preliminary investigations indicate that the seabed is flat and featuresless comprising muddy sediments containing common assemblages of benthic communities.

Map of Proposed site for marine farm



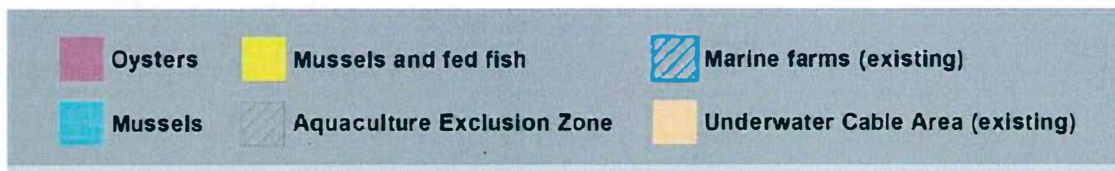
Extracts from the Hauraki Gulf Marine Spatial Plan: Sea Change – Tai Timu Tai Pari (April 2017):

Site 7 – Colville

This area is located close to the western coastline of the Coromandel Peninsula, north of Colville.

Assessment of the proposed area

CRITERIA	COMMENTS
SOCIO-ECONOMIC	Creates potential for aquaculture jobs in new area, possibly serviced out of Colville or from existing facilities at Coromandel.
ECOLOGICAL BENEFITS	Filtering of water by shellfish removes sediment and nutrients. Structures in water create shelter and habitat for wildlife. Shell drop adds structure to seafloor.
BIOPHYSICAL SUITABILITY FOR FARMING	Ok. Water depths around 20m. Some exposure to north-west. Mud and muddy sand substrate.
WATER DEPTH	15 to 30m
SUBSTRATE	Mud and sandy mud. Reef and dog cockle beds to north. Area reduced and moved offshore to avoid reef. Horse mussel beds present in some areas.
MEAN SIGNIFICANT WAVE HEIGHT	0.3m
SALINITY	>35‰ (Broekhuizen & Zeldis 2005)
CURRENT (METRES/SECOND)	0.20-0.37
BIOTA	<p>The area is commercially fished for scallops (<i>Pecten novaezelandiae</i>). Dog cockle (<i>Tucetona laticostata</i>) and large, relatively dense horse mussel (<i>Atrina zelandica</i>) beds occur in some areas, although the extent of these beds has been substantially reduced by scallop dredging and trawling (Thrush et al. 1998). The presence of dog cockle and horse mussel beds increases infaunal invertebrate diversity, and live in-situ horse mussels are colonised by macroalgae and a variety of sessile invertebrates including sponges, anemones and ascidians increasing both epifaunal diversity and habitat complexity (Cummings et al. 1998; Dewas 2008). Dead horse mussels are colonised by a variety of mobile invertebrates, including juvenile rock lobster (<i>Jasus edwardsii</i>), and small fishes (Allan & Walshe 1984). The increased habitat complexity created by horse mussels and their epibionts has also been shown to provide nursery habitat for juvenile snapper and significantly reduce mortality of post-settlement scallops (Thrush et al. 1998; Morrison et al. 2014a, b).</p> <p>The area does not include any critical seabird habitat. Seabirds known to forage in the general area of the proposal include Australasian gannet (<i>Morus serrator</i>), fluttering shearwater (<i>Puffinus gavia</i>) and little penguin (<i>Eudyptula minor</i>). Common dolphins (<i>Delphinus delphis</i>) regularly occur in this area and there are occasional sightings of bottlenose dolphin (<i>Tursiops truncatus</i>), killer whale (<i>Orcinus orca</i>) and Bryde's whale (<i>Balaenoptera edeni</i>).</p>
NATURAL CHARACTER	Adjacent to a high natural character area. Two km from an outstanding natural character area to south.
NATURAL FEATURES AND LANDSCAPES	Two km from an ONFL.
COMMERCIAL FISHING	Adjacent to high intensity trawling areas and moderate intensity longline fishing.
RECREATIONAL FISHING	Low level of recreational fishing.
COMMERCIAL BOAT TRAFFIC	No commercial traffic in this area.
YACHTING ROUTES AND ANCHORAGES	Inshore from recognised cruising route (running north to south).
SWELL CORRIDORS FOR SURF BREAKS	No surf breaks in vicinity.



CONTACT DETAILS:

Kathryn Schicker
RMA Planner

Achieve Environmental Planning Limited
PO Box 213
Morrinsville 3340

Ph: 027 473 2014

Email: kathryn.schicker@actrix.co.nz

APPENDIX 6

PLANNING MAPS

Waikato Regional Policy Statement Maps

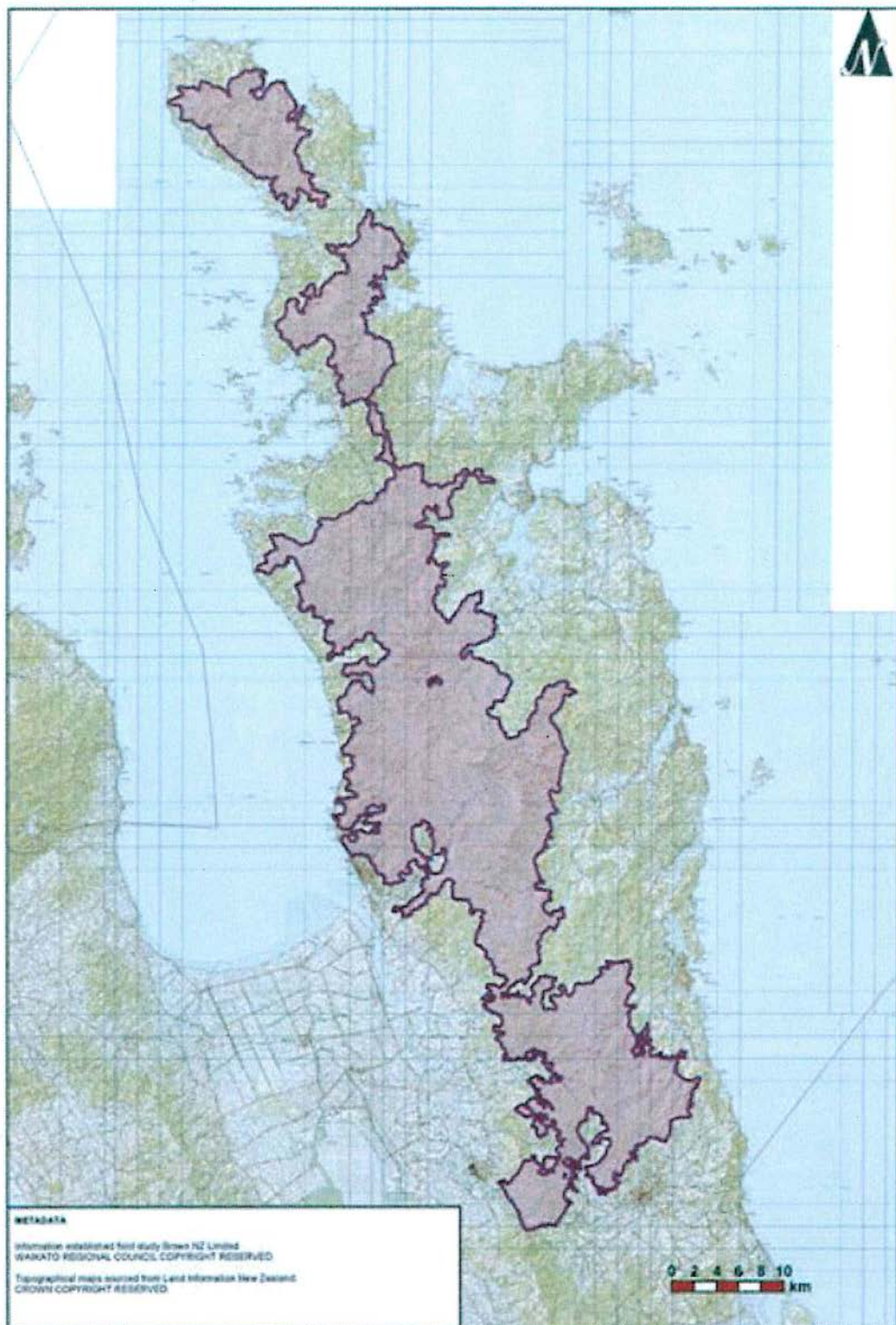
Waikato Regional Coastal Plan Maps

TCDC operative District Plan Maps

TCDC proposed District Plan Maps (Appeals
Version)



