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Joint recreational submission to the review of sustainability measures for Tarakihi (TAR 1, 2, 3 and 7) for 2019–20

Submission summary

1. The submitters support using the best available science and current Fisheries New Zealand policy on rebuilding stocks which are below the soft limit.
2. The combined Total Allowable Commercial Catch for the eastern tarakihi stock must be reduced by 40% (65% from the 2017 TACC) to rebuild the stock to 40% of unfished biomass in 10 years.
3. The submitters do not support the commercial fishing industry's sponsored management proposal which will not deliver a time bound rebuild of the eastern tarakihi stock nor any of the other requirements of the Harvest Strategy Standard.
4. The submitters support the Government's commitment to more Ecosystem Based Fisheries Management. The international literature promotes management targets of 50% of the unfished biomass to help achieve more resilient ecosystems.

The submitters

5. The New Zealand Sport Fishing Council (NZSFC) appreciates the opportunity to submit on the proposals for the future management of Tarakihi 1, 2, 3, & 7. Fisheries New Zealand (FNZ) advice of consultation was received on 18 June 2019, with submissions due by 26 July 2019.
6. The NZ Sport Fishing Council is a recognised national sports organisation of 54 affiliated clubs with over 35,000 members nationwide. The Council has initiated LegaSea to generate widespread awareness and support for the need to restore abundance in our inshore marine environment. Also, to broaden NZSFC involvement in marine management advocacy,

research, education and alignment on behalf of our members and LegaSea supporters. www.legasea.co.nz.

7. The New Zealand Angling and Casting Association (NZACA) is the representative body for its 35 member clubs throughout the country. The Association promotes recreational fishing and the camaraderie of enjoying the activity with fellow fishers. The NZACA is committed to protecting fish stocks and representing its members' right to fish.
8. Collectively we are '*the submitters*'. The joint submitters are committed to ensuring that sustainability measures and environmental management controls are designed and implemented to achieve the Purpose and Principles of the Fisheries Act 1996, including "maintaining the potential of fisheries resources to meet the reasonably foreseeable needs of future generations..." [s8(2)(a) Fisheries Act 1996].
9. The submitters appreciate the somewhat longer consultation period (29 working days) for this year's October sustainability round.
10. Our representatives are available to discuss this submission in more detail if required. We look forward to positive outcomes from these reviews and would like to be kept informed of future developments. Our contact is Helen Pastor, secretary@nzsportfishing.org.nz

Background

11. Tarakihi has long been an important component of catch for customary Maori, commercial and recreational fishers. Tarakihi are distributed around New Zealand, preferring cooler, deeper waters in the north and has a wide distribution in southern areas. Tarakihi are long lived, relatively slow growing, and tagging studies show some long distance movement. Generally, there are more young fish in the south and more older fish in the north.
12. When tarakihi was introduced to the Quota Management System in 1986 the combined Total Allowable Commercial Catches for TAR 1, 2, 3 & 7 was 4,520 tonnes. This increased to 5,286 t (up 17%) following Quota Appeal Authority hearings. Area based increases in the 2000s brought the total to 5734 t. In 2017-18 the combined TACC for the four QMAs was close to the highest catch years in the 1970s, but not quite as high as the peak years in the 1960s when the stock was being fished down.
13. Most of the information used in the stock assessment comes from catch, effort and population age structure from the commercial fishery, with trawlers taking the majority of catch. Integrated stock assessment models combined all available information on tarakihi in each Quota Management Area (QMA) but worked best when all of the east coast of the North and South Islands were considered as one stock, with separate fisheries operating in each QMA. The model estimated the tarakihi spawning stock biomass (total weight of mature fish) had been below 20% of the unfished biomass since 2005 (0.2 grey dotted line in Figure 1). The assessment using 2016–17 catch and CPUE with the base case estimating a slight increase in spawning stock biomass to 17.3%. The fishing industry funded another update in 2019 which estimated the spawning stock biomass declined to 15.9% of the unfished biomass in 2018.

