Fisheries New Zealand
Tini a Tangaroa

31 March 2021

AQUACULTURE DECISION REPORT — PONUI AQUACULTURE LIMITED, COASTAL PERMIT CST60335843, EAST OF PONUI ISLAND, FIRTH OF THAMES

PURPOSE

1. This report sets out my aquaculture decision (as the relevant decision maker[1]) for an aquaculture decision request made under section 114(4)(c)(ii) of the *Resource Management Act 1991* (RMA). The aquaculture decision request is described below. My aquaculture decision is made under section 186E of the *Fisheries Act 1996* (Fisheries Act).

SUMMARY

2. I am satisfied the aquaculture activities proposed within the area of coastal permit CST60335843 will not have an undue adverse effect on the following fishing sectors:

- recreational - for the reasons set out in this report and summarised in paragraph 21;
- customary - for the reasons set out in this report and summarised in paragraph 45;
- commercial - for the reasons set out in this report and summarised in paragraph 64.

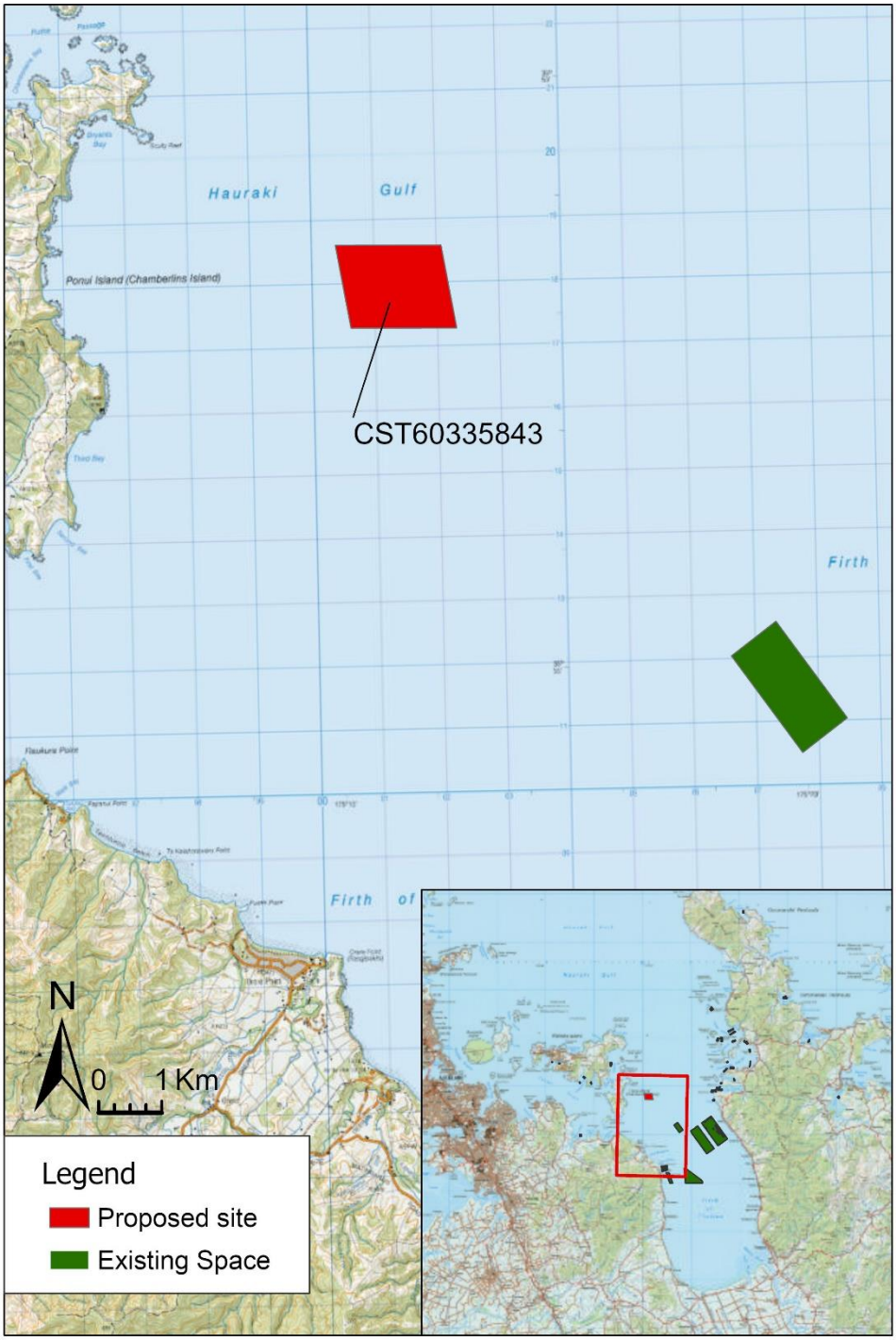
AQUACULTURE DECISION REQUEST DETAILS

Regional Council:	Auckland Council (AC)
Date of Request:	10 October 2020
Coastal Permit Applicant:	Ponui Aquaculture Limited
Location of marine farm site:	East of Ponui Island, Firth of Thames
Size of consent/new farm space (ha):	221 ha
Species listed on consent:	Green-lipped mussel (*Perna canaliculus*)
Farm structures:	Standard marine farm longlines and anchors.

Location and structures

3. Coastal permit CST60335843 is located east of Ponui Island in the outer Firth of Thames (see Map 1). The coastal permit authorises green-lipped mussel farming over 221 ha of new space (the **proposed site**). Structures lay-out of the proposed site can be found in Appendix A.

[1] Acting under authority delegated to me by the Director-General of the Ministry for Primary Industries (**MPI**) in accordance with section 41 of the *State Sector Act 1988*.



Map 1[2]: Location of the proposed site (area authorised by coastal permit CST60335843) east of Ponui Island, Firth of Thames.

[2] Disclaimer: Maps 1 – 4 and all accompanying information (the "Maps") are intended to be used as a guide only, with other data sources and methods, and should only be used for the purpose for which they were developed. The information shown in the Maps is based on a summary of data obtained from various sources. While all reasonable measures have been taken to ensure the accuracy of the Maps, MPI: (a) gives no warranty or representation in relation to the accuracy, completeness, reliability or fitness for purpose of the Maps; and (b) accepts no liability whatsoever in relation to any loss, damage or other costs relating to any person's use of the Maps, including but not limited to any compilations, derivative works or modifications of the Maps. Crown copyright ©. The maps are subject to Crown copyright administered by Ministry for Primary Industries (MPI).
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Environment

4. Water depths at the area of coastal permit CST60335843 range from approximately 23 m - 29 m. An ecological survey (Bone, 2019) found the proposed site is located over soft, fine-grained sandy mud overlaying harder packed layer of sandy mud with a component of shell hash and gravel.

5. The ecological survey by Bone (2019) found the mud benthos supported heart urchins, brittle stars, hermit crabs, various small crustaceans, *Linucula hartvigiana* (bivalve mollusc) and polychaete worms immediately below the consented area. The proposed site is not located over any sensitive ecological areas.

Input from stakeholders

6. Fisheries New Zealand publicised the application for coastal permit CST60335843 on its website on 29 January 2021. This gave persons and organisations potentially affected by the proposed aquaculture activities an opportunity to provide information on their fishing activities at the proposed site. The closing date for submissions was 26 February 2021.

7. Fisheries New Zealand also engaged with tangata whenua and consulted with targeted recreational and commercial stakeholders (a full list of tangata whenua and stakeholders consulted by Fisheries New Zealand can be found in Appendix B). Tangata whenua and stakeholders had until 26 February 2021 to provide submissions.

8. Fisheries New Zealand received two submissions regarding the proposed site.

9. One submission stated that marine farms in the Hauraki Gulf were adversely affecting vessel navigation and marine life. The submitter stated that the size and location of the proposed site would be a hazard to vessels operating in this area, especially any punctured and floating buoys. However, matters of navigation and the environment are for Auckland Council to consider. Fisheries New Zealand can only consider effects on fishing, so this submission is not discussed further here.[3]

10. The other submission stated that fishing and fish stocks (as well as overall marine health in the Hauraki Gulf) may be adversely affected by aquaculture development through increased plastic pollution and the introduction of marine invasive species. The submitter stated that these issues are related to mussel farming and provided several attachments to support their view.

11. However, the resource consent from Auckland Council has conditions around waste management, including plastic debris. Enforcement of these conditions is a matter for the Council. Currently there is not enough evidence available to fully assess the effects of plastic pollution on fishing and fish stocks. However, any effects which have been assessed (Cunningham, *et al*., 2020; Lusher, *et al*., 2017) are not deemed an issue.

12. Regarding invasive species, any additional risks from the proposed site are minimal, given these risks would already exist due to existing farms. Biosecurity New Zealand has guidance in place to minimise biosecurity risks in the aquaculture industry.[4] Furthermore, to be effective, the risk of marine farms being vectors for invasive species needs to be addressed at a regional level, rather than on a farm-by-farm basis.

