

Phil Appleyard
President
NZ Sport Fishing Council
PO Box 54242, The Marina
Half Moon Bay, Auckland 2144
secretary@nzsportfishing.org.nz



Inshore Fisheries
Fisheries New Zealand
PO Box 2526
Wellington 6011.
FMSubmissions@mpi.govt.nz



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Submission: We support a modified version of the FNZ proposed option 1 for the Tarakihi eastern stock.

Recommendations

1. The Fisheries New Zealand (FNZ) Final Advice Paper presents the Minister with a modified version of Option 1 to comply with FNZ's Harvest Strategy Standard Operational Guidelines.
2. In applying a modified and compliant version of FNZ's Option 1, the Minister –
 - a. Reduces the Total Allowable Commercial Catch (TACC) by about 65%;
 - b. Sets aside an increased tonnage to allow for other sources of fishing related mortality; and
 - c. Rejects FNZ Options 2 & 3 on the basis that they are non-compliant with their own Harvest Strategy Standard.
3. The Final Advice Paper includes the submitter's view that the short-term cost of rebuilding the eastern tarakihi stock is outweighed by the long-term benefits of having well managed fish stocks thriving in a healthy marine ecosystem.
4. The initial Total Allowable Catch (TAC) reduction must ensure the stock rebuild strategies, including the TACC reduction, are implemented as soon as possible.
5. That the amateur bag limit is reduced to 15 fish for tarakihi within the combined finfish bag limit, only on the basis that the TACC is reduced by about 65% to comply with the Harvest Strategy Standard.
6. The Minister resets the recreational allowances based on the 2011–12 National Panel Survey harvest estimates in TAR 1, TAR 2 and TAR 7. This is a reasonable approach given current low availability and abundance in most areas.
7. That the existing allowance of 15 t for TAR 3 be retained because the National Panel Survey estimates are based on an inadequate sample size.
8. The Minister directs research to concurrently collect high quality catch at age data from all tarakihi stocks.
9. That juvenile mortality be addressed, firstly by FNZ setting standards requiring more selective fishing methods are used to avoid small fish.
10. Where a method cannot meet acceptable selectivity, bycatch, and environmental standards the particular fishing method must be excluded from the area.
11. That TAR 1 is split into separate east and west coast QMAs, as these are clearly different stocks with different management requirements.
12. That proportional reductions to TACCs are based on recent catch within the TACC, this includes the reduction in TAR 7.

The submitters

13. 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 4 July, with submissions due by 27 July 2018.
14. The NZ Sport Fishing Council is a recognised national sports organisation with over 34,000 affiliated members from 56 clubs 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.
15. 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.
16. Collectively we are '*the submitters*'. The 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]
17. The submitter's continue to object to FNZ's truncated consultation timetables. It has been impossible for us to consult with our constituents on the 17 various proposal papers issued by FNZ, and respond within 18 working days. In our view this timeframe does not allow for adequate consultation. It is particularly offensive for non-commercial organisations such as ours that need to consult with a range of interests and volunteers nationwide. This is unacceptable consultation and, in our opinion, most likely unlawful as per ss12 & 13 of the Fisheries Act 1996 and as judged by the Court of Appeal¹.
18. 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

19. Tarakihi has long been an important component of catch for customary Maori, commercial and recreational fishers. It is 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.
20. Most of the information used in the stock assessment comes from catch, effort and fish age structure from the commercial fishery, which represents over 90% of the landed catch, 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 estimates the tarakihi spawning stock biomass (total weight of mature fish) to be at 17% of the unfished biomass. FNZ Harvest Strategy Standard Guidelines are that **a rebuild of the stock to the target of 40% of the unfished biomass in 10 years is required.**

¹ International Airport Ltd and Air New Zealand (CA 23/92, 73/92[1993] 1 NZLR 671).
Tarakihi submission. Non-commercial. 27 July 2018.

21. When tarakihi was introduced to the Quota Management System in 1986 the combined Total Allowable Commercial Catches (TACCs) 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. The current TACC for the four QMAs is 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. However, a large part of TAR 7 and half of TAR 1 are not considered part of the eastern tarakihi stock in the current assessment.