MAP 4-13: COASTAL ENVIRONMENT 12
(sourced from Waikato Regional Policy Statement)



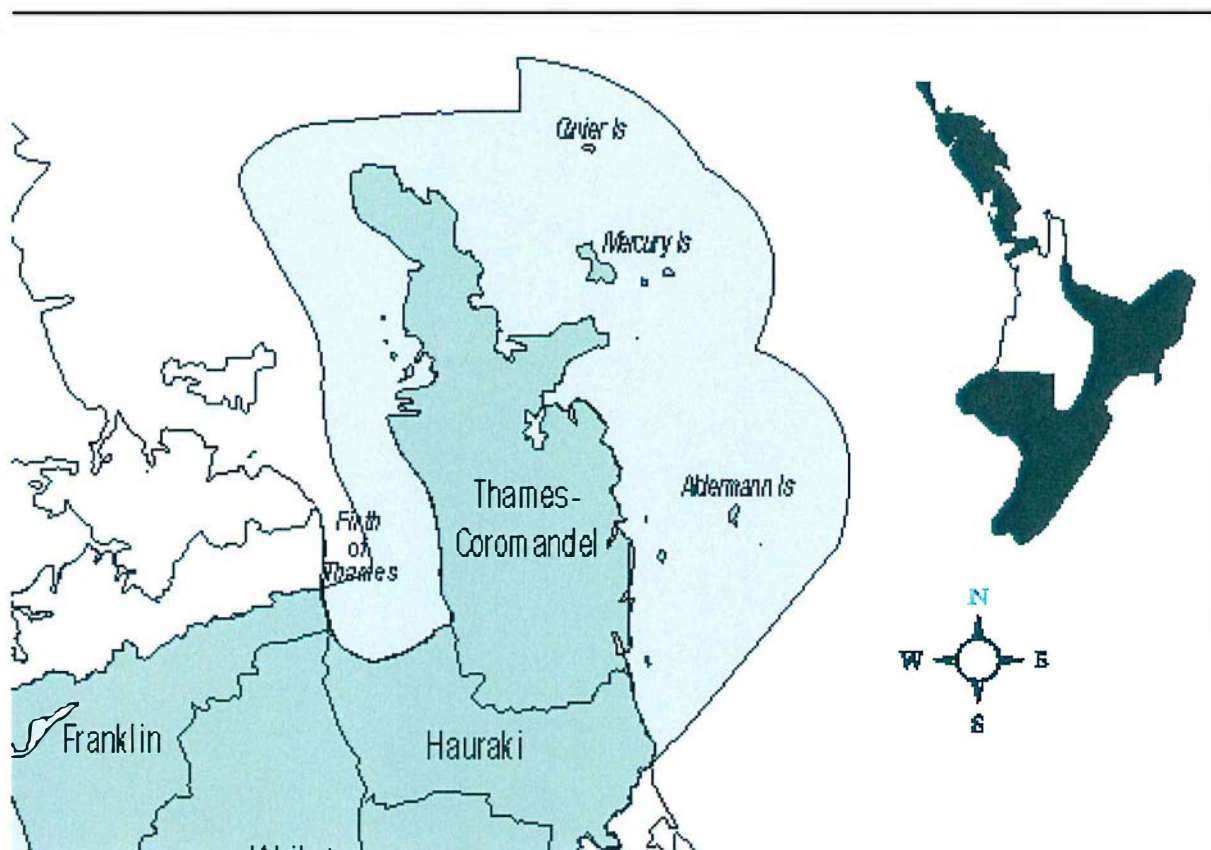
Map 12-6: ONFL 5 – Coromandel Range and Moehau Range



Map 12-12: ONFL 10/2 – Northern tip of Coromandel Peninsula and western slopes of Moehau Range out to coast .

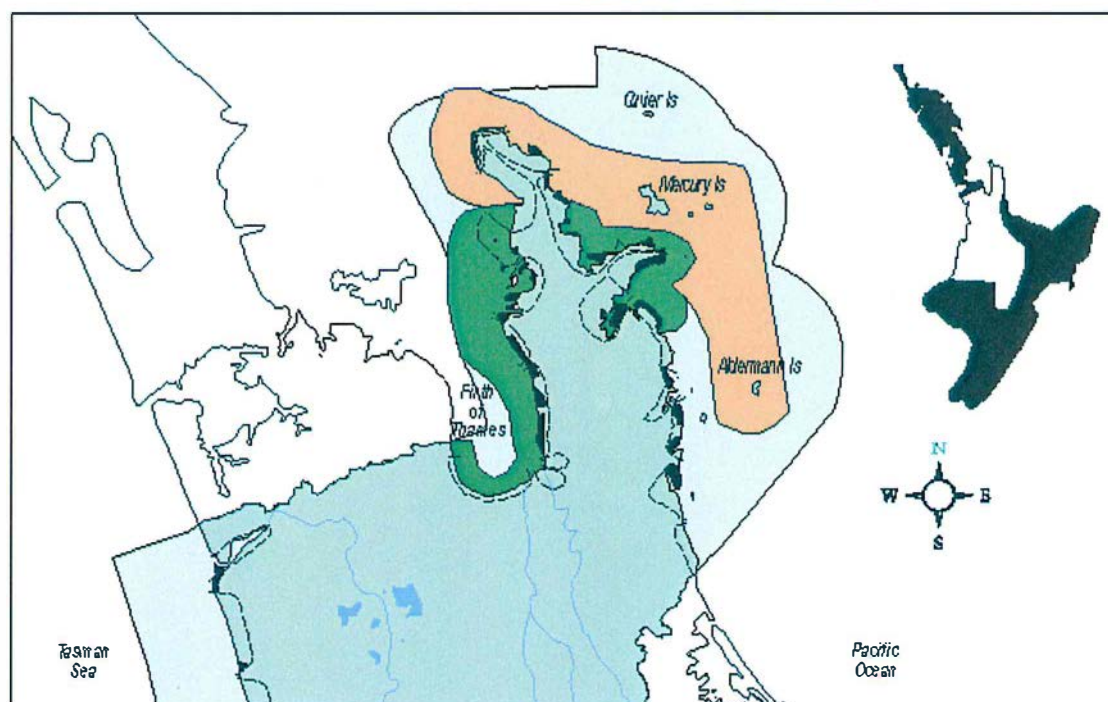
(sourced from Waikato Regional Policy Statement)

RCP COASTAL MARINE AREA



Part: General Map 1: Location of Regional Coastal Boundary

(sourced from Waikato Regional Coastal Plan – Appendix III Maps - General Map 1)



For the landscape assessment criteria used to identify these areas, refer to the Revised Draft Conservation Management Strategy for the Waikato Conservancy (November, 1994).