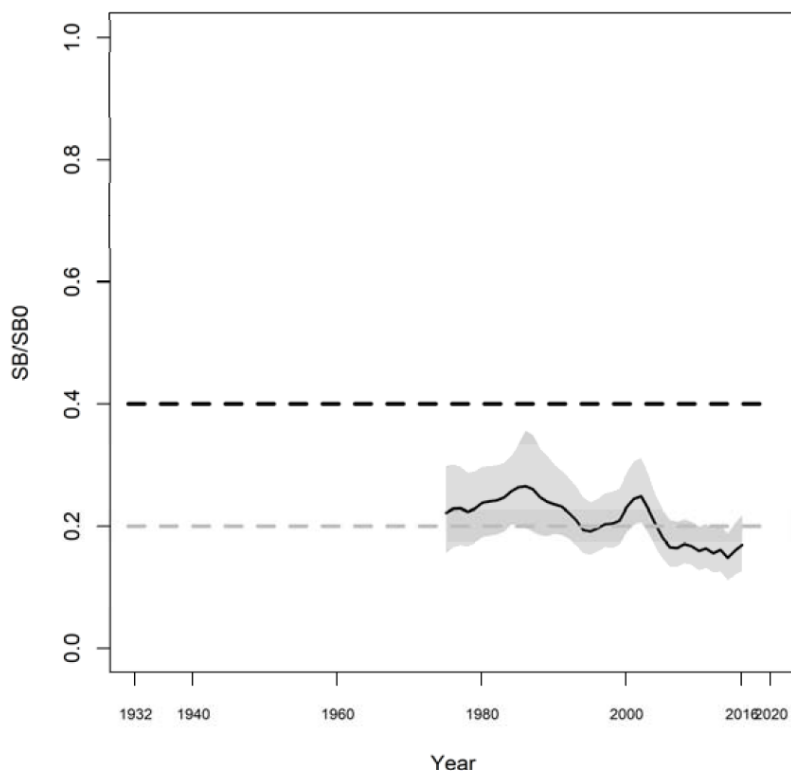


Figure 1: Annual trend in eastern tarakihi spawning biomass since 1975 relative to the 40% target (black dashed line) and the 20% soft limit reference level (grey dashed line).

14. Fisheries New Zealand has a policy on rebuilding fish stocks, which are below a limit reference point, to a target harvest level. The Harvest Strategy Standard Guidelines for tarakihi are that a time constrained rebuild plan is required for a stock below 20% with the target of 40% of the unfished biomass. The Minister received advice from officials and submissions from all sectors and tangata whenua in 2018 on the rebuild strategy and timeline.
15. Minister Nash’s directives for the rebuild of this fishery in his 2018 decision letter included:
 - A biomass target of 40% SBO was considered robust and to constitute best available information, noting that an alternative target maybe considered if supported by scientifically robust and peer-reviewed information;
 - Support for a rebuild timeframe of 10 years; and
 - Acknowledgement that a 20% reduction (in 2018) will begin the process of rebuilding the stock, but will not rebuild the stock at the rate and to the target agreed without significant further measures.
16. The decision letter also stated “in the absence of additional measures from a carefully considered and approved rebuild plan, a further 35% reduction in commercial catch from the 2017/18 catch level would most likely be required”
17. Commercial fishers, through Fisheries Inshore New Zealand (FINZ), Te Ohu Kaimoana (TOKM), and Southern Inshore Fisheries (SIF), have developed their own management proposal for the eastern tarakihi stock in response to the Ministers request for innovative options. This was released by Fisheries New Zealand as part of the consultation round documentation and is included in the discussion document as option 3.

Proposals to rebuild the eastern tarakihi stock

18. Fisheries New Zealand have presented three options to set the Total Allowable Catch (TAC) and Total Allowable Commercial Catch (TACC). The allowances for customary fishing and recreational fishing were reviewed in 2018 and no changes are proposed. The most recent stock assessment model was used to predict the rebuild times for each proposal (Table 1). There is a suggestion in the discussion document that other options could be considered.
19. The submitters have developed a proposal that follows the Harvest Strategy Standard and the Operational Guidelines for that standard. Long live species like tarakihi should have a higher stock target than faster growing short lived species and the rebuild period needs to be specified with a rate of twice the minimum rebuild time recommended.