[3] See 3574-The-undue-adverse-effects-test-on-fishing (mpi.govt.nz) for further information on what MPI assesses.
[4] https://www.mpi.govt.nz/fishing-aquaculture/aquaculture-fish-and-shellfish-farming/protecting-aquaculture-biosecurity-risks/

STATUTORY CONTEXT

13. Section 186E(1) of the Fisheries Act requires me to, within 20 working days after receiving a request for an aquaculture decision from a regional council, make a determination or reservation (or one or more of them in relation to different parts of the area to which the request relates).

14. A 'determination' is a decision that I am satisfied the aquaculture activities authorised by the coastal permit will not have an undue adverse effect on customary, recreational, or commercial fishing.[5] A 'reservation' is a decision that I am not satisfied the aquaculture activities authorised by the coastal permit will not have an undue adverse effect on fishing.

15. If I make a reservation, I am required to specify whether the reservation relates to customary, recreational or commercial fishing or a combination of them. If the reservation relates to commercial fishing, I must specify the stocks and area concerned – section 186H(4).

16. Section 186GB(1) of the Fisheries Act specifies the only matters I must have regard to when making an aquaculture decision. These matters are as follows:

- the location of the area that the coastal permit relates to in relation to areas in which fishing is carried out;
- the likely effect of the aquaculture activities in the area that the coastal permit relates to on fishing of any fishery, including the proportion of any fishery likely to become affected;
- the degree to which the aquaculture activities in the area that the coastal permit relates to will lead to the exclusion of fishing;
- the extent to which fishing for a species in the area that the coastal permit relates to can be carried out in other areas;
- the extent to which the occupation of the coastal marine area authorised by the coastal permit will increase the cost of fishing; and
- the cumulative effect on fishing of any authorised aquaculture activities, including any structures authorised before the introduction of any relevant stock to the quota management system.

17. For the purpose of my assessment, customary fishing differs from recreational fishing if it is undertaken outside of the recreational limits provided in the *Fisheries (Amateur Fishing) Regulations 2013* (Amateur Regulations) and is instead authorised by a customary authorisation.

18. Appendix D gives further information on statutory context.

[5] Section 186C of the Fisheries Act defines "adverse effect," in relation to fishing, as restricting access for fishing or displacing fishing. An "undue adverse effect" is not defined. However, the ordinary meaning of "undue" is an effect that is unjustified or unwarranted in the circumstances. For the purpose of my decision under section 186E, an undue adverse effect will mean the significance of the effect on restricting access for fishing, displacing fishing or increasing the cost of fishing is unjustified or unwarranted in the circumstances.

ASSESSMENT

19. The following is an assessment, within the statutory context, of the effects of the proposed aquaculture activities on recreational, customary and commercial fishing. It is based on all the relevant information available to me.

20. This assessment relates to the 221 ha of marine farming space authorised by coastal permit CST60335843 (the proposed site).

Recreational fishing

21. I am satisfied the aquaculture activities that may operate within the proposed site will not have an undue adverse effect on recreational fishing because:

- only a small amount of recreational fishing is likely to occur at the proposed site;
- anchored rod/line fishing could still occur within the proposed site;
- recreational fishing surveys and anecdotal information suggest existing mussel farms in the Firth of Thames are popular recreational fishing locations;
- other recreational fishing areas are available in the Firth;
- occupation of the proposed site is unlikely to increase in the cost of recreational fishing;
- the likely effect of occupation of the proposed site on recreational fishing if any, is only small; and
- this small effect added to existing effects of approved aquaculture space will not cause the cumulative effect on recreational fishing to become undue.

22. The above conclusions were reached following the more detailed assessment below.

Location of the coastal permit area relative to fishing areas

23. I consider the area of the proposed site is located where a small amount of recreational fishing is likely to occur. The locality of the proposed site is less important for recreational fishing than nearby areas. The main methods used include stationary and mobile rod/line fishing from a boat. The main species caught include snapper, kahawai, gurnard, trevally, tarakihi, Jack mackerel scallops, John dory and flatfish.[6]

24. The Firth of Thames is a very popular area for recreational fishing because it offers a large stretch of coastline and productive fishing grounds, all close to a major city. In the outer Firth the water is a bit more open, particularly on the western side. The proposed site is located too far from shore to be used for shore fishing.

25. Anecdotal evidence from charter boat websites[7] indicates that existing marine farms in the Firth of Thames are popular for recreational fishing, particularly rod and line fishing for

[6] Recreational fishers are not required to report catch or fishing locations. MPI is therefore unable to estimate an average annual recreational catch or proportion of recreational catch likely to be affected by the proposed aquaculture activities. Rather, MPI can only assess the effect of the proposed aquaculture activities on recreational fishing based on qualitative information.

[7] www.thamescharters.co.nz; www.musselbargesafaris.co.nz; www.coromandelfishingcharters2013.co.nz; www.snapperexpress.co.nz; www.thecoromandel.co.nz.

snapper. The popularity of the existing marine farms[8] suggests that they may enhance recreational fishing for snapper and perhaps other schooling species like kahawai and kingfish. Other species mentioned on charter boat websites include: John dory, gurnard, trevally, and tarakihi.

26. Information on recreational fishing used in this assessment comes from:

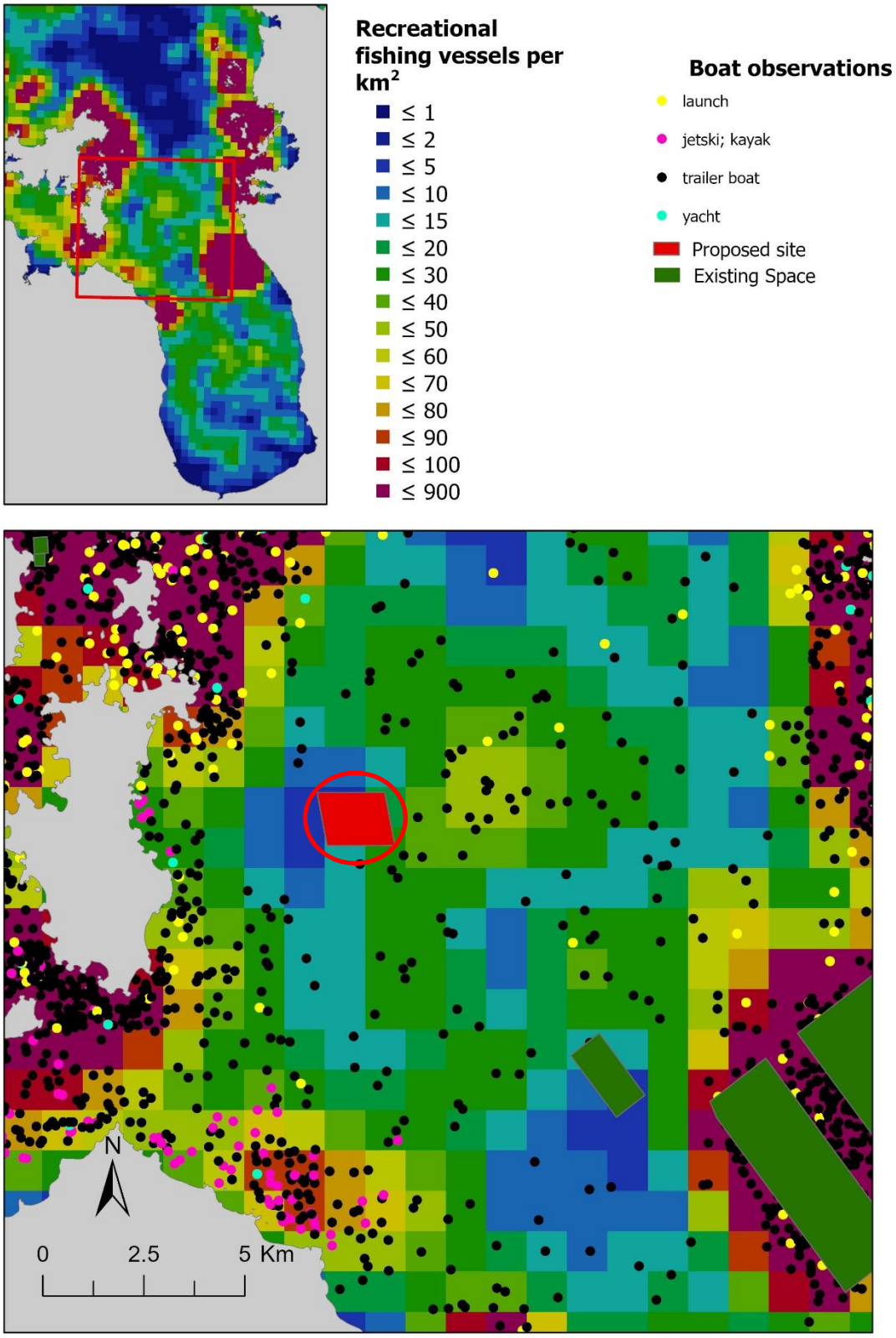
- two national interview surveys in the 2011-12 and 2017-18 fishing years (Wynne-Jones *et al*., 2014, 2019);
- three aerial over-flight surveys coupled with boat ramp surveys covering Fisheries Management Area 1 (FMA 1) over:
    - 12 months in 2004-05 (Hartill, *et al*., 2007) [9];
    - 12 months in 2011-12 (Hartill, *et al*., 2013); and
    - 12 months in 2017-18 (Hartill, *et al*., 2019) [10];
- Amateur Charter Vessel (ACV) returns. Charter fishing must be reported to MPI and reports include location of fishing and catches; and
- Charter boat websites.