Key



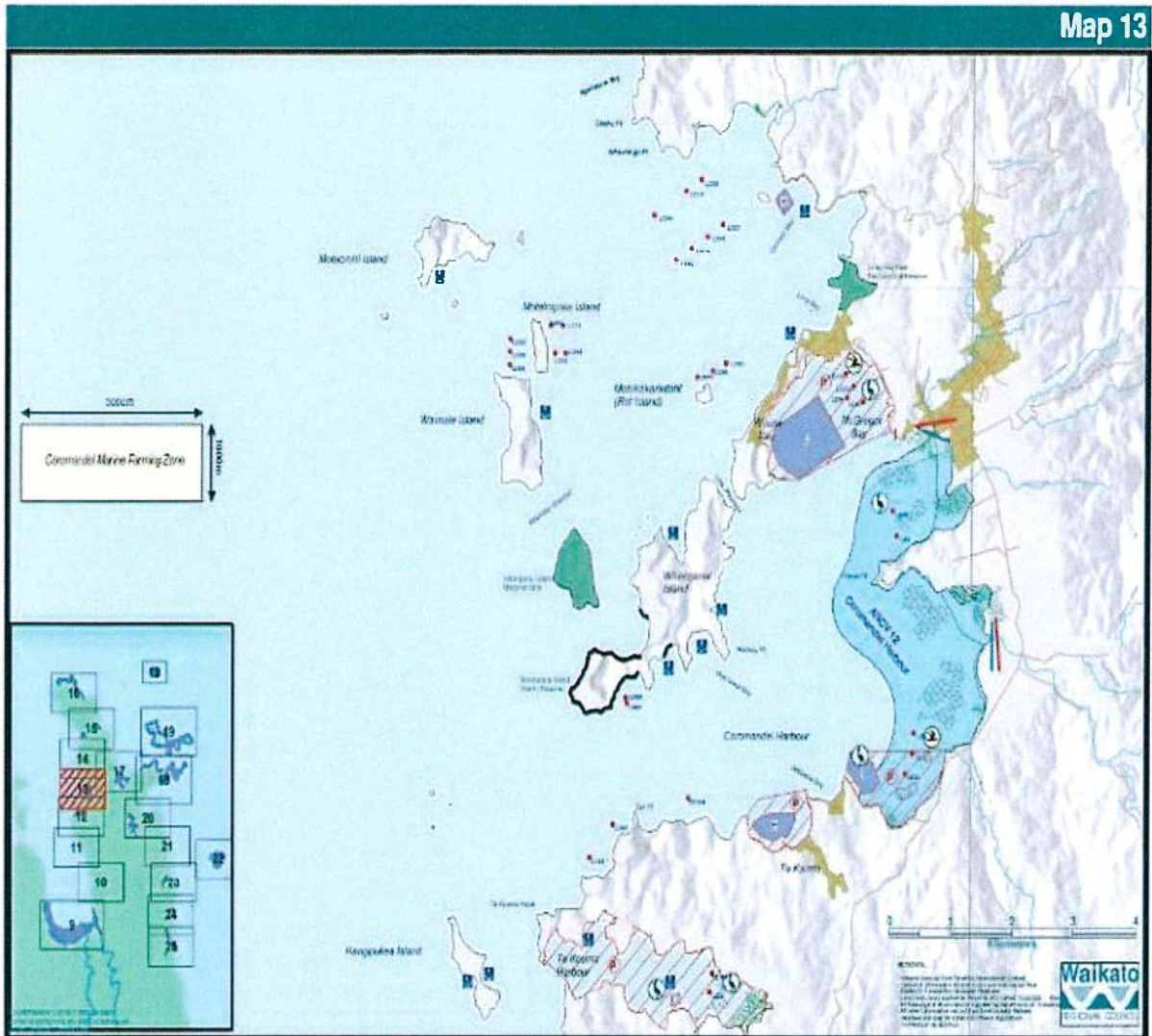
- Nationally Significant Coastal Environment
- Regionally Significant Coastal Environment

- Locally Significant Coastal Environment
- Regional Land Units defined by Landscape Character

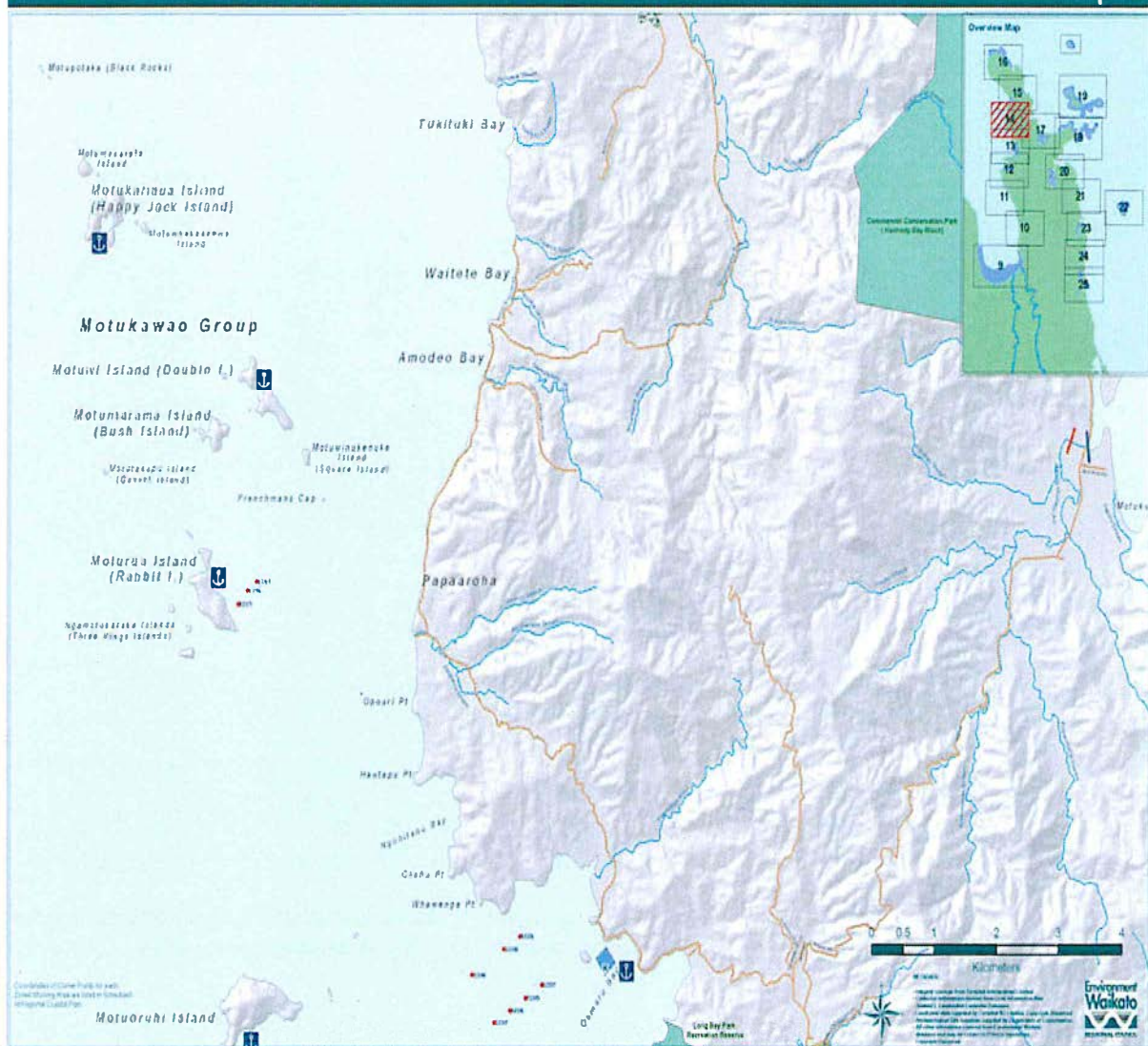
General Map 3: Coastal Landscape Assessment