FNZ proposals

22. FNZ have developed three options to reduce the Total Allowable Catch (TAC), Total Allowable Commercial Catch (TACC) and recreational allowances. The allowances for customary fishing are unchanged and FNZ propose the allowance for other sources of fishing related mortality is increased to 10% of the TACC (Table 1). The recent stock assessment model was used to predict the reduction in catch required to rebuild the stock to 40% in 10 years (Option 1), in 10 years with commercial catch reductions phased in (Option 2), and a 20 year rebuild period (Option 3) (Table 1).

Table 1: Proposed management settings in tonnes for TAR 1, 2, 3, & 7 from 1 October 2018, with the percentage change relative to the current settings in brackets.

Stock	Option	Total Allowable Catch	Total Allowable Commercial Catch	Allowances		
				Customary Māori	Recreational	All other mortality to the stock caused by fishing
TAR 1 ¹	Current settings	2029	1447	73	487	22
	Option 1	1221 ↓ (40%)	983 ↓ (32%)	73	110 ↓ (77%)	55 ↑ (250%)
	Option 2 (year 1)	1466 ↓ (28%)	1205 ↓ (17%)	73	110 ↓ (77%)	78 ↑ (355%)
	(year 2)	1307 ↓ (36%)	1061 ↓ (27%)			63 ↑ (286%)
	(year 3)	1181 ↓ (42%)	946 ↓ (35%)			52 ↑ (236%)
	Option 3	1384 ↓ (32%)	1131 ↓ (22%)	73	110 ↓ (77%)	70 ↑ (318%)
TAR 2	Current settings	2082	1796	100	150	36
	Option 1	1017 ↓ (51%)	735 ↓ (59%)	100	73 ↓ (51%)	109 ↑ (303%)
	Option 2 (year 1)	1556 ↓ (25%)	1225 ↓ (32%)	100	73 ↓ (51%)	158 ↑ (439%)
	(year 2)	1206 ↓ (42%)	906 ↓ (50%)			127 ↑ (353%)
	(year 3)	926 ↓ (56%)	652 ↓ (64%)			101 ↑ (281%)
	Option 3	1376 ↓ (34%)	1061 ↓ (41%)	100	73 ↓ (51%)	142 ↑ (394%)
TAR 3	Current settings	1503	1403	15	15	70
	Option 1	725 ↓ (52%)	579 ↓ (59%)	15	3 ↓ (80%)	128 ↑ (183%)
	Option 2 (year 1)	1150 ↓ (23%)	965 ↓ (31%)	15	3 ↓ (80%)	167 ↑ (239%)
	(year 2)	873 ↓ (42%)	714 ↓ (49%)			141 ↑ (201%)
	(year 3)	653 ↓ (57%)	514 ↓ (63%)			121 ↑ (173%)
	Option 3	998 ↓ (34%)	837 ↓ (40%)	15	3 ↓ (80%)	143 ↑ (204%)
TAR 7 ²	Current settings	1088	1088	-	-	-
	Option 1	986 ↓ (9%)	952 ↓ (13%)	1 ↑	23 ↑	10 ↑
	Option 2 (year 1)	1067 ↓ (2%)	1026 ↓ (6%)	1 ↑	23 ↑	17 ↑
	(year 2)	1014 ↓ (7%)	978 ↓ (10%)			12 ↑
	(year 3)	973 ↓ (11%)	940 ↓ (14%)			9 ↑
	Option 3	1041 ↓ (4%)	1002 ↓ (8%)	1 ↑	23 ↑	15 ↑