27. Rod and line fishing from boats was the most popular type of fishing in the inner Firth survey area (which includes the proposed site). Some set netting and hand gather/floundering from shore also occurred. The proposed site is adjacent to another survey site (outer Firth), so information from that survey area has been included as well. Methods there were similar, with the addition of hand gathering by diving, and dredging (Wynne-Jones *et al*., 2014, 2019).

28. Averaged over the two national interview panel surveys, those fishing in the inner Firth caught mostly snapper (on 84% of fishing trips). The percentage of fishing trips which caught the following species were: kahawai (30%), gurnard (11%), Jack mackerel (4%) and flatfish (3%). In the outer Firth, the percentage of fishing trips which caught the following species were: snapper (83%), kahawai (20%), trevally (7%), scallops (5%), kingfish (5%), gurnard (5%), John Dory (3%) and Jack mackerel (2%) (Wynne-Jones *et al*., 2014, 2019).[11]

29. Aerial surveys of fishing boats show many recreational fishing vessels fish towards Rotoroa Island, to the northwest of the proposed site. Fishing intensity in the Firth is greatest around existing marine farms and areas of rocky coastline. However, as shown in Map 2, fishing intensity is quite low in the area of the proposed site.

[8] Based on the Hartill *et al*. (2007) survey, ACV data and charter boat websites.
[9] This survey only covered snapper, kahawai and kingfish, so is not a complete representation of the species available in FMA1.
[10] The 2013 and 2019 Hartill, *et al*. surveys only covered snapper, kahawai, red gurnard, tarakihi and trevally and therefore also don't provide a complete overview of species available in the surveyed area.
[11] The national survey is designed to give statistically robust estimates at the scale of FMAs, not smaller areas. The survey has been used to give a rough characterisation of recreational fishing patterns within a single survey stratum covering Firth of Thames.



Map 2. Estimated annual intensity of recreational fishing from boats in 2017-18 and actual boat observations from all aerial surveys in FMA 1 (Hartill *et al*., 2019). The location of the proposed site east of Ponui Island is circled in red.

30. The aerial surveys summarised in Map 2 involve many flights over the course of 12 months but each flight is a snapshot. They are more likely to record fishing locations of anchored or slow-moving boats than the locations of fishing gear set in the water and left for a period. Some fishing methods, such as set netting and dredging, may not be well described by the data shown in Map 2.

31. ACV fishing must be reported to MPI and include the location of fishing and amount of catch. In the nine fishing years from October 2010 to November 2019, 5 ACV reports were received for the area of the proposed site. On this basis, the proposed site is significantly less important for amateur charter fishing (0.4 ACV events per km²), compared to the 20 km² area around it (11.4 ACV events per km²). ACV fishing around the location of the proposed site targeted kingfish by rod and line, at anchor and drifting. Catches of snapper and kingfish were also reported.

32. Table 1 summarises my assessment of the main methods used and species likely to be caught by recreational fishers at the proposed site based on recreational fishing surveys, the applicant's environmental survey (Bone, 2019), ACV data and anecdotal sources.

Table 1: Recreational fishing methods used and species likely to be caught near and around the area of the proposed site, based on the available information.

	ACV data for east of Ponui Island	Recreational fishing surveys (Firth of Thames and Hauraki Gulf survey areas)	Other information	My assessment
Methods used	Hand line on anchor and while drifting were the main methods used.	Wynne-Jones *et al*., 2014, 2019: Inner Firth: Rod & handline (96% of trips), net (3%) and hand gather/floundering from shore (2%) were the main methods used. Outer Firth: rod & handline (97%), hand gather by diving (4%), dredge (2%) and hand gather/flounder from shore (2%) were the main methods used. Hartill *et al*., 2007, 2013, 2019: Main method in Hauraki Gulf (which includes the Firth of Thames) is fishing from a boat.	The habitats recorded in the ecological report (Bone, 2019) support net finfish fishing and diving methods. Set netting is possible, but usually occurs in shallower bays and estuaries. Diving may occur in the general locality and particularly inshore of the proposed site for scallops. The Hauraki Gulf is a high-use recreational fishing area, but the area of the proposed site is relatively low-use.	Stationary rod/line methods may be used at the proposed site. Mobile rod/line is possible. Set netting is possible, but less likely. Hand gathering (floundering) is not a suitable method at the proposed site because the water will likely be too deep. Diving with UBA may occur, but it is probably too deep for free diving, at an average depth of 26 m.
Species caught	Main species targeted: kingfish. Species caught included: kingfish and snapper.	Wynne-Jones *et al*., 2014, 2019: Inner Firth: snapper (84%), kahawai (30%), gurnard (11%), Jack mackerel (4%) and flatfish (3%) were main species caught. Outer Firth: snapper (83%), kahawai (20%), trevally (7%), scallops (5%), kingfish (5%), gurnard (5%), John dory (3%) and Jack mackerel (2%) were main species caught. Hartill *et al*., 2007, 2013, 2019: Main species caught in Hauraki Gulf were snapper and kahawai. Kingfish, gurnard, trevally and tarakihi were also caught.	The statements from the ecological report above, mean that reef species are unlikely to be found in the proposed site. Species mentioned on charter boat websites include snapper, kahawai, kingfish, John dory, gurnard, trevally, tarakihi, hāpuku, bass, tuna and marlin.	The absence of hard substrate beneath the proposed site makes it unlikely reef species would be caught there. Snapper, kahawai, gurnard, trevally tarakihi, Jack mackerel, scallops, John dory and flatfish are likely to be the main fish species available for fishing at the proposed site.

Exclusion of fishing

33. The proposed marine farming structures are conventional marine farming long lines. Although the spacing of the longlines has not been detailed, I consider that any recreational set netting, longlining, or rod/line drift fishing occurring in the proposed site may be excluded because of the risk of entanglement.[12]

34. However, the popularity of mussel farms for recreational fishers suggests fishers may be able to use alternative methods for fishing in the proposed site. I consider that stationary rod and line fishing could continue between the proposed structures, as anecdotal information suggests fishers commonly fish by rod/line within mussel farms.

Availability of other areas

35. I consider alternative areas around the Firth of Thames and nearby areas of Statistical Area 007 (SA 007)[13] could absorb any recreational fishing displaced from the proposed site because:

- while the proposed site is a moderate size, a small amount of fishing is likely to occur there;
- the same species expected over the soft substrate at the proposed site could be found in most areas of the Firth and nearby areas of SA 007, where this substrate is common. No information suggests the proposed site offers unique habitats or species mix; and
- the same methods used at the proposed site could be used elsewhere nearby; sufficient alternative areas exist, especially for stationary rod/line fishing.

36. All the Firth of Thames and wider Hauraki Gulf is available for recreational fishing, apart from four areas closed under the *Submarine Cables and Pipelines Protection Act 1996*[14] and four small marine reserves[15] (outside of the Firth). Many alternative areas are therefore available for the types of fishing that could occur at the proposed site.

Increased cost of fishing

37. I consider the aquaculture activities at the proposed site will increase the cost of recreational fishing minimally, if at all.

38. I consider that any recreational fishing excluded from the site could be carried out nearby with minimal additional cost as a result of a marginal increase in fuel cost or change in method.

Likely effect on fishing

39. Little quantitative data is available on recreational catch taken from the area of the proposed site or the Firth of Thames generally. Fisheries New Zealand is therefore unable to estimate an average annual recreational catch or proportion of recreational catch likely to be affected by the proposed aquaculture activities. Rather, Fisheries New Zealand can only assess the effect of the

[12] Anecdotal information from recreational fishers suggests that spaces between longlines of mussel farms in the Marlborough Sounds are too narrow for longlining, set netting and trolling without risk of entanglement. Drift fishing is also difficult between closely set mussel lines because of risk of entanglement. The line spacing in the Sounds is often less than 20 m apart. Despite the spacing between the lines not being specified for the proposed site, structures may be too close together to avoid entanglement.

[13] SA 007 covers the Hauraki Gulf and Firth of Thames from Takatu Point on Tāwharanui Peninsula to Te Kawau Point on Coromandel Peninsula (259,486 ha).

[14] West of Kawau Island, east of Great Barrier Island, east of the Whangaparaoa Peninsula and the Hauraki Gulf shipping lane.