(sourced from Waikato Regional Coastal Plan – Appendix III Maps - General Map 3)

MARINE FARMS



MARINE FARMS – COROMANDEL (shown as red dots)
(sourced from Waikato Regional Coastal Plan – Appendix III Maps - Map 13)



MARINE FARMS – NORTH OF COROMANDEL (shown as red dots)
(sourced from Waikato Regional Coastal Plan – Appendix III Maps - Map 14)



District Planning Maps

LEGEND

ZONES



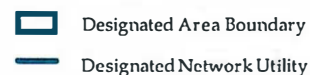
POLICY AREAS



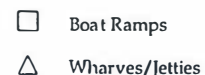
NOTATIONS FOR RULES



DESIGNATIONS



SYMBOLS

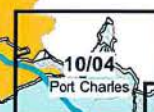
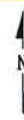


ABBREVIATIONS

ECNZ	Electricorp
EW	Environment Waikato
MET	MetService
MFC	Minister for Courts
MEd	Ministry of Education
NZJD	NZ Justice Department
NZPS	NZ Police Service
NZR	NZ Railways Corporation
PCO	PowerCo Limited
TCDC	Thames-Coromandel District Council
TCom	Telecom NZ Ltd
NZTA	NZ Transport Agency
TRANS	Transpower Limited

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10/01



C1

C2

C3



THAMES-COROMANDEL DISTRICT COUNCIL

Moehau Planning Area

Scale 1: 50,000

DISTRICT PLAN - April 2010

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PROPOSED DISTRICT PLAN - Appeals Version PLANNING MAP LEGEND

Overlay Maps

Special Purpose Provisions

 Site Development Plan

 Site Specific Activity

 Structure Plan

Overlays

 Airfield Amenity Yard

 Airfield Height

 Airfield Noise

 Archaeological Site

 Archaeological Site

 Coastal Environment
Appeals 40, 42, 46, 64, 70

 Current Coastal Process Line

 Designation

 Future Coastal Process Line

 National Grid

 High Natural Character
Appeals 37, 38, 46, 59, 64

 Historic Heritage Area

 Historic Heritage Curtilage

 Historic Heritage Item

 Outstanding Natural Character
Appeals 37, 38, 46, 59, 64

 Outstanding Natural Features and Landscapes
Appeals 37, 38, 59

 Residual Risk Area

 Significant Tree

 Site of Significance to Maori

*Additional Biodiversity Overlay Requested
Appeal 70*

Zone Maps

Zones

 Airfield

 Coastal Living

 Commercial

 Conservation

 Extra Density Residential

 Gateway

 Industrial

 Light Industrial

 Low Density Residential

 Marine Service

 Open Space

 Pedestrian Core

 Recreation Active

 Recreation Passive

 Road

 Rural

 Rural Lifestyle

 Residential

 Unformed Road

 Village

 Waterfront

Other Provisions

 Beach Amenity

 Beachfront Yard

 Coastal Environment
Appeals 40, 42, 46, 64, 70

 Cooks Beach Wall Amenity Line


 Quarry

Flood Hazard Maps

 Low Flood Hazard Area

 Medium Flood Hazard Area

 High Flood Hazard Area

 Defended Area
0.5m Above Flood Level

 Floodway

 Overland Flow Area A
0.5m Above Ground Level

 Overland Flow Area B
1.0m Above Ground Level

 Overland Flow Area C
1.5m Above Ground Level

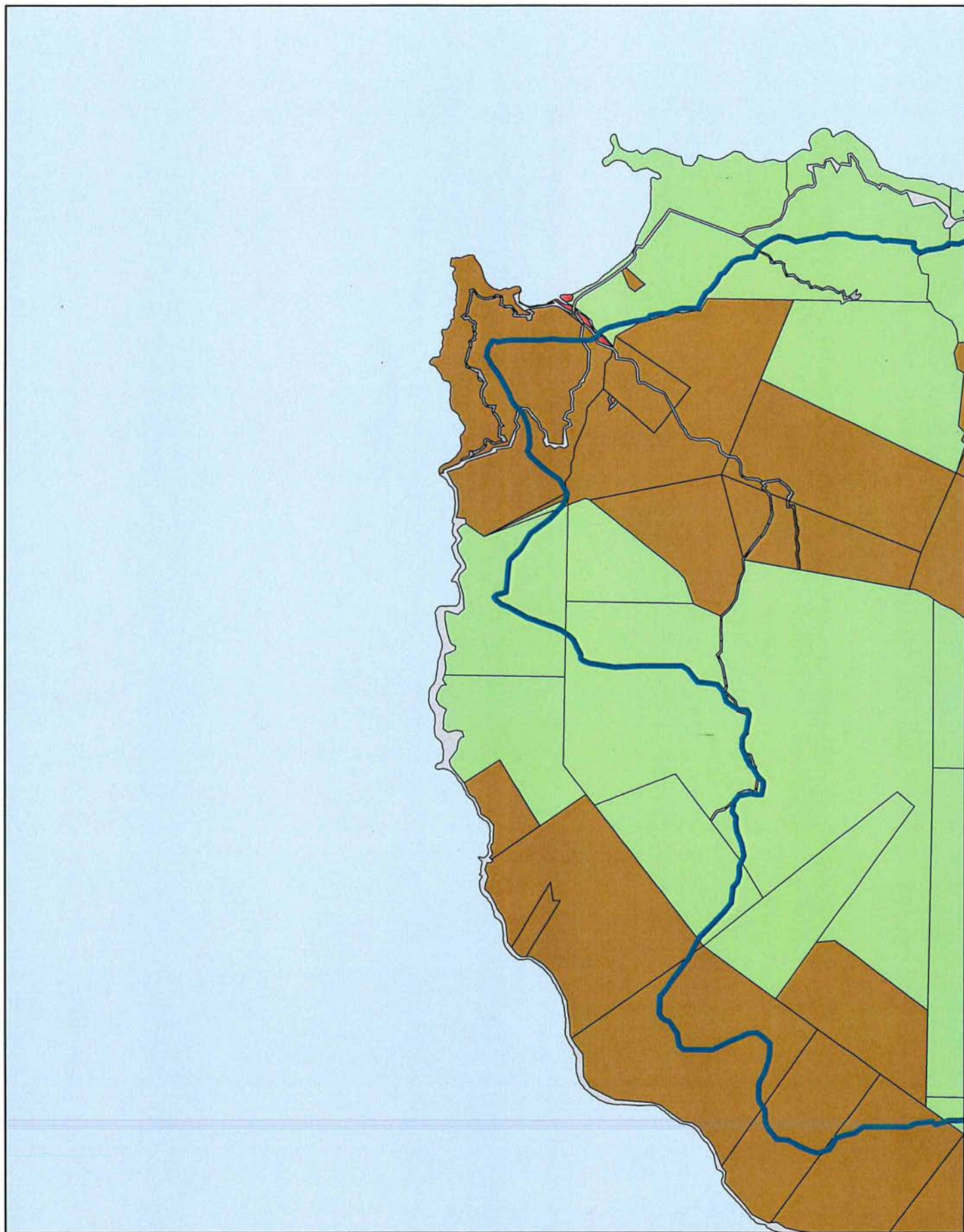
 Ponding Area RL
3.0m Tararu Datum

All Maps

 Parcel Boundary

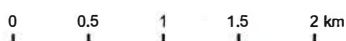
 Sea or Harbour or Estuary

APPEAL # *Appeal number lodged with Environment Court*



5

MAP 1 ZONES
CAPE COLVILLE
 PROPOSED DISTRICT PLAN - Appeals Version
 Scale 1:50,000 at A4 Paper Size