Table 1: The tarakihi rebuild options proposed by Fisheries New Zealand (options 1 & 2); the proposal from the plan developed by commercial fishers (option 3 see Table 2); and the proposal from the submitters that conforms to the Harvest Strategy Standard. (SSB₀ is percentage of the of the unfished spawning stock biomass. T_{min} is the minimum time taken to rebuild the stock to the target in the absence of fishing, so 2 times T_{min} is twice the minimum)

	Option 1	Option 2	Option 3	Option 4
Proposed by	Fisheries New Zealand	Fisheries New Zealand	Commercial fishers	The submitters
Target	40% SSB ₀	40% SSB ₀	35% SSB ₀	40% SSB ₀
Rebuild timeframe and rate	12 years, 2.4 x T _{min}	11 years, 2.1 x T _{min}	< 27years. 6 x T _{min}	10 years, 2 x T _{min}
Method of achieving target	A 31% reduction of the TACC	A 35% reduction of the TACC	No reduction of the TACC voluntary measures	A 40% reduction of the TACC

Submission

20. **The submitters support using the best available science and the application of the current Fisheries New Zealand policy on rebuilding stocks which are below the soft limit.**
21. **The combined Total Allowable Commercial Catch for the eastern tarakihi stock must be reduced by 40%** (65% from the 2017 TACC) to rebuild the stock to 40% of unfished biomass in 10 years.
22. The Minister's 2018 decision to spread the TACC reductions over two years has delayed the time bound rebuild so a 40% reduction this year is needed to reach the abundance target in the timeframe required.

- 23. The submitters do not support the commercial fishing industry's sponsored management proposal** which will not deliver a time bound rebuild of the eastern tarakihi stock.
24. The best available science and the correct application of the Operational Guidelines of the Harvest Strategy Standard indicate a further TACC reduction of 40% will give the best chance of reaching the target biomass within the next 10 years with an adequate level of confidence, which is 70% probability not 50% as proposed by FNZ. Variable spawning success and recruitment increases the uncertainty in the model's long-term projections but also increases the risk of delaying effective rebuild.
25. Catch sampling has shown that the commercial catch has been maintained over the last few years by two strong year classes from 2007 and 2009. However, reliance on one or two strong year classes in a long-lived species like tarakihi is a high-risk strategy. Several years of weak recruitment could see the stock decline rapidly.
- 26. The submitters have no confidence in the commercial fishers proposal** because it is largely based on the continuation of research and gear changes that are already happening, and because it will not be sufficient to meet the realistic expectations of the consumers, the public and the Minister to rebuild the eastern tarakihi stock in a reasonable time frame. Trawlers towing larger mesh nets for longer to catch the same TACC is not the sort of "innovation" that is needed.
27. The attitude that as long as there are fish being caught then commercial fishers should not face catch reductions has led to the collapse of regulated and unregulated fisheries around the world. It would be a failure of New Zealand's Quota Management System if the best available scientific advice was ignored in favour of short term commercial interests.
- 28. The submitters do have sympathy for the inshore commercial fishers** who work hard and bear the lion's share of personal and financial risk to catch fish, while the profits are taken by the quota owners. The incentives to aggregate quota and shift to least cost fishing operations has stifled innovation in fishing methods and marketing for many years. Currently, change is driven by a few dedicated innovators and is long overdue.
- 29. The exploitation rate of tarakihi is still too high.** The combined TACCs for eastern tarakihi in 2018-19 was 3,237 t, estimates of other fishing related mortality were 324 t and recreational harvest from the 2018 National Panel Survey was 198 t. This gives an annual total fishing mortality of 3,759 t from a stock biomass in 2018 of around 13,800 t. So around 27% of the stock biomass will be removed by fishing this fishing year, with natural mortality on top of that. Option 2 would reduce annual total fishing mortality to about 1980 t or about 14.4 % of the 2018 biomass, which is still too high. Maintaining an annual fishing mortality rate about equal to the natural mortality rate (10%) is generally considered to be good management for stocks at their target biomass. Exploitation rates below 10% will have a much better chance of getting the rebuild started.
30. The commercial fishers' management plan highlights the potential economic impact that another TACC reduction (option 1 or option 2) would have on the inshore trawl fleet. But is holding on to 200 t to 500 t of a depleted tarakihi stock per QMA really enough to maintain the current fleet of inshore fishers? Or is the decline in tarakihi a symptom of overcapacity in the fishery where effort shifts from one stressed stock to a slightly less stressed stock and fishers struggle to make a decent return on their effort and investment?