[15] Long Bay-Okura, Cape Rodney-Okakari Point, Te Matuku and Tāwharanui marine reserves.

proposed aquaculture activities on recreational fishing based on qualitative information, such as surveys.

40. I consider the effect on recreational fishing from the proposed aquaculture activities will not be undue because:

- not all recreational fishing methods would be excluded from the proposed site;
- anecdotal information suggests existing mussel farms are popular fishing locations, particularly rod and line fishing for snapper. Fisheries New Zealand has no information to suggest recreational fishers will not similarly use the proposed site;
- the area of the proposed site is small compared to the available area in the Firth of Thames and unlikely to be of particular importance to recreational fishers; and
- alternative areas around the Firth and nearby areas of SA 007 could absorb the recreational fishing displaced from the proposed site.

Cumulative effects

41. Approximately 4,030 ha of authorised aquaculture activities exists in the Firth of Thames, with about 4,350 ha in SA 007.

42. I consider this existing aquaculture may have affected recreational fishing in the Firth. However, I consider the cumulative effects on recreational fishing, including the aquaculture activities at the proposed site, will not be undue.

43. Fisheries New Zealand can only assess cumulative effects on recreational fishing based on the amount of aquaculture already authorised in the relevant recreational fishery and the likely importance of the area of the proposed site for fishing.

44. I consider the cumulative effects on recreational fishing, including the aquaculture activities at the proposed site, will not be undue because:

- some recreational fishing (e.g., anchored rod/line fishing) can still occur within marine farms;
- anecdotal information suggests existing mussel farms are popular fishing locations, particularly for rod and line fishing for snapper;
- not all existing farms are in popular recreational fishing areas; and
- the area of the proposed site is minimal compared to all the space available for recreational fishing in the Firth of Thames.

Customary Fishing

45. I am satisfied the aquaculture activities that may operate within the proposed site will not have an undue adverse effect on customary fishing because:

- only a small amount of customary fishing is likely to occur at the proposed site;
- recreational fishing surveys and anecdotal information suggest existing mussel farms in the Firth of Thames are popular recreational fishing locations. This is likely to be the case for customary fishing also;
- anchored rod/line fishing and diving could still occur at the proposed site;
- other customary fishing areas are available in the Firth of Thames and wider Hauraki Gulf;
- occupation of the proposed site is unlikely to increase in the cost of customary fishing;
- the likely effect of occupation of the proposed site on customary fishing is only small; and
- this small effect added to existing effects of approved aquaculture space will not cause the cumulative effect on customary fishing to become undue.

46. The above conclusions were reached following the more detailed assessment below.

Location of the coastal permit area relative to fishing areas

47. I consider the proposed site is located where customary fishing may occur; and the area may be somewhat important for this activity. However, due to the habitat within the proposed site, much of the reported customary catch is unlikely to have occurred within the proposed site itself. The main methods likely to be used are stationary rod/line fishing from a boat. Set netting, diving, drift fishing, long lining and dredging may also occur. The main species caught are likely to be scallops and snapper.

48. Up to 12 Iwi may have customary fisheries interests in the area of the proposed site.[16] They were consulted through the Hauraki Iwi Collective and Hauraki Māori Trust Board. Two temporary rāhui (closure) areas (s186) are in the vicinity of the proposed site, with the nearest at Umpuia Beach, about 14.5 km away in the Tamaki Strait.

49. Little quantitative data is available on customary catch taken from the area of the proposed site. Fishing locations for customary authorisations are usually only reported by FMA or QMA, although more specific sites are sometimes identified. Customary authorisations for the Firth of Thames are issued under regulations 50 and 51 of the Amateur Regulations and do not need to be routinely reported. Customary fishers are not required to report catch or fishing locations.

50. Fisheries New Zealand is therefore unable to estimate an average annual customary catch or proportion of customary catch likely to be affected by the proposed aquaculture activities. Rather, Fisheries New Zealand can only assess the effect of the proposed aquaculture activities on customary fishing, based on qualitative information.

51. From January 1998 to March 2020, 76 customary fishing authorisations were reported to Fisheries New Zealand for Ponui Island. These were mostly for kina, mussels (unspecified species), scallops, snapper, pāua, dredge oysters and rock lobster. Whether any of these authorisations involved fishing in the area of the proposed site is unknown, but some of the species could have been taken in

[16] Ngāi Tai ki Tāmaki, Ngāti Hako, Ngāti Hei, Ngāti Maru, Ngāti Pāoa, Ngāti Porou ki Harataunga, Ngāti Pukenga, Ngāti Rāhiri Tumutumu, Ngāti Tamaterā, Ngāti Tara Tokanui, Ngāti Whanaunga, Te Patukirikiri.

the area. . These authorisations are the best available information on customary fishing in the vicinity of the proposed site.

52. I have assessed likely customary fishing in the proposed site in Table 2 below, using the available information.

Table 2: Customary fishing methods used, and species caught or targeted in the areas of the proposed site, based on the available information.

	Source of information		
	Customary authorisations issued for Ponui Island	**Other information**	**My assessment**
Methods used	N/A	Recreational fishers commonly use rod/line on anchor, long line fishing, hand gathering by diving and by floundering, so customary fishers may also use these methods. Diving may occur in the general locality and particularly inshore of the proposed site for scallops. Longlines may be used.	Stationary rod/line methods may be used at the proposed site. Mobile rod/line and long lining are possible. Hand gathering (floundering) is not a suitable method at the proposed site because the water will likely be too deep. Diving may occur with UBA may occur, but it is probably too deep for free diving, at an average depth of 26 m.
Species caught or targeted	Kina, mussels, scallops, snapper, pāua, dredge oyster and rock lobster were the most common species taken with customary authorisations from areas near the proposed site.	Kina, mussels, pāua, dredge oysters and rock lobster are not typically found over the mud substrate at the proposed site.	The absence of hard substrates beneath the proposed site makes it unlikely rock lobster, oyster, mussels or pāua would be caught there. Scallops and snapper are likely to be the main fish species available for fishing at the proposed site.

Exclusion of fishing

53. The proposed marine farming structures are conventional marine farming long lines. The spacing of the longlines has not been detailed. However, I consider that any customary set netting, longlining, or rod/line drift fishing occurring in the proposed site may still be excluded because of the risk of entanglement.

54. The popularity of mussel farms for recreational fishers suggests fishers may be able to use alternative methods for fishing that is excluded from the proposed site. This may also be the case for customary fishers. I consider that stationary rod and line fishing could continue between the proposed structures, as anecdotal information suggests fishers commonly fish by rod/line within mussel farms.

Availability of other areas

55. I consider alternative areas around the Firth of Thames and nearby areas of SA 007 could absorb any customary fishing displaced from the proposed site because:

- while the proposed site is of moderate importance, this amount of fishing is likely to be small compared to the wider Firth;
- the same species expected over the soft substrate at the proposed site could be found in most areas of the Firth and nearby areas of SA 007, where this substrate is common. No information suggests the proposed site offers unique habitats or species mix; and
- the same methods used at the proposed site could be used elsewhere nearby; sufficient alternative areas exist, especially for stationary rod/line fishing.

56. All the Firth of Thames and wider Hauraki Gulf is available for customary fishing, apart from four areas closed under the *Submarine Cables and Pipelines Protection Act 1996*[17] and four small marine reserves[18] (outside of the Firth of Thames). Many alternative areas are therefore available for the types of fishing that could occur at the proposed site.

Increased cost of fishing

57. I consider the aquaculture activities at the proposed site will increase the cost of customary fishing minimally, if at all.

58. I consider that any customary fishing excluded from the site could be carried out nearby, with minimal additional cost as a result of a marginal increase in fuel cost or change in method.

Likely effect on fishing

59. Little quantitative data is available on customary catch taken from the area of the proposed site or the Firth of Thames generally. Fisheries New Zealand is therefore unable to estimate an average annual customary catch or proportion of customary catch likely to be affected by the proposed aquaculture activities. Rather, Fisheries New Zealand can only assess

[17] West of Kawau Island, east of Great Barrier Island, east of the Whangaparaoa Peninsula and the Hauraki Gulf shipping lane.
[18] Long Bay-Okura, Cape Rodney-Okakari Point, Te Matuku and Tāwharanui marine reserves.

the effect of the proposed aquaculture activities on customary fishing based on qualitative information.

60. I consider the effect on customary fishing from the proposed aquaculture activities will not be undue because:

- not all customary fishing methods would be excluded from the proposed site;
- anecdotal information suggests existing mussel farms are popular recreational fishing locations, particularly rod and line fishing for snapper. Fisheries New Zealand considers existing farms are likely popular customary fishing locations also and has no information to suggest the proposed site will not be popular for customary fishers also;
- the area of the proposed site is small compared to the available area in the Firth, and may be of some importance to customary fishing; and
- alternative areas around the Firth and nearby areas of SA 007 could absorb the customary fishing displaced from the proposed site.

Cumulative effects

61. Approximately 4,030 ha of authorised aquaculture activities exists in the Firth of Thames, with about 4,350 ha in SA 007.