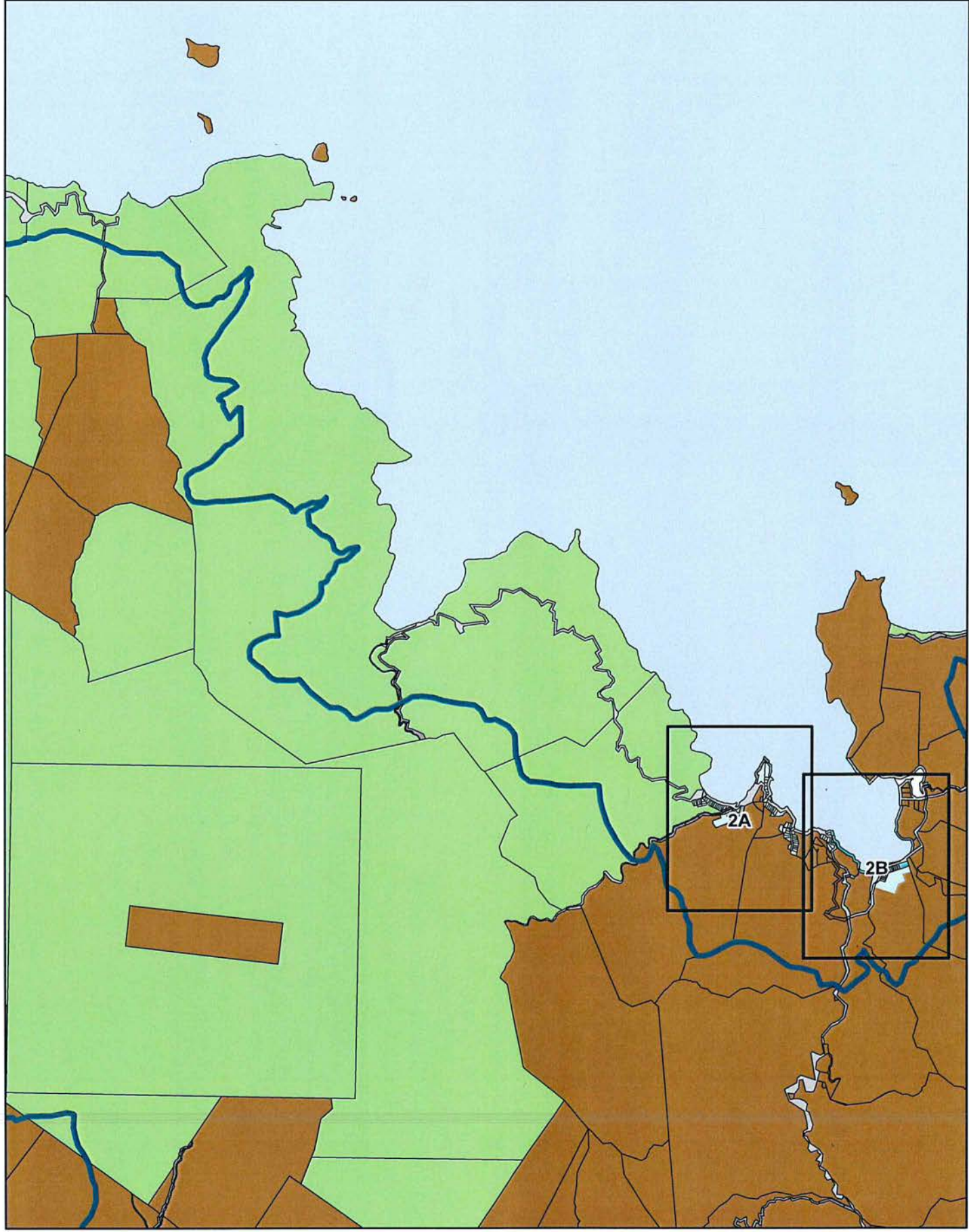


Sourced from the LINZ Data



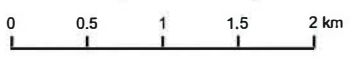
MAP PRINTED
 July 2016

N



6

MAP 2 ZONES
PORT CHARLES
PROPOSED DISTRICT PLAN - Appeals Version
Scale 1:50,000 at A4 Paper Size



MAP PRINTED
July 2016



SUBJECT TO APPEAL

COASTAL ENVIRONMENT OVERLAY
All land shown on this map is within
the Coastal Environment overlay

1 2 3

5 6 7

Sourced from the LINZ Data

MAP 5 ZONES

PORT JACKSON ROAD

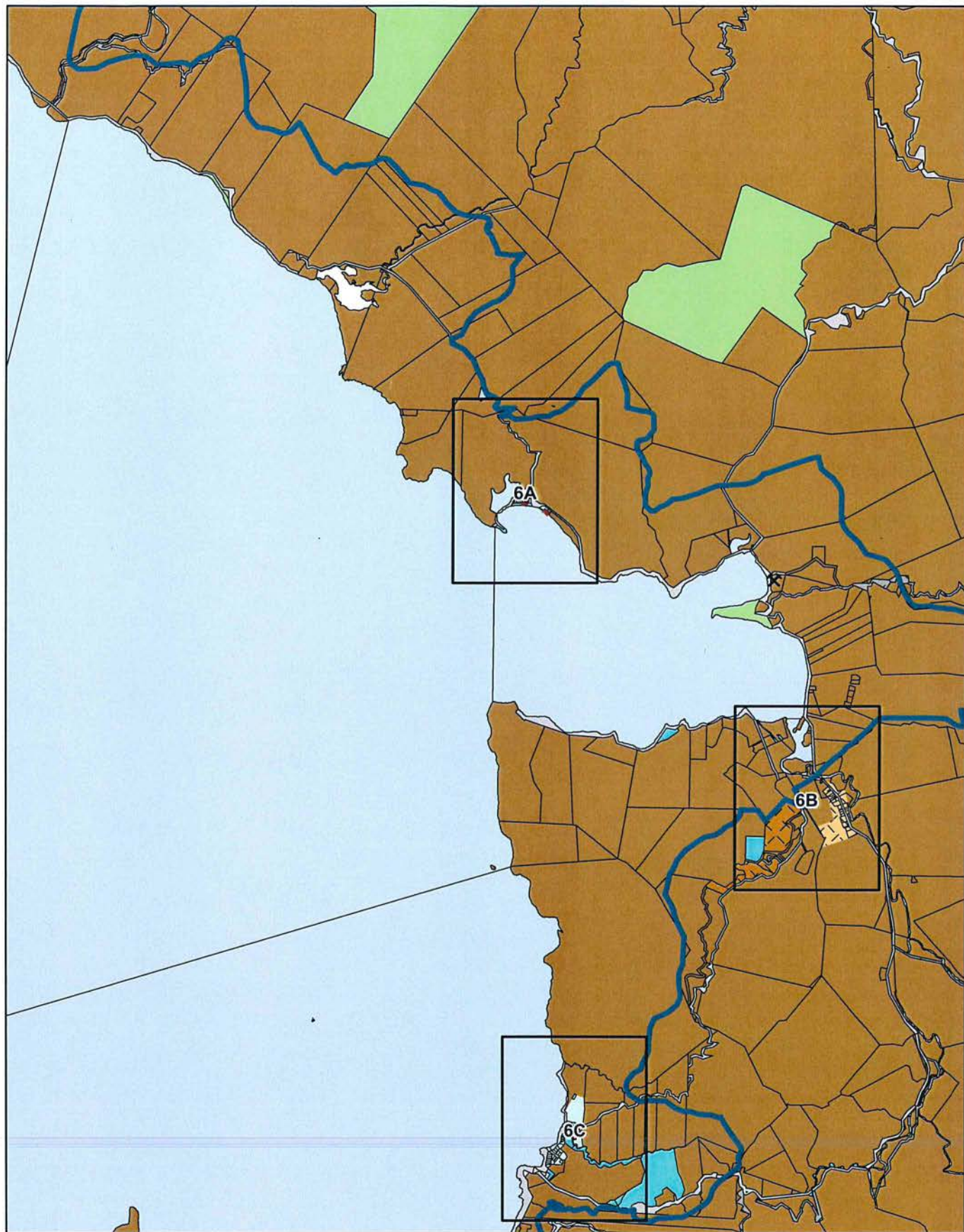
PROPOSED DISTRICT PLAN - Appeals Version