Submission

- 23. The submitters do not support any of the Fisheries New Zealand (FNZ) options. The submitters support a modified version of FNZ's Option 1.**
24. We submit that a modified version of Option 1 correctly follows the Operational Guidelines of the Harvest Strategy Standard and this modified option must be available to the Minister to consider in the Final Advice Paper.
25. FNZ state that they consider that the stock will reach the target when an assessment estimates that it is as likely as not (50% probability) that biomass is at 40%. FNZs *"progressive approach to the rebuild strategy"* (para 1003) does not inspire much confidence that a 10-year rebuild to 40% will be achieved, particularly given the current level of opposition from quota holders about the target and rebuild strategy.
26. The submitters agree with FNZ that it is important that the *"initial TAC reduction should provide a high level of confidence that it will ensure the start of the stock rebuild"*. To achieve an adequate level of confidence (70%) that the target of a 10 year rebuild to 40% is reached the following is required:
- a. A TACC reduction of at least 65%; and
 - b. An increased allowance for other fishing related mortality based on the model projections supplied by FNZ.
27. The submitters are concerned that FNZ do not have a consistent rationale or policy on setting an allowance for other sources of fishing related mortality. For trawl caught fish where a minimum legal size (or industry minimum economic size) results in discarded fish, there needs to be a more consistent approach. Usually this is set as a proportion of TACC. The submitters support the default setting of 10% of the TACC and ask that any variation from this is adequately explained.
28. The allowances for other sources of fishing related mortality for tarakihi are variable and confusing. The allowance made in the stock assessment was most likely 10% of commercial catch. In addition, there are errors in the estimates of the percentage increase in the allowance for other sources of fishing related mortality. They are overstated by 100% in each case. The increase from 22 t to 55 t in TAR 1 is 150%.
29. The submitters reject FNZ's Options 2 & 3 for a 3-year staged reduction or a 20-year rebuild. The three-year staged reductions to the bluenose TACCs were not fully implemented because of a temporary increase in commercial catch rates and support for the industry by the Ministry. This pattern of behaviour by the Ministry does not inspire confidence that FNZ can follow through with progressive cuts at the same time as a revised and updated stock assessment is underway.
30. The submitters reject the commercial fishing industry's proposal to voluntarily shelve 20% of quota prior to the next stock assessment. Their proposal clearly signals they are not taking the need for a rebuild seriously. After all the promises and PR it appears the commercial fishing industry's enthusiasm for science based fisheries management has waned. From the latest stock assessment and industry's data it is abundantly clear that the eastern tarakihi stock has been overfished for a long time.
- 31. We urge the Minister to heed the best available scientific information and not stall the start of the rebuild.**
32. The stock assessment model has been extensively reviewed over the last two years. There was considerable inter-annual variation in recruitment in the eastern stocks. The 2007 and 2009

year classes were particularly strong and these 9 and 11 year old fish may be supporting an increase in catch rates in FMA 2 in the last few years.

33. However, **catch alone is not a good indicator of stock abundance** and reliance on one or two strong year classes in a long-lived species like tarakihi is a high risk strategy, which we do not support.
34. Concurrent collection of high quality catch at age data across the eastern stock will be required for future assessments. There is some uncertainty in the extent of movement within the eastern stock and linkages with other regions. However, we note that a model that separated the stock into three regions estimated almost the same stock status (17.8% SB_0) as the single stock model (17.0% SB_0). If anything the 3-stock model showed a larger decline in tarakihi since 1975 than the single stock model (Figure 1).