62. I consider this existing aquaculture may have affected customary fishing in the Firth. However, I consider the cumulative effects on customary fishing, including the aquaculture activities at the proposed site, will not be undue.

63. I consider the cumulative effects on customary fishing, including the aquaculture activities at the proposed site, will not be undue because:

- some customary fishing (e.g., anchored rod/line fishing) can still occur within marine farms;
- anecdotal evidence suggests that mussel farms are a popular location for recreational rod and line fishing, particularly for snapper. Marine farms will likely be similarly popular for customary rod and line fishing also;
- not all existing farms are in popular customary fishing areas; and
- the area of the proposed site is small compared to all of the space available for customary fishing in the Firth of Thames.

Commercial fishing

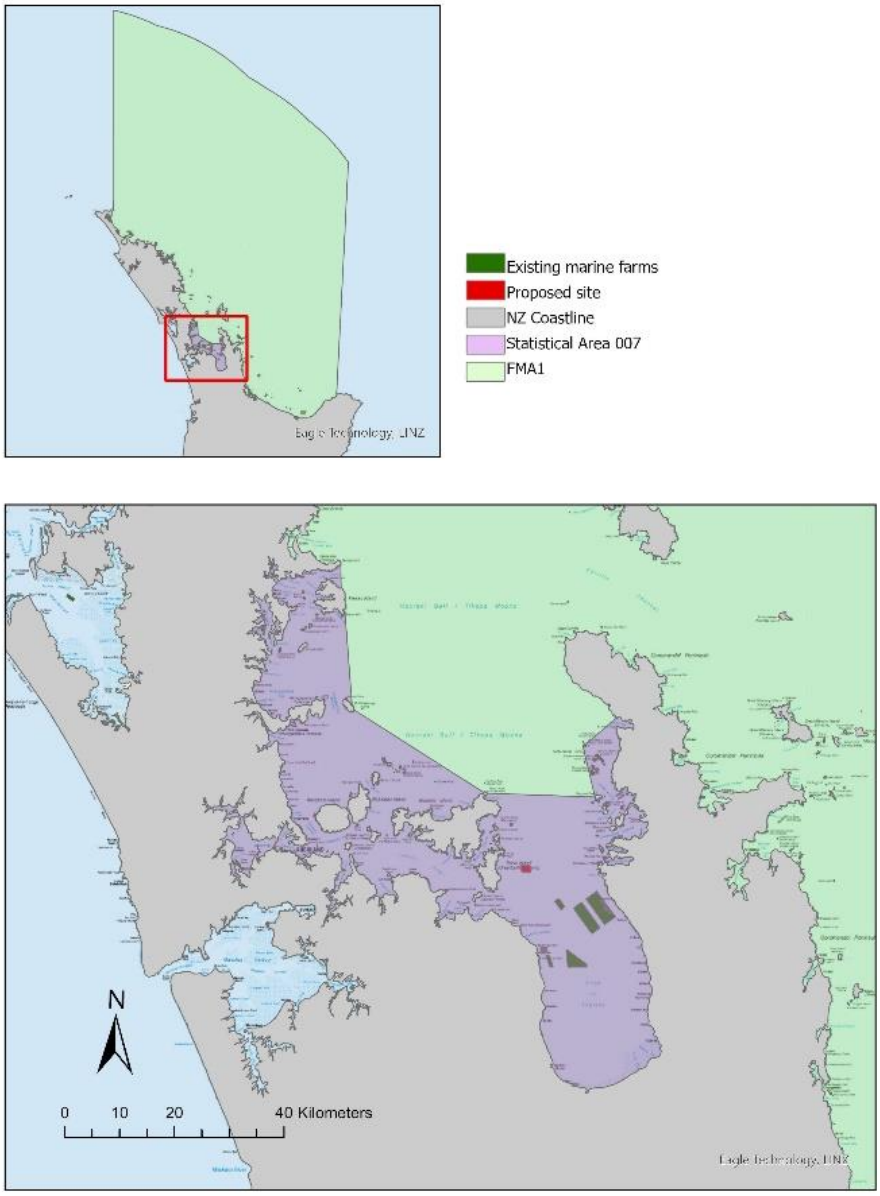
64. I am satisfied the aquaculture activities that may operate within the proposed site will not have an undue adverse effect on commercial fishing because:

- a small amount of commercial fishing is likely to occur in the proposed site;
- while some commercial fishing may be affected over a wider area, the amount of catch is not large relative to the size of the fisheries.
- while the extent to which some commercial set netting may be excluded is uncertain, the amount of catch likely to be lost is small in proportion to the size of the fisheries;
- alternative fishing grounds are available within the Firth of Thames and relevant QMAs or FMA1 for any fishing excluded from the proposed site;
- occupation of the proposed site will result in a negligible, if any, increase in the cost of commercial fishing;
- effects on commercial fishing catch will be small; and
- the additional adverse effect on commercial fishing is only small and will not cause the cumulative effect on commercial fishing for any fish stock to become undue.

65. The above conclusions were reached following the more detailed assessment below.

Location of the coastal permit area relative to fishing areas

66. I consider the proposed site is located where there is commercial fishing.



Map 3. Fisheries Management Area 1 (FMA1). Showing location of the proposed site within Statistical Area 007 (SA 007) and in relation to FMA1.

67. Fisheries New Zealand used CatchMapper[19] to identify the fishing that potentially occurs in the vicinity of the proposed site. The proposed site is in open water and commercial fishing may occur nearby. Table 3 gives the fishing that may occur within the vicinity. Further detail on how Fisheries New Zealand analyses commercial fishing can be found in Appendix E.

68. Commercial fishing methods of bottom long lining, purse seining, set netting, ring netting, seining, dredging, potting, longlining and hand lining have occurred within the vicinity of the proposed site. These methods have caught snapper, pilchard, rig, Jack mackerel and

[19] CatchMapper is a spatial database of all commercial fishing events for the 12 years from October 2007 to November 2019 (see Appendix E for more explanation).

kahawai. Blue mackerel, parore, trevally, scallops, grey mullet, yellow-eyed mullet, flatfish, rock lobster, garfish, kina, tuatua, hagfish, hāpuku and bass were also caught.

69. Danish seining and trawling are prohibited in the area of the proposed site. Kina may only be hand harvested. Fishing for some species is prohibited in the area of the proposed site.

70. No hard substrate was observed during benthic surveys of the proposed site. Therefore, fishing for species dependent on such habitat, such as parore, kina and marble fish, is unlikely at the proposed site. .

71. Most of the potentially affected commercial fisheries in Table 3 are managed as stock units over FMA1.[20] FMA1 spans the north-eastern coast of the North Island, from North Cape in Northland to Cape Runaway in the Bay of Plenty. The proposed site is small in relation to the area of the potentially affected fisheries (see Map 3 above).

[20] FMAs can be seen here https://fs.fish.govt.nz/Page.aspx?pk=45&tk=389

Table 3: Fisheries identified as potentially occurring within the affected footprint of the proposed site and estimated relative amount of the main fishstocks caught within the footprint. [21,22]

All types of fishing detected within proposed site footprint (and main fishstock)	% high spatial resolution	Average annual no. of overlapping fishing days	% of main fishstock landings potentially affected	Commercial fishing potentially affected	Reason fishery is considered affected or not[23]
Snapper (SNA1), bottom long line	100%	29.4	less than 0.01%	Yes	Bottom long lining could occur in this area and would be displaced.
Other species bottom longline (mainly snapper SNA1)	97%	0.3	less than 0.01%	Yes	Bottom longlining could occur in this area and would be displaced.
Flatfish (FLA1), set net	77%	1.9	less than 0.01%	Yes	Set netting could occur in this area and would be displaced.
Rig (SPO1), set net	13%	186.8	0.02%	Yes	Set netting could occur in this area and would be displaced.
Snapper (SNA1), set net	3%	54.8	less than 0.01%	Yes	Set netting could occur in this area and would be displaced.
Pilchard (PIL1), purse seine	0%	7.3	0.03%	Yes	Purse seining could occur in this area and would be displaced.
Jack mackerel (JMA1), purse seine	0%	0.08	less than 0.01%	Yes	Purse seining could occur in this area and would be displaced.
Other species (mainly snapper SNA1), set net	0%	68.5	less than 0.01%	Yes	Set netting could occur in this area and would be displaced.
Blue mackerel (EMA1), purse seine	0%	0.08	less than 0.01%	Yes	Purse seining could occur in this area and would be displaced.
Snapper (SNA1), ring net	0%	7.4	less than 0.01%	Yes	Ring netting could occur in this area and would be displaced.
Parore (PAR1), set net	0%	14.8	less than 0.01%	Yes	Set netting could occur in this area and would be displaced.
Kahawai (KAH1), set net	0%	7.1	less than 0.01%	Yes	Set netting could occur in this area and would be displaced.
Trevally (TRE1), set net	0%	10.3	less than 0.01%	Yes	Set netting could occur in this area and would be displaced.
Other species (pilchard PIL1), purse seine	0%	0.2	less than 0.01%	Yes	Seining could occur in this area and would be displaced.
Other species (mainly trevally TRE1), ring net	0%	4.5	less than 0.01%	Yes	Ring netting could occur in this area and would be displaced.
Yellow-eyed mullet (YEM1), set net	0%	4.6	less than 0.01%	Yes	Set netting could occur in this area and would be displaced.
Hagfish (HAG1) pot	0%	0.1	less than 0.01%	Yes	Potting for hagfish could occur in this area and would be displaced.
Garfish, Set net	0%	0.3	less than 0.01%	Yes	Set netting could occur in this area and would be displaced.