31. **The facts are that the eastern tarakihi stock is at half the size it should be** regardless of which biomass target is used.

32. For inshore commercial fishing to become more profitable for all involved:

- a. Abundance of most species needs to be restored;
- b. Damage to the benthic ecosystem, which many fish rely on, needs to be reduced; and
- c. Fishing methods that land fish of the highest quality need to be employed.

None of this can be achieved overnight however, the Minister has an obligation to deliver a time-bound rebuild plan for tarakihi and any other stock that is below the soft limit.

33. **The commercial fishers’ proposal does not have a rebuild time frame** or immediate actions other than trawling for longer with a larger cod end mesh to catch the same tonnage of (landed) catch.

Table 2: Comments on the commercial fishers proposal

Management Measures

Proposal from commercial interests	Submitter’s comments
No change to the current TACCs	TACCs were set in 2018 and are a reduction on 2017 levels, but not all of the TACC was being caught in previous years.
Gear selectivity research	Inconclusive so far. Some fishers in southern areas switched to larger mesh some time ago.
Move-on rule where there is high catch of juveniles	Could be important in some areas, but hard to verify compliance. Why has this not happened until now?
Reduction in targeting tarakihi	Unlikely to result in catching less than the current TACC. The TAR 2 Management and Monitoring Plan states: “Agree as a party to not target tarakihi when available ACE is less than 10% of original holding. The remaining ACE will be used to cover tarakihi as a bycatch.”
Spatial measures - voluntary closed areas	Mentioned in the summary (page 4) but no mention in Section D: Management Measures to Reduce Mortality or in Section H: Implementation Plan. At the Auckland stakeholder meeting on this Plan NZSFC suggested that this was the sort of measure that would show a real commitment to avoiding juvenile tarakihi and rebuilding the stock.
Catch spreading	Already underway as part of the 2018 plan.
Use a management procedure	Delayed until after the 2021 stock assessment.
Using Section 77 of the Fisheries Act	Bycatch trade offs.

Table 2: Comments on the commercial fishers proposal continued.

More Science

Proposal from commercial interests	Submitters comments
Improved understanding of fisheries data	There has not been a requirement for fishers to record basic gear types like trawl net mesh size. If they start now there is nothing to compare it with. Some improvements in fisher knowledge and behaviour are impossible to quantify. No doubt there have been catch efficiency gains over time that will mask declines in stock abundance.
Catch sampling	Catch sampling and aging is already underway. Some fishing companies have blocked tarakihi catch sampling projects in the past. The industry's Implementation Plan (Section H) proposes catch sampling only 2 years in every 5 years. A cheaper strategy that has already proven to be inadequate in stocks that are over fished as they are reliant on a few strong year classes to support the fishery.
Management Strategy Evaluation	This modelling has been run but it did not investigate rebuild strategies, only future harvest scenarios based on a wide range of assumptions.
Fisheries Independent Surveys	The east coast South Island trawl survey has been running for years, this is not a new measure. The North Island trawl surveys were discontinued after 2000 following commercial fisher pressure to reduce research costs. It is a good idea to have fishery independent surveys and tagging programmes but they are not cheap and take time to produce results.
Gear database	It is a good idea to have a database of gear types. It has been suggested numerous times in science working groups by NZSFC and others, but has not happened. It will take time to produce useful results. Detailed records can't be "back dated".
Electronic monitoring	Is already happening and will take time to establish a useful time series. More changes are required to increase the catch and effort data recorded. Again, it will take time to produce useful results and this can't be "back dated".
Genetics study	Not new. A study is currently underway but may not help much because of the high degree of fish movement between areas. A high resolution study would be expensive and will take years to initiate and produce useful results.
Fish behaviour	Technology is advancing. Some fishers have improved the selectivity of fishing gear using their own time and money with little or no support from their fishing industry colleagues.
Assessing impacts of changing environmental conditions	This is not new. Assessing impacts will take time.

	<p>There is already good evidence that trawling has an adverse impact on marine benthic communities. This is where tarakihi live and feed.</p> <p>Climate change is happening now. tarakihi recruitment may become more variable. Delaying effective management until the impact is assessed is risking the need for much larger catch reductions in future to rebuild the stock.</p>
Collection of charter vessel catches	The submitters support charter operators reporting tarakihi and snapper. This will not rebuild eastern tarakihi stock though.