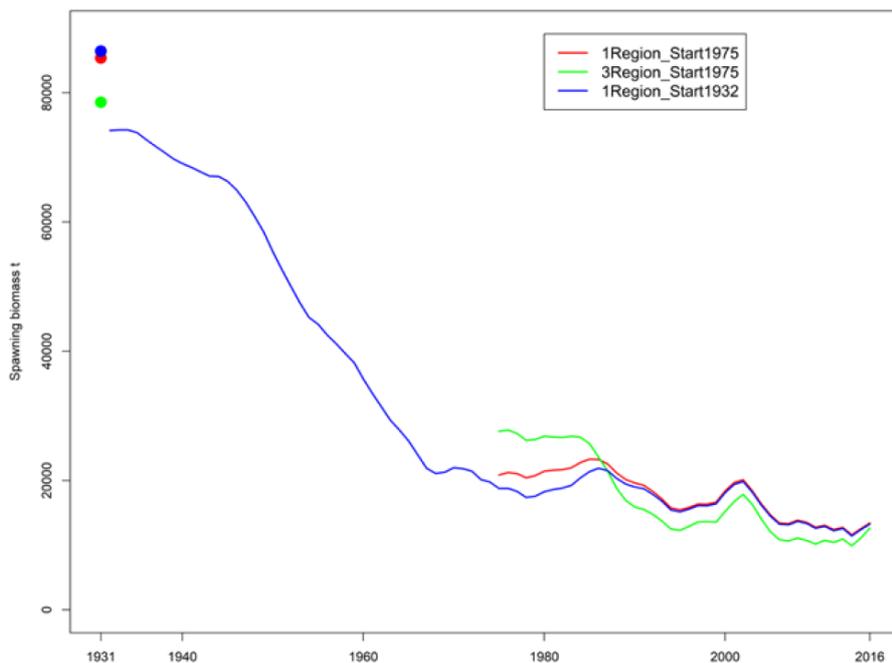


Figure 1: Results of the eastern tarakihi stock assessment model estimating biomass since 1931 (blue), for three separate regions since 1975 (green), and the one region base case model since 1975 (red).

35. The logical conclusion is that **the eastern tarakihi stock has been fished down to a low level.** Occasionally there is good recruitment and biomass increases, as happened in the early 2000s. The Ministry responded to that improvement in fishing by recommending the Minister allocate additional quota in TAR 1, 2 & 3, which he did. Since then the combined TACC has not been caught and the stock has declined further.
36. **Good years of recruitment must be protected and used as opportunities to rebuild the stock not as a reason to abandon good management.**
37. It is international best practice to follow the lead of high quality, age structured stock assessment models, accept the state of depletion, and then implement a rebuild plan to reach the target biomass in a reasonable time. The tarakihi stock has been well below target since 1975 and the current combined TACCs are just as high today as the peak catch years in the 1970s. Moreover, the fishing mortality rate (F) has increased steadily over the last 25 years.
38. We submit the Quota Management System has favoured high tarakihi exploitation over sound stock management for too long. **Now is the time to reset management for this important fishery.**

Recreational controls

39. The submitters have had discussions with some members and supporters about potential changes to the amateur fishing regulations. However, the inadequate 18 working days consultation period has denied us the opportunity to canvass the views of our wider affiliated member base.
40. Of the members and supporters we have spoken with there is a general willingness to accept some change, taking into account that current overall catch and individual catch per day has been affected by low availability and abundance in areas where the public fish.
41. There is conditional support for an increase in the minimum legal size (MLS) for tarakihi off the east coast of the North Island on the basis that any MLS increase also applies to commercial catch taken by fishers using gear that meets selectivity standards in avoiding undersize fish.
42. The submitters will support a daily bag limit reduction to 15 tarakihi within the combined finfish bag limit to align with southern management only on the basis that the TACC is reduced by about 65% to comply with the Harvest Strategy Standard.
43. **The submitters advocate that tarakihi remains within the combined bag limit of 20 in the North Island and 30 (for a larger number of species) in the South Island.** The submitters note that there is no intent to reduce the current low recreational catch but as the stock rebuilds a lower bag limit may better distribute the benefits amongst recreational fishers.
44. **The submitters celebrate the conservation efforts of many recreational fishers** who choose not to take their daily bag limit. However, tarakihi are primarily a table fish that appeals to both children and adults, and they are a target species for charter vessels looking to provide a reasonable catch for their clients.
45. The proposed reductions to the overall recreational allowances are large, but based on reasonable harvest estimates from the 2011–12 National Panel Survey (NPS) in TAR 1, 2 and 7. The harvest estimates from TAR 3 need to be treated with caution because they are based on an inadequate sample size and are therefore unreliable. The submitters support the retention of the existing allowance of 15 t for TAR 3 until the next review. Preliminary results of the next NPS are expected to be available in 2019.