[21] Main fishstock refers to the main species caught in the fishing cluster but does not include all species taken by those fishing events.

[22] The amount of fishing overlapping with farm footprints is more precisely estimated where fishing location is reported by specific point coordinates (high spatial resolution) rather than general Statistical Areas. Therefore, types of fishing or the number of days may be overestimated when the fishing events were not mapped to precise locations. In these cases, other knowledge or available information may be used to confirm whether a fishery might potentially be affected.

[23] Unless otherwise stated, fishing is permitted and MPI has no information to indicate that it does not occur in the vicinity of the proposed site.

All types of fishing detected within proposed site footprint (and main fishstock)	% high spatial resolution	Average annual no. of overlapping fishing days	% of main fishstock landings potentially affected	Commercial fishing potentially affected	Reason fishery is considered affected or not
Garfish (GAR1), lampara net	0%	1.1	less than 0.01%	Yes	Lampara netting (seining) could occur in this area and would be displaced.
Grey Mullet (GMU1), set net	0%	0.3	less than 0.01%	Yes	Set netting could occur in this area and would be displaced.
Scallop (SCACS), dredge	0%	3.3	less than 0.01%	Yes	Unlike other areas of the Firth of Thames, dredging for scallops is permitted in this area and would be displaced.
Parore (PAR1), ring net	0%	4	less than 0.01%	No	Parore are mainly associated with reef and seaweed habitats. The proposed site does not include this habitat type.
Other species, Pot	0%	55.8	0.8%	No	This includes marble fish and rock lobster. The commercial take of marble fish is prohibited. Rock lobster will not occur in this habitat.
Snapper (SNA1), hand line	0%	105.9	less than 0.01%	No	Hand lining on commercial boats for recreation.
Other species (mainly kina and Southern tuatua SUR1B/DPO1), dredge	0%	0.8	less than 0.01%	No	Kina will not occur in this habitat and kina dredging is prohibited in this location. Take of tuatua is prohibited in this location.

Exclusion of fishing

72. I consider the amount of fishing that will be excluded from the proposed site is likely to be small relative to the size of the fisheries.

73. The fisheries given in Table 3 were identified by overlaying exclusion areas for each fishing method with the mapped fishing events in CatchMapper. The exclusion areas, also termed footprints of the proposed site, include appropriate buffer zones around the farms depending on the type of fishing method.[24] Towed fishing methods have larger footprints, and therefore larger areas from which they would be excluded, than static fishing methods.

74. Of the methods that could occur in the vicinity of the proposed site, bottom long line, purse seine, set net, ring net, seine, dredge and longline fishing would be excluded from within the immediate boundaries of the proposed site.

75. Snapper longlining can occur immediately adjacent to the proposed site, so this type of commercial fishing would only be displaced from the area of the proposed site.

76. Commercial set net fishing may be affected over a wider area than just the proposed site. A submission from a commercial set netter on a previous marine farm development in the Firth of Thames[25] stated that existing marine farms in the eastern Firth produce detritus which spreads with currents and prevents set net fishing within many kilometres of the farms. Detritus build-up on the seabed was thought to deter flatfish occupation of such areas. Also, heavy fouling of set nets with detritus can require more frequent net maintenance. Fishers disagree on the spatial extent of the organic debris problem from a few hundred metres to 13 km away from marine farm structures.

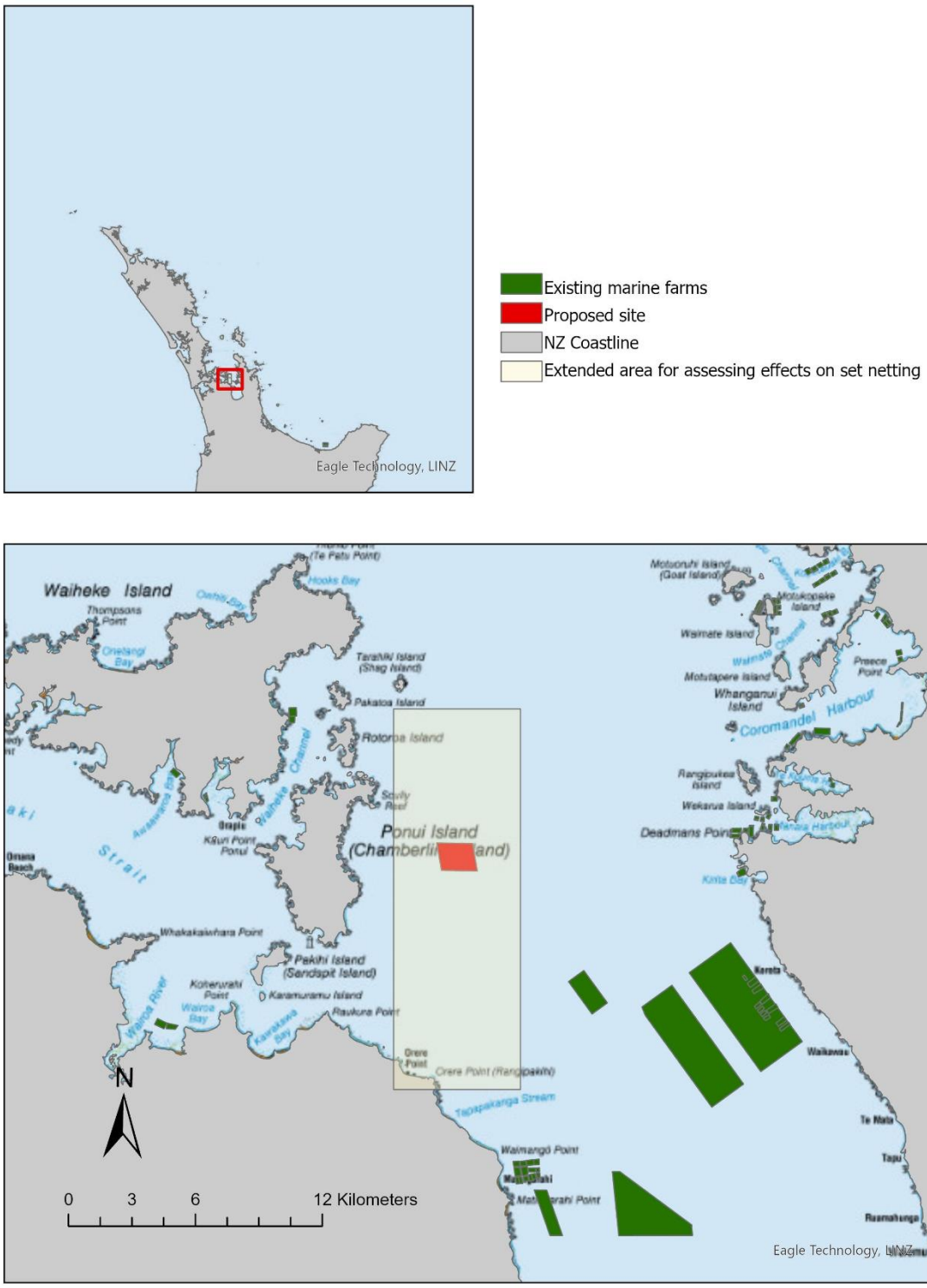
77. No submissions on effects on set netting were received for the proposed site near Ponui Island, which is to the north of the existing marine farms. Currents further north in the Firth may be different and organic debris accumulation may not be as much of an issue.

78. The proposed site might exclude rig, flatfish and snapper set netting from a large area outside the proposed site, particularly in the direction of predominant tidal currents. A corridor of 18 km long and 6 km wide, centred around the proposed site and oriented with the direction of tidal flow[26] was evaluated as the possible space that set netting for rig, flatfish and snapper could be excluded from in a worst case scenario (see Map 4 below).

[24] The "exclusion zone" used for commercial fishing methods assessed is the coastal permit area, with the exception (where applicable) of dredging, trawling and seining. In sheltered waters, buffers of 50 m, 250 m and 500 m respectively are applied. In open water buffers of 75 m, 500 m and 500 m respectively are applied.

[25] As discussed in the aquaculture decision report for another Firth of Thames marine farm, CST60082314.

[26] The ecological assessment (Bone, 2019) CST60335843-4-ecologyreport-march2019.pdf (cohesion.net.nz) refers to the documented tidally-dominated nature of the currents in the Firth of Thames that flow predominantly north to south during the flood tide and south to north during the ebb tide. Flow is stronger going south (0.3 m/s on average) than north (0.19 m/s on average), which has been considered by the shaping of the extended area which was assessed for effects on set netting.