Tarakihi rebuild plan requires catch reductions

34. In 2018 LegaSea campaigned to gather support for the Minister to cut commercial catches of tarakihi by 65%, to rebuild the stock from its all-time low point of 17% of unfished biomass. LegaSea initiated a petition seeking support for the following statement – “I want the Minister of Fisheries to make a bold decision by October 2018 to reduce the environmental impacts of trawling and rebuild tarakihi stocks within 10 years or less”. The [Time Out for Tarakihi](#) petition drew 9100 responses in six weeks, a good indication of how important tarakihi is to people fishing on the east coast of New Zealand.
35. In 2018 the Minister chose to largely agree to the industry proposal to limit the catch reduction to 20% (a 25% reduction in combined TACCs). In doing so, he challenged the industry to develop a plan with significant further measures to increase the rate the stock was rebuilt to the target. This decision gave commercial fishers time to adjust to a catch plan less reliant on tarakihi and it signalled that additional reductions in the TACCs were likely in 2019.
36. The measures in the commercial fishers proposal that could limit the catch of legal size tarakihi are catch spreading in TAR 1 and TAR 7 (which has already been implemented) and area agreements not to over catch the TACC or available ACE. No large reductions in catch will come from these. The main management measures focus on improved selectivity to increase the rate of rebuild in addition to the 20% catch reduction in 2018. The proposals include larger net mesh in trawl cod ends and move on rules to reduce the catch of juvenile fish. Fishers have been recording the weight of undersize tarakihi caught since November 2018. The figures for the first four and a half months are in Appendix 4 of the commercial fishers proposal. The two areas with the largest landed catch are TAR 2 and TAR 3 (Figure 2). A total of 702 t of tarakihi was landed and 6.3 t was reported as undersize and returned to the sea. That is less than 1% of the overall catch. Catch reported from TAR 1 and TAR 7 include west coast landings and the proportion of undersize discards is also very low. It is probably best to wait for a year for the reporting system to bed in but the question remains where are the large gains going to be made in the commercial fishers proposal to improve the rebuild rate?
37. The current estimate in the TAC for all other sources of fishing related mortality is 324 t. Even if somehow this was halved (162 t) it is just a 1% reduction in mortality relative to the 2018 biomass.

38. There are some research proposals with potential in the commercial fishers proposal, but it seems like a scatter gun approach to what is already underway and what might be possible with no firm idea on what the new work will cost, who will pay for it, and how long it will take. The submitters spent 2 years working with commercial fishers and mana whenua on a SNA 1 Strategic Plan which had lots of research and nice ideas but no catch reductions. Three years later it seems that the industry has succeeded in kicking the can down the road again with no fishery independent survey (the snapper tagging programme), a delayed catch sampling project and now it seems a delay in the next stock assessment.
39. Currently the Minister is not meeting his obligation to manage tarakihi stocks at a level that provides for the social, economic and cultural wellbeing of all New Zealanders. The submitters propose a further option with TACCs that will start the stock rebuild in 2019–20. We compare the new option, option 4, with the FNZ proposed option 2 (Table 3).

Table 3: Recommended TACCs by QMA or eastern portion of TAR 1 and TAR 7 to achieve a 10 year rebuild under our alternative, option 4 compared to the likely TACCs under option 2 in the discussion document.

Area	Eastern Tarakihi TACC	
	Option 2	Option 4
TAR1	260	240
TAR2	750	700
TAR3	520	480
TAR7	91	85

40. The submitters support the Government’s commitment to more Ecosystem Based Fisheries Management (EBFM) and to meet its international commitments, but there are risks that this will become stalled by complexity.
41. An ecosystem approach can take many forms. In our view the best initial approach is to implement management targets that will promote healthier ecosystems with more resilience to environmental change and natural disasters. Stock abundance targets of 40% unfished biomass are intended to manage risk while maximising yield. Ecosystem based fisheries management could be established by setting stock abundance targets of 50% unfished biomass as well as reducing the external impacts of bottom contact fishing and sedimentation from land based sources. Under this precautionary approach, the hard limit would increase from 10% to 20% of the unfished biomass. The moderate loss in tonnage taken would be offset by selling only premium product to the most discerning markets. Many of our deep water stocks already have stock abundance targets around 50% B0.
42. There will be plenty of time in the future to refine an ecosystem based assessment methodology that suits New Zealand, but in the interim we must strive for higher abundance in the knowledge that it will boost ecosystem resilience.