Scale 1:50,000 at A4 Paper Size

0 0.5 1 1.5 2 km



MAP PRINTED
July 2016



MAP 6 ZONES

COLVILLE

PROPOSED DISTRICT PLAN - Appeals Version

Scale 1:50,000 at A4 Paper Size

0 0.5 1 1.5 2 km

MAP PRINTED
May 2018

Sourced from the LINZ Data

Cadastral Information derived from Land Information New Zealand's Core Record System (CRS). CROWN COPYRIGHT RESERVED.

SUBJECT TO APPEAL

COASTAL ENVIRONMENT OVERLAY
All land shown on this map is within
the Coastal Environment overlay

1 2 3

5 6 7

Sourced from the LINZ Data

MAP 5 OVERLAYS

PORT JACKSON ROAD

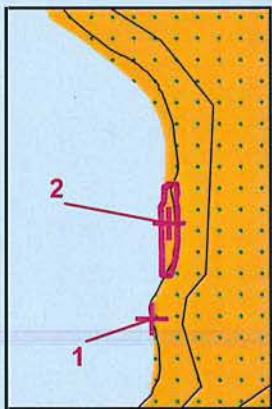
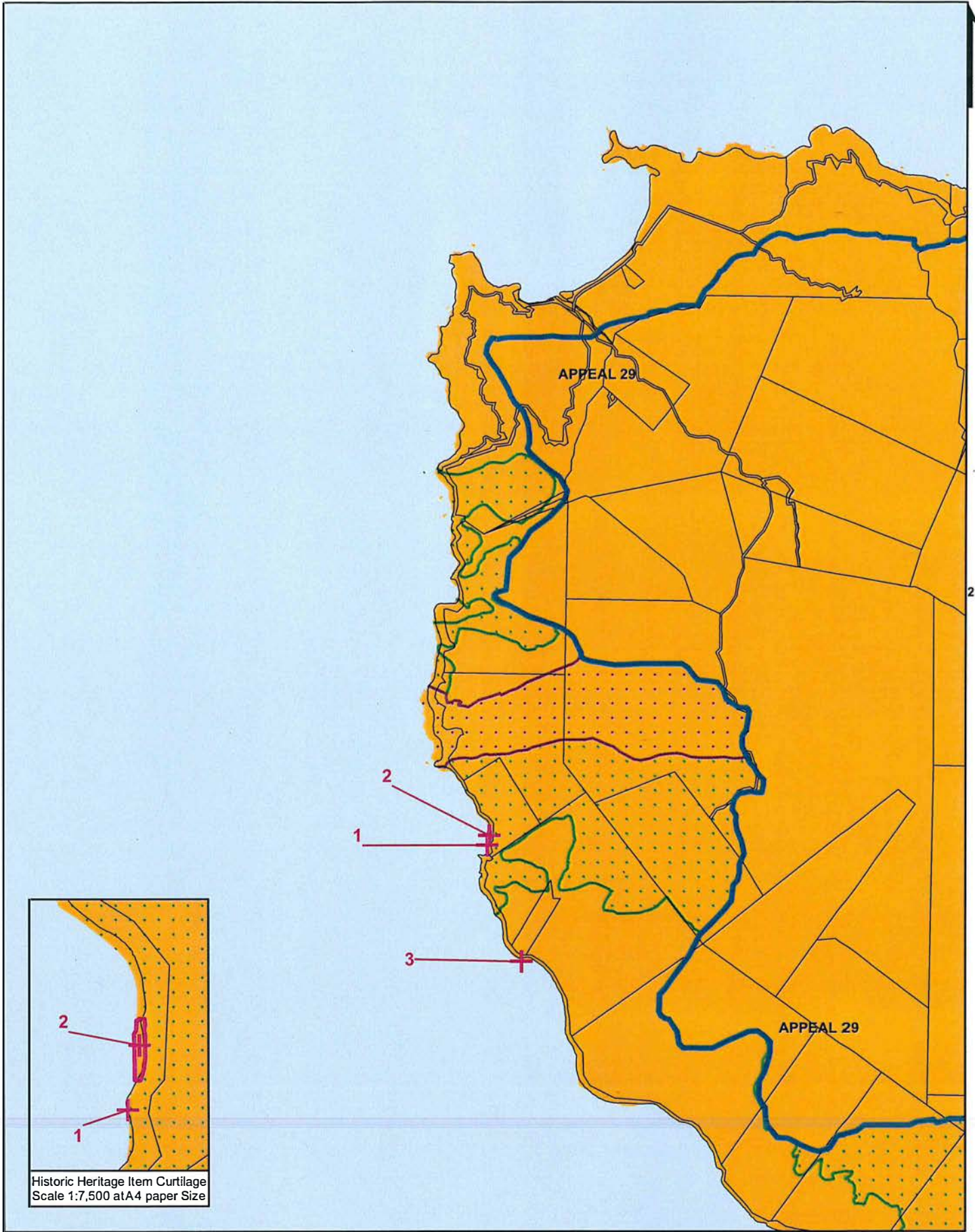
PROPOSED DISTRICT PLAN - Appeals Version

Scale 1:50,000 at A4 Paper Size

0 0.5 1 1.5 2 km



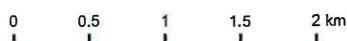
MAP PRINTED
July 2016



Historic Heritage Item Curtilage
Scale 1:7,500 at A4 paper Size

5

MAP 1 OVERLAYS
CAPE COLVILLE
PROPOSED DISTRICT PLAN - Appeals Version
Scale 1:50,000 at A4 Paper Size