Impacts on the marine environment

46. There is widespread public support for a more caring approach to the marine environment and better management of natural resources. The massive increase in concern over plastics in the ocean and wasteful fishing practices is testament to this. An assessment by the Ministry in 2012 found that of the direct human impacts on New Zealand's marine habitats the most important was bottom trawling². Bottom trawling was identified as having the third equal highest negative impact on inshore ecosystems. The highest scoring threat was ocean acidification and climate change. Land-based sedimentation also ranked high. Trawling causes significant physical impacts on benthic communities, reducing biodiversity and productivity.
47. The use of 100 mm nets (cod ends) causes high mortality of juvenile, undersize tarakihi, particularly in TAR 3. The South Island east coast trawl surveys show a much higher incidence of 25 cm and 26 cm tarakihi observed at sea than recorded during sampling of landed catch in Licensed Fish Receiver premises. Discarding of small, uneconomic catch has been prevalent in New Zealand commercial fishers for over 100 years.

² MacDiarmid, A.; McKenzie, A.; Sturman, J.; Beaumont, J.; Mikaloff-Fletcher, S.; Dunne, J. (2012). Assessment of anthropogenic threats to New Zealand marine habitats. New Zealand Aquatic Environment and Biodiversity Report No. 93. 255 p.

48. In 2004 the Ministry's Director of Fisheries Management wrote to his colleagues, *"As you are aware discarding is a systemic failure of the current system and something we have not been able to get on top of since day 1 of the QMS [Quota Management System]. Fisheries Management can't quantify the tonnages involved but **we suspect they are significant to the point that they are impacting on stocks.** We estimate that if we found the golden bullet to stop discarding, we would probably put over half of the inshore fleet out of business overnight through a lack of ACE [Annual Catch Entitlement] availability to cover by-catch"*. Over the years there have been numerous investigations with few significant prosecutions.
49. **Wasteful practices from the past are no longer acceptable.**
50. **It is time trawl and Danish seine methods were removed from inshore nursery areas.** The calls for removal will only become louder if FNZ continues down the track of 'land-all catch' for most commercial vessels with cameras.
51. Modern fishing technology must strive for more selective, less environmentally damaging fishing gears, rather than killing all catch, regardless of size limits, to support the effectiveness of the proposed camera-based monitoring on boats. There are some species that are susceptible to barotrauma and fishing mortality, and others that are more hardy. The submitters will be very concerned if some methods are allowed to operate in inshore waters under the recently talked about 'land-all catch' policy.
52. It is becoming increasingly apparent that **the Quota Management Areas for a number of species in northern New Zealand are too large.** These unwieldy areas are presenting challenges for management of separate stocks. Tarakihi, flatfish and John dory are species in this year's sustainability round with QMAs that include the east and west coast of the top half of the North Island. The submitters support the division of the TAR 1 into separate east and west coast QMAs, as clearly these are different stocks with different management requirements.
53. The distribution of TACC reductions across QMAs complicates FNZ's proposed management options. The scientific advice is that there is no particular advantage or rationale for differential TACC reductions. The proportional reductions based on recent catch within the TACC seem reasonable and are supported, this includes the TACC reductions in TAR 7 even if there is no current agreement on how to restrict fishing effort in that part of Cook Strait (statistical areas 017 and part of 018).

Commercial interests position paper

54. The submitters object to the circulation of the commercial industry's proposal paper alongside the consultation documents produced by Fisheries New Zealand.
55. The simultaneous release of the FNZ and industry's papers is misleading, by making the public believe that Fisheries New Zealand is supporting the commercial industry's proposal.
56. The commercial industry's document that was circulated was neither independently prepared nor peer review through the science working groups, which is standard practice for all fisheries work shared by Fisheries New Zealand.
57. We submit this action by Fisheries New Zealand only serves to increase suspicion of the capture of the consultation process by commercial interests.
58. The submitters recommend that in future a document of this nature is considered and presented as being ONLY supporting information for commercial interests' submission, and clearly not endorsed by FNZ or part of the official consultation process.