Map 4. Showing extended area around the proposed site, which was assessed for effects on rig, flatfish and snapper set netting.

Availability of other fishing areas

79. I consider alternative areas are available in the Firth of Thames and FMA1 to absorb any commercial fishing displaced by the activities at the proposed site because:

- the annual catches of each species potentially caught at the proposed site are a small percentage of the total catches for those species within the relevant QMA (Table 3);

- the same methods as those possibly used at the proposed site could be used elsewhere in the relevant QMA for each fishstock; and

- the fisheries habitat in the proposed site is not special or unique.

Increased cost of fishing

80. While the proposed site is located within a region used for commercial fishing, I consider the aquaculture activities at the proposed site are unlikely to increase any cost of commercial fishing. This is because the proposed site will only exclude a relatively small area from commercial fishing compared to the area of similar fishing grounds available nearby. The proposed site is not unique or especially productive for fishing. Fisheries New Zealand has no information to suggest fishing grounds available nearby are any less productive.

Likely effect on fishing

81. Overall, I consider the aquaculture activities at the proposed site will not have an undue adverse effect on commercial fishing.

82. CatchMapper was used to estimate that on average less than 570 kg of fish per year were possibly caught from the footprints of the proposed site[27] (from the fisheries assessed as potentially affected in Table 3).

83. The effect is greatest on the rig (SPO1) fishery, affecting 0.01% of the TACC for SPO1 (85 kg). SNA1 has the most catch potentially affected, making up approximately 280 kg of the 570 kg of the catch estimated to be potentially displaced by the proposed site. This is about 0.006% of the total allowable commercial catch (TACC) for SNA1. For PIL1, 105 kg is estimated to be potentially displaced, equating to about 0.005% of the total TACC for PIL1.

84. Fisheries New Zealand also estimated the set netting catch of rig, flatfish, and snapper in the extended area described in paragraph XX. On average, approximately 6 tonne of these fish stocks per year may have been caught in this area. The catch from the extended area represented 1.24% of the total allowable commercial catch (TACC) for FLA1, 0.93% of the TACC for SPO1 and 0.42% of the TACC for SNA1 (see Exclusion of fishing section above for more information on the extended area potentially affected).

85. Given the relatively small catch of all species likely to be affected by the activities at the proposed site, Fisheries New Zealand has not attempted to determine the likely changes in catch rates for the displaced fishing in order to estimate the net effect on commercial fishing. This assessment is based on the worst-case scenario that all the catch displaced by the proposed aquaculture activities would be lost from the affected fisheries and no replacement catch would be available from other areas.

Cumulative effects

86. I consider existing aquaculture in the Firth of Thames has affected commercial fishing. However, I consider the cumulative effects on commercial fishing, including the aquaculture activities at the proposed site, will not be undue.

87. Approximately 4,030 ha of authorised aquaculture space occurs in the Firth of Thames where the proposed site is located. About 4,350 ha of marine farms occurs in all of SA 007, which make up about 35% of the 12,700 ha of aquaculture in FMA 1.

[27] Available data from 12 fishing years to 2018/19.

88. Aquaculture development in the Firth has occurred in areas important to commercial fishing, particularly for snapper and inshore set netting. This aquaculture development has had a cumulative effect on commercial fishing in the Firth.

89. Fisheries New Zealand's assessment of cumulative effects assumes that all the catch displaced from areas of authorised aquaculture would be lost from the affected fisheries. However, finfish are mobile and, though they will likely pass through marine farms, can be caught outside the farms. As a result, Fisheries New Zealand considers the actual cumulative effects are likely to be less than assessed.

90. I consider the cumulative effects on commercial fishing, including from aquaculture activities at the proposed site, will not be undue because:

- for any fish stocks potentially affected by aquaculture activities at the proposed site, the maximum cumulative effect has been assessed as approximately 1.5% effect on any fishery (yellow-eyed mullet (YEM1)), and not undue;

- the amount of additional catch that could be displaced at the proposed site is small; and

- for the fish stocks and method assessed as potentially affected by the proposed site over the extended area (set netting for SPO1, FLA1 and SNA1), the maximum cumulative effect has been assessed as approximately 1.9% effect on any fishery (rig (SPO1)), and not undue.

AQUACULTURE DECISION

91. I am satisfied – based on all relevant information available to me – that the activities proposed for the area authorised by coastal permit CST60335843 will not have an undue adverse effect on:

a) recreational fishing;

b) customary fishing; and

c) commercial fishing.

92. Accordingly, my decision is a determination for coastal permit CST60335843 with regard to:

a) recreational fishing;

b) customary fishing; and

c) commercial fishing.

93. The area of the determination on recreational, customary and commercial fishing totals 221 ha within the following coordinates (NZTM2000):

CST60335843:

Point	Easting	Northing
1	1802085.80	5918570.80
2	1802313.00	5917266.20
3	1800613.00	5917297.60
4	1800385.80	5918602.30

94. The reasons for my decisions are set out in the conclusions for recreational, customary and commercial fishing in this report.

Christine Bowden
Manager Aquaculture and Fisheries Permitting
Fisheries New Zealand – Tini a Tangaroa
Ministry for Primary Industries – Manatū Ahu Matua

Dated 31 March 2021

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APPENDIX A: SITE AND STRUCTURES MAP

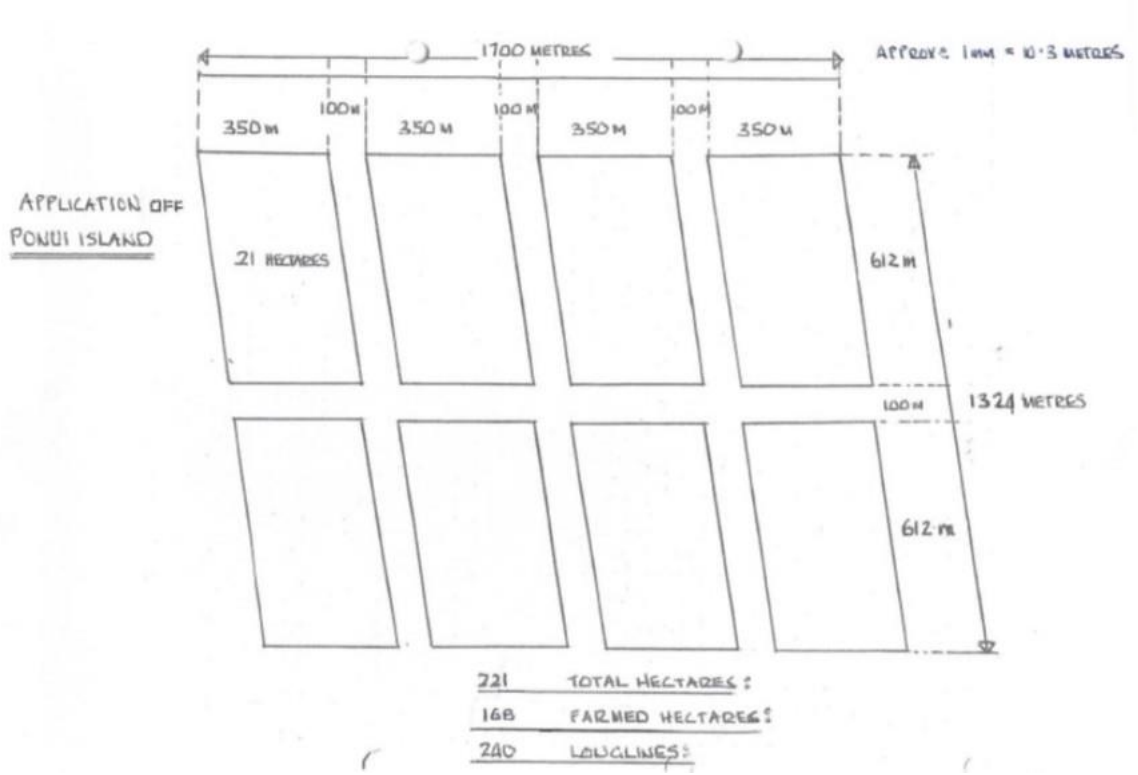

Figure 1. Copy of site map showing lay-out of blocks of structures authorised by coastal permit CST60335843 (taken from Auckland Council coastal permit CST60335843).