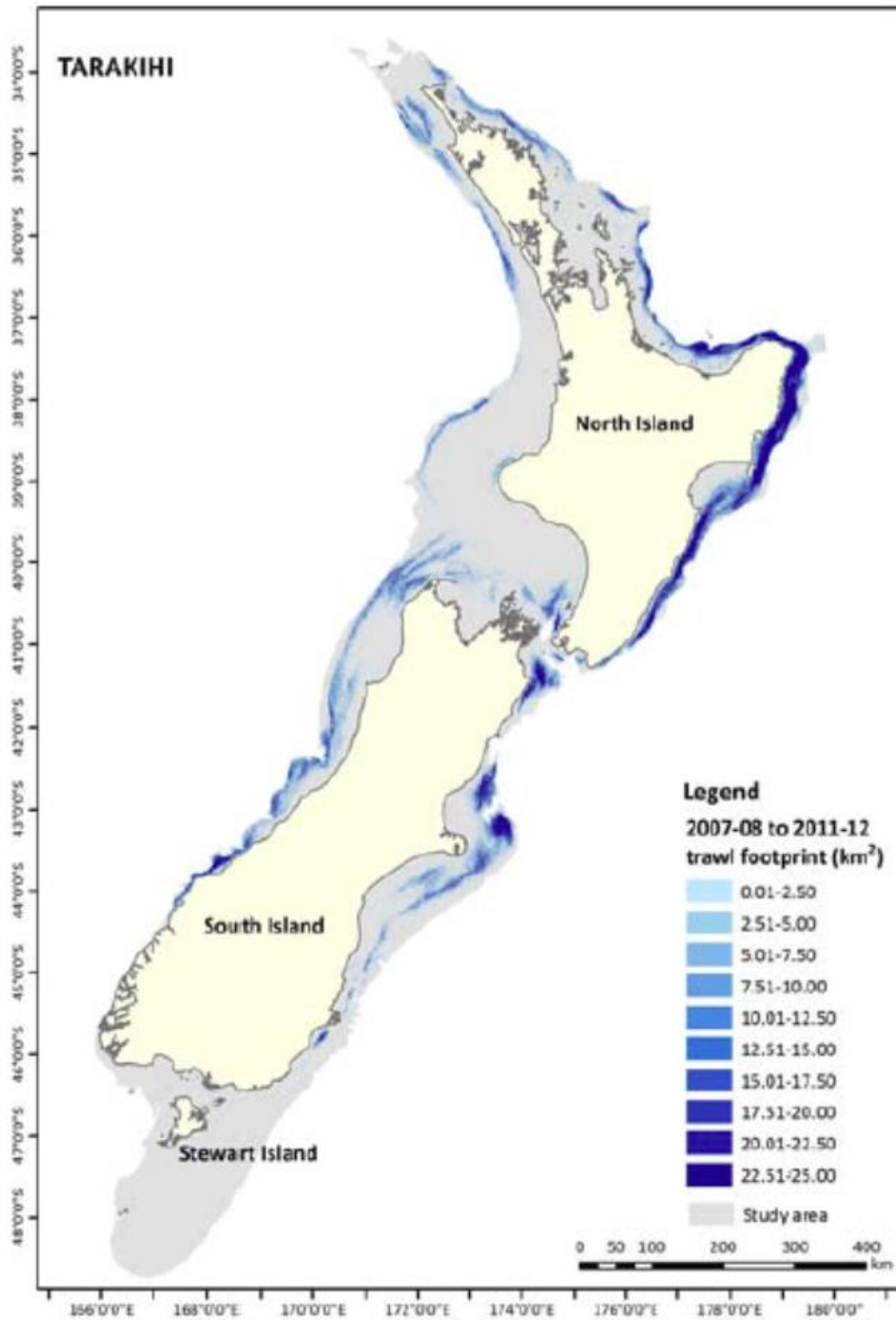


Figure 2: The trawl footprint for tarakihi targeting in the trawl fishery 2007–08 to 2011–12.