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July 2016



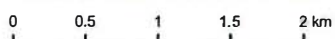
6

MAP 2 OVERLAYS

PORT CHARLES

PROPOSED DISTRICT PLAN - Appeals Version

Scale 1:50,000 at A4 Paper Size



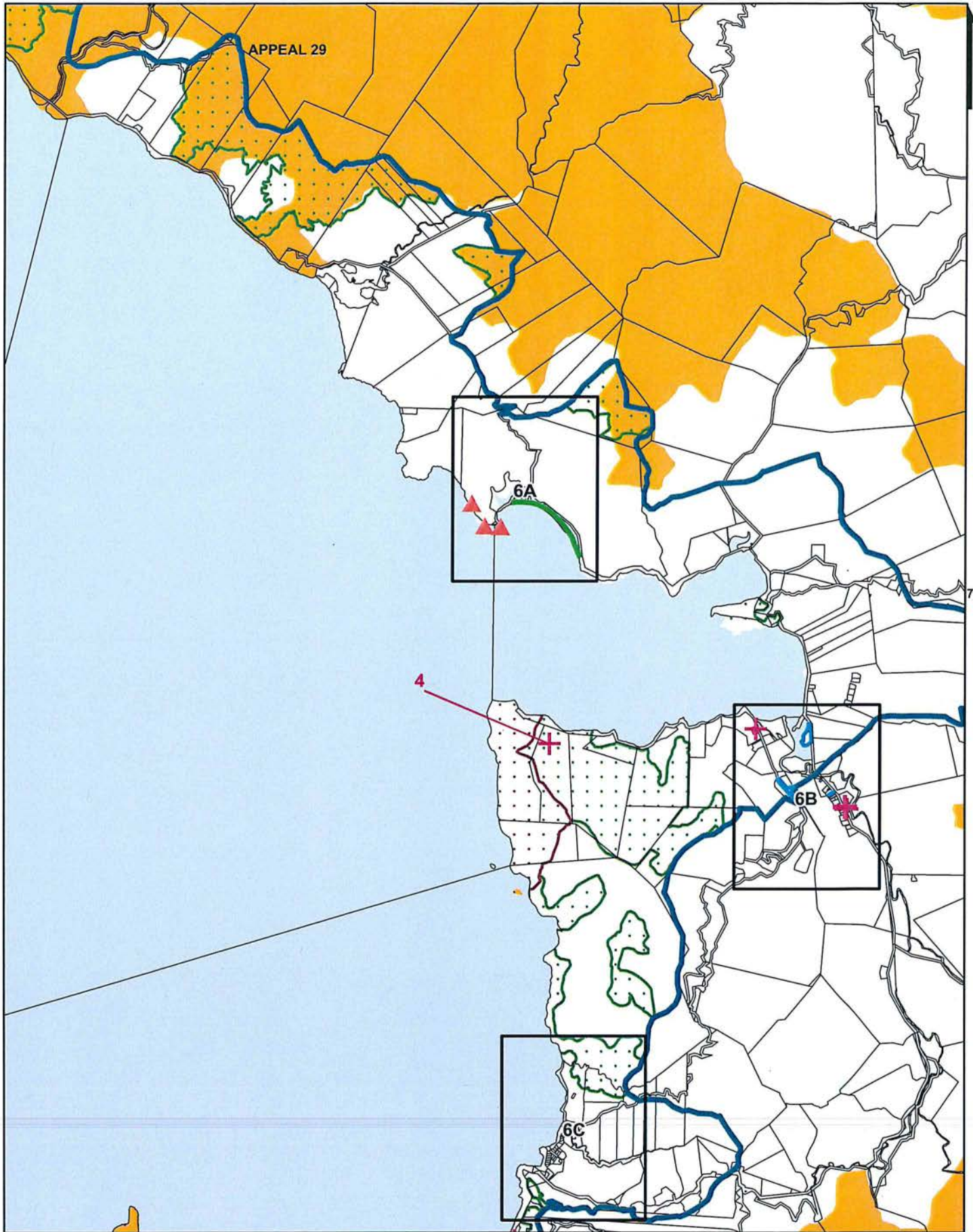
Cadastral Information derived from Land Information New Zealand's Core Record System (CRS). CROWN COPYRIGHT RESERVED.



MAP PRINTED
April 2018



Sourced from the LINZ Data



MAP 6 OVERLAYS

COLVILLE

PROPOSED DISTRICT PLAN - Appeals Version
Scale 1:50,000 at A4 Paper Size

0 0.5 1 1.5 2 km



MAP PRINTED
July 2016

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APPENDIX 7 DRAFT CONSENT CONDITIONS

Draft Resource Consent Conditions

General Conditions

1. The spat catching activities authorised by this resource consent shall be undertaken in general accordance with the application documentation for this resource consent, including:
 - a) Application Forms A, B & C;
 - b) “Resource Consent Application & Assessment of Effects on the Environment of a Spat Catching Area, Colville, Hauraki Gulf for Legal Shellfish Ltd” dated March 2019 and prepared by Achieve Environmental Planning Limited;
 - i) Ecological Survey at a Proposed Mussel Spat Catching Marine Farm Area, Colville, North-Eastern Firth of Thames” dated November 2018 and prepared by 4Sight Consulting;
 - ii) “Colville Marine Farm For the Purposes of Spat Catching, Hauraki Gulf, dated March 2019 prepared by Hudson Associates Landscape Architects;except as modified by resource consent conditions below.
2. This coastal permit authorises:
 - a) spat catching of green-lipped mussel (*Perna canaliculus*) spat within the Approved Area as shown on the survey plan listed in condition 5;
 - b) the use of conventional marine farm structures and spat ropes for mussel spat catching purposes; and
 - c) the occupation of 85.75 hectares of space in the coastal marine area.
3. The consent holder shall be responsible for all contracted operations relating to the exercise of this resource consent, and shall ensure operators and contractors are made aware of the conditions of this resource consent and ensure compliance with those conditions.

Occupation Boundary and Area

4. The area occupied by the spat catching marine farming structures including anchors shall not exceed 85.75 hectares of space in the coastal marine area.
5. The boundary of the spat catching marine farm area authorised under this resource consent, including all surface and subsurface structures, shall be as shown on the attached Survey Plan prepared by Dunwoodie and Green Surveyors and Schedule of Coordinates (refer **Appendix 1**).
6. The consent holder shall, if requested by the Waikato Regional Council (WRC) in writing, provide the following:
 - i) A survey plan prepared by a registered surveyor that defines the boundary of the spat catching marine farm area (to an accuracy as stated on the request from WRC) and / or
 - ii) Global Positioning System (GPS) coordinates of the corner points of the marine farm (to an accuracy of at least plus or minus 10 metres).

This information shall be provided to WRC no later than one month from the date of receipt of that request. The location coordinates are to be in Geodetic Datum 2000, NZ Transverse Mercator Projection.

Notification

7. The consent holder shall provide WRC with a structures plan showing the details of the spat catching marine farm structures within the space authorised by this resource consent, and details of navigation lighting and marking if any changes are made from application material. For the avoidance of doubt, the purpose of the structure plan is to provide information on the marine farming structures including details of anchoring.

The consent holder shall ensure that the WRC is provided with an updated structures plan where any changes to the marine farming structures are made, within one month of any change being made.

Code of Practice

8. The spat catching area shall be operated in general accordance with the New Zealand Mussel Industry Council Limited document titled "*Aquaculture New Zealand GreenshellTM Mussel Industry Environmental Code of Practice*", 1999, revised June 2007 by Aquaculture New Zealand, or its successor to the satisfaction of the WRC.

Where any conflict exists between the Code of Practice and the conditions of this resource consent, the conditions shall prevail.

9. The consent holder shall notify WRC of any entanglements of
 - i) marine mammals; and/or
 - ii) seabirds; and/or
 - iii) protected species under the Wildlife Act 1953.in writing within five working days. Notification information shall include:
 - a) the date of entanglement, and
 - b) the name of the entangled species, and
 - c) remedial actions undertaken.