APPENDIX B: TANGATA WHENUA AND STAKEHOLDERS CONSULTED BY FISHERIES NEW ZEALAND

Tangata whenua	Recreational fishers	Commercial fishers
Hauraki Māori Trust Board	The New Zealand Recreational Fishing Council – Keith Ingram	Te Ohu Kaimoana
Hauraki Collective of Iwi	The New Zealand Sports Fishing Council – Bob Gutsell	Fisheries Inshore NZ
Fisheries New Zeeland consulted the above two organisations on behalf of the following Iwi:	The New Zealand Charter Boat Association – Keith Ingram	Seafood NZ
Ngāi Tai ki Tāmaki		SNA 1 Commercial
Ngāti Hako		The Northern Fisheries Management Stakeholder Company Ltd
Ngāti Hei		Whitianga and Coromandel Peninsula Fishermen's Association
Ngāti Maru		Brian McMillen, P.A. & G.A. Thorburn (Piako Petes Ltd.)
Ngāti Pāoa		Ngāti Whātua Fisheries Ltd
Ngāti Porou ki Harataunga		Southern Cross Fishing
Ngāti Pukenga		Leigh Fisheries
Ngāti Rāhiri Tumutumu		Rob Billings
Ngāti Tamaterā		Ted Howard
Ngāti Tara Tokanui		Rex Smith
Ngāti Whanaunga		Brendon Taylor
Te Patukirikiri		Sanford Limited
		Moana Seafood

APPENDIX C: SUBMISSIONS

Submission from a marine user of the Hauraki Gulf:

"I wish to have recorded my opposition to the creation of the 221 hectares marine farm proposed by Ponui Aquaculture 3.6 km East of Ponui Island. As an active marine user, I am against the continued sprawl of aquaculture into the Gulf and especially the negative impacts on vessel navigation and marine life. The sheer size of this farm placed out in the Gulf in navigation channels will pose a significant hazard along with punctured and floating buoys, creating an unnecessary danger to vessels operating this area in the Gulf."

Submission from an environmental scientist:

"Fishing and fish stocks (as well as overall marine health in the already degraded Hauraki Gulf) may be adversely affected by increased plastic pollution and the introduction of marine invasive species which change ecological integrity of the native marine environment. These issues are directly related to mussel farming and should be carefully considered. Please see attached references."[1]

[1] I have considered the attachments provided in making my decisions, but they have not been attached here due to their length.

APPENDIX D: ADDITONAL STATUTORY CONTEXT

1. Section 186E(3) of the Fisheries Act[2] requires me, in making an aquaculture decision, to have regard to any:

    a. information held by the Ministry for Primary Industries; and

    b. information supplied, or submissions made, to the Director-General under section 186D(1) or (3) by:

        i. an applicant for or holder of the coastal permit;

        ii. any fisher whose interests may be affected; and

        iii. persons or organisations the Director-General considers represent the classes of persons who have customary, commercial or recreational fishing interests that may be affected by the granting of the coastal permit or change to, or cancellation of, the conditions of the coastal permit;

    c. information that is forwarded by the regional council; and

    d. any other information the Director-General has requested and obtained.

2. Section 186F of the Fisheries Act specifies an order of processing that must be followed in making aquaculture decisions. But section 186F(5) allows aquaculture decisions to be made in a different order from that specified if I am satisfied that in making an aquaculture decision out of order it will not have an adverse effect on any other aquaculture decision that has been requested. I am so satisfied in this case.

3. Section 186GB(2) of the Fisheries Act says that if a pre-request aquaculture agreement has been registered under section 186ZH in relation to the areas that the coastal permit relates to, I must not have regard to the undue adverse effects on commercial fishing in respect of any stocks covered by the pre-request aquaculture agreement when having regard to the matters specified in section 186GB(1). No pre-request aquaculture agreements have been registered in relation to coastal permit CST60335843.

4. Section 186GB(1)(b) requires an assessment of the likely effects of the aquaculture activities on fishing of any fishery including the proportion of any fishery likely to be affected. "Fishery" is not defined either in section 186 or elsewhere in the Fisheries Act. However, "stock" is defined in section 2 to mean any fish, aquatic life, or seaweed of one or more species that are treated as a unit for the purposes of fisheries management. Parts (3) and (4) of the Fisheries Act focus on "stocks" for the purpose of setting and allocating Total Allowable Catches and managing species within the quota management system (QMS). Sections 186GB(1)(f) and (2) also refer to "stock" with specific regard to adverse effects on commercial fishing. So, for the purpose of my decision under section 186E, I consider a commercial fishery is a fish stock delineated by a fisheries management area (FMA) or quota management area (QMA).

5. I consider the relevant recreational and customary fishery are as I have described in the assessment above in "*Location of the coastal areas relative to fishing area*."

[2] Section 186E(3)(a) of the Fisheries Act refers to the 'Ministry of Fisheries' which is now the Ministry for Primary Industries. Section 186E(3)(b) and (d) refers to the 'chief executive' who is now the Director-General.

6. Section 186C of the Fisheries Act does not define "cumulative effect" beyond what is provided in section 186GB(1)(f) that the effect includes any structures authorised before the introduction of any relevant stock to the QMS. For the purpose of my decision under section 186E, "cumulative effect" on commercial fishing includes the total effect of all authorised aquaculture activities within the relevant QMA or FMA. For recreational and customary fisheries, the relevant areas for considering "cumulative effects" are as I have described in the assessment above in my consideration of section 186GB(1)(a) and (f). Sections 186GB(1)(a) and (f) relate to location at proposed site in relation to where fishing occurs and the cumulative effect of aquaculture, respectively.

7. The *Fisheries (Kaimoana Customary Fishing) Regulations 1999* (**the Kaimoana Regulations**) define customary food gathering as the traditional rights confirmed by the *Treaty of Waitangi* and the *Treaty of Waitangi (Fisheries Claims) Settlement Act 1992*, being the taking of fish, aquatic life, or seaweed or managing of fisheries resources, for a purpose authorised by Tangata Kaitiaki/Tiaki, including koha, to the extent that such purpose is consistent with tikanga Māori and is neither commercial in any way nor for pecuniary gain or trade.

8. The Kaimoana Regulations and regulation 50 and 51 of the Amateur Regulations[3] provide for Tangata Kaitiaki/Tiaki to determine the customary purpose for which fish, aquatic life, or seaweed may be taken, methods used, seasons fished, size and quantity taken etc. The Kaimoana Regulations and regulations 50 and 51 do not contemplate restrictions under the Fisheries Act on the quantity of fish taken or the methods used to take fish. Should tangata whenua fish without customary authorisations, all the recreational limits under the Amateur Regulations apply.

[3] Because rohe moana for Iwi with an interest in the Firth of Thames have not been gazetted, customary authorisations for the Firth of Thames are issued under regulations 50 and 51 of the Amateur Regulations.

APPENDIX E: COMMERCIAL FISHING REPORTING AND ANALYSIS

Fisheries boundaries

1. A Fisheries Management Area (FMA) is one of the ten regions that the New Zealand 200nm Exclusive Economic Zone (EEZ) is divided into for fisheries management purposes. A Quota Management Area (QMA) is an area within which a designated fish stock is managed under the Quota Management System and is generally based around FMAs. As noted, this application is in FMA 1.

2. Fisheries reporting historically occurred by general Statistical Area. There are 120 of these areas in New Zealand's EEZ and this provides for more fine scale data to be collected than at an FMA scale. As noted, this application is in general Statistical Area 007.

Commercial fishing reporting and analysis

3. Historically, fishing catches were reporting by a set of statistical areas providing only coarse-scale information about where commercial fishing occurs. However, since 2007/08 vessels over 6 m long that have used trawl or line fishing methods have reported the start position of each fishing event by latitude and longitude to within 1 minute, which equates to around 1 nautical mile (nm). Since 2006/07, start positions for netting methods have reported to within 2 nm. Using this fine scale position data, Fisheries New Zealand has modelled and mapped fishing intensity for different clusters of fishing, characterised by a type of fishing gear and the main species caught.[1] This detail can be commercially sensitive and may not be publicly released.

4. Fishing effort that is only reported by Statistical area was apportioned evenly across the area available for fishing, although some areas are likely to include more productive habitats than others. The parts of the Statistical Area available for fishing for each type of fishing method are defined by using all available information (including regulated closures, bathymetry, seabed substrate, and consultation with fishers) about where the method is likely to be used. Where fishing is reported to the Statistical Area level, there is increased uncertainty as to where fishing events have taken place within the Statistical Area.

5. The amount of all mapped fishing events that overlap with a proposed farm footprint is calculated. Trip landings are apportioned to the overlapping part of each event. These are summed and annually averaged for each fishery cluster and fishstock to estimate the amount of fish likely to have been landed within the footprint. Fisheries New Zealand has used this, along with institutional information to inform Table 3 and the commercial fishing assessment.

6. The amount of fishing was averaged over October fishing years 2007/08 to 2018/19. Twelve years is long enough to consider natural variation in the abundance and distribution of fish stocks and fishing effort so that likely average future fishing is fairly represented.

[1] MPI developed the CatchMapper tool to spatially model the estimated catch from landing data. This informs our assessment, and particularly, Table 3. For more information see Osborne, TA 2018 Forecasting quantity of displaced fishing Part 2: CatchMapper - Mapping EEZ catch and effort. New Zealand Aquatic Environment and Biodiversity Report No. 200. Downloaded on 4 March 2019 from https://fs.fish.govt.nz/Page.aspx?pk=113&dk=24611