Biosecurity

10. The consent holder shall prepare a "Biosecurity Management Plan" developed having regard to the various protocols contained within industry existing guidelines and codes of practise. These being:
 - i) Aquaculture NZ Greenshell Mussel Industry Environmental Code of Practice (AQNZ 2007);
 - ii) NZ Marine Pest Identification Guide (Ministry of Primary Industries 2012),
 - iii) any future codes and response protocols that are in draft or being promulgated by the industry (e.g. the proposed Mussel Industry Biosecurity Contingency Plan and the draft Exotic Disease Response Plan).
11. Alternatively, if agreed in writing by WRC, the consent holder shall comply with a biosecurity contingency plan approved by WRC. The plan shall, as a minimum, include procedures to minimise the risk of transfer of species of concern via machinery, equipment and vessels; and set out procedures should any species of concern be detected.

12. The consent holder shall comply with the following documents:

- i) New Zealand Mussel Industry Council Ltd (2006) “New Zealand Mussel Industry Marine Fouling Organisms Guide”; and
- ii) New Zealand Mussel Industry Council Ltd (2004) “New Zealand Greenshell Mussel Industry, Exotic Disease Response Plan”; and
- iii) New Zealand Mussel Industry Council Ltd “Code of Practice for Transfer of Mussel Seed”; and
- iv) New Zealand Aquaculture Council (2005) “Industry code of Practice to reduce the risk of spreading the seasquirt *Styela Clava* within the coastal marine zone”

or any subsequent updated versions of these documents.

Marking and lighting

- 13. Each corner of the spat catching marine farm and the middle of each of the seaward-most and landward-most longlines shall be marked with an orange marker buoy of a minimum diameter of 500 millimetres.
- 14. The spat catching marine farm area shall be clearly marked with the consent holders name and consent number on at least one of the four orange corner marker buoys, unless otherwise agreed in writing by the WRC.
- 15. Each buoy shall be permanently branded so as to clearly identify its ownership.
- 16. Two months after the MPI “Undue Adverse Effects” assessment has been completed, the consent holder shall submit an application for the placement of aids to navigation for approval with Maritime New Zealand (MNZ). The application shall be in general accordance with the MNZ document titled *Guideline for Aquaculture Management Areas and Marine Farms*, MNZ, dated December 2005 (or any subsequent updated version of that document).
- 17. The consent holder shall notify WRC within one month following approval from MNZ for the placements of aids to navigation.
- 18. Until approval for the placement of aids to navigation has been obtained from MNZ the consent holder shall light the marine farm in accordance with the lighting application as required by condition 16, unless otherwise recommended by the Harbourmaster or MNZ in writing.
- 19. All navigation marks and lights shall be constructed to remain substantially upright and remain operational in all sea conditions reasonably anticipated at the site.

Navigation safety and structural integrity

- 20. The consent holder shall maintain all structures authorised by this resource consent to ensure that they are restrained, secure and in working order at all times so as to not create a navigational hazard, and take whatever steps are reasonably necessary to ensure structural integrity is maintained.
- 21. Should any part of the structures authorised by this resource consent be lost into the marine environment that is of a size that could constitute a navigation hazard, the consent holder shall inform the WRC as soon as practicable. The consent holder shall undertake all necessary steps to find the lost part and once found shall undertake such actions as are necessary to ensure it does not constitute a navigation hazard.

Waste removal

22. The consent holder shall ensure that non-biodegradable material lost or removed from the structures authorised by this resource consent, including but not limited to, anchors, lines, droppers, ties, buoys, shall be removed as soon as practicable from the seabed, water column or foreshore and disposed of on land.

Discharges

23. There shall be no discharges of feed, medicinal or therapeutic compounds to the coastal marine area as a result of the exercise of this resource consent.

Removal of unused and/or abandoned structures

24. The consent holder shall inform the WRC as soon as practicable should the spat catching marine farming operation cease within all or part of the space authorised by this resource consent. Unless otherwise agreed in writing by the WRC, the structures authorised by this resource consent, except screw anchors and/or mooring blocks, shall be removed and suitably disposed of on land to the satisfaction of the WRC at the consent holder's expense within six months of the date of ceasing to catch spat in this area, or at the expiry, lapse, cancellation or surrender of this resource consent.

Bond

25. Prior to the establishment of each long line, the consent holder shall provide a legally enforceable bond made payable to the WRC. The bond shall be in a form approved by the WRC and shall be on the terms required by the WRC. Unless the bond is a cash deposit, the performance of the bond shall be guaranteed by a guarantor which is acceptable to the WRC. The guarantor shall bind itself to pay for, or, if no payment is made, undertake the work necessary for the carrying out and completion of any works to ensure compliance with condition 27 in the event of any default of the consent holder. Alternatively, the bond requirement may be met by a legally enforceable industry pooled fund and/or security scheme which has been approved by the WRC.
26. Unless the WRC agrees to an earlier release, the consent holder shall maintain the bond in favour of the WRC until two years after the expiry of this resource consent. Where the consent holder has applied to the WRC pursuant to section 124 of the Resource Management Act 1991 to replace this resource consent, the consent holder shall maintain the bond in favour of the WRC until one year after the decision and any subsequent appeals on that decision or until the bond for the new consent has been executed. There shall only be one bond for the same structures at any one time.
27. The bond shall make provision so that every third year, beginning **.....Date.....**, the quantum of the bond shall be adjusted for inflation.
28. The bond may be varied or cancelled at any time by agreement in writing between the consent holder and the WRC.
29. The transfer of this resource consent is subject to the transferee providing a bond on the same terms as the existing bond, unless this requirement is provided for by an industry security scheme approved by the WRC. In the case of any transfer in part or in whole to another person, the bond lodged by the transferor shall be retained until any outstanding work at the date of transfer is completed to ensure compliance with condition 27 of this resource consent.
30. Should WRC undertake any work in relation to the preparation, administration and execution of the bond, the costs will be recovered from the consent holder.

Review

31. The WRC may, within two months either side of 1 September XXXX, and 1 September XXXX, and at five yearly periods thereafter, serve notice on the consent holder under section 128(1) of the Resource Management Act 1991, of its intention to review the conditions of this resource consent (Advice Note 24). The review will be for the following purposes:
- i) to review the effectiveness of the conditions of this resource consent in avoiding or mitigating any adverse effects on the environment from the exercise of this resource consent and if necessary to avoid, remedy or mitigate such effects by way of further or amended conditions; and/or
 - ii) if necessary and appropriate, to require the holder of this resource consent to adopt the best practicable option to remove, or reduce, adverse effects on the environment resulting from the exercise of this resource consent; and/or
 - iii) to review the adequacy of and the necessity for monitoring (including, but not limited to, environmental monitoring and biosecurity monitoring) undertaken by the consent holder.
32. Within 12 months of the notification of a proposed regional coastal plan or plan change and within 12 months of a regional coastal plan or plan change becoming operative the WRC may serve notice on the consent holder under section 128(1) of the Resource Management Act 1991, of its intention to review the conditions of this resource consent for the purpose of ensuring that the consent is consistent with the provisions of the notified or operative plan or plan change.

Administration

33. The consent holder shall pay to the WRC any administrative charge fixed in accordance with section 36 of the Resource Management Act 1991, or any charge prescribed in accordance with regulation made under section 360 of the Resource Management Act 1991.

APPENDIX 8 REFERENCES

Keeley, N, Forrest B, Hopkins G, Gillespie P, Clement D, Webb S, Knight B, Gardner J (2009). Sustainable Aquaculture in New Zealand: Review of the Ecological Effects of Farming Shellfish and Other Non-fish Species Prepared for the Ministry of Fisheries. Cawthron Report No 1476. Cawthron Institute, Nelson.

NZ Institute of Economic Research (2017): The economic contribution of marine farming in the Thames-Coromandel District. A computable general equilibrium (CGE) analysis. Report to Aquaculture New Zealand.

Coromandel Peninsula Blueprint Framework for our Future February 2010 – WRC / TCDC