Fisheries New Zealand
Tini a Tangaroa

Public Submissions Received on East Coast tarakihi sustainability measures proposed for 1 October 2022

August 2022

New Zealand Government

Table of submissions and responses on East Coast Tarakihi (in order)

Name/Organisation
Royal Forest & Bird Protection Society of New Zealand Inc. (Forest and Bird NZ)
Environment and Conservation Organisations of NZ Inc. (ECO)
Te Ohu Kaimoana
Nga hapu o nga rohe moana o Ngati Porou
Iwi Collective Partnership
Fisheries Inshore New Zealand (FINZ)
Southern Inshore Fisheries Management Co. Ltd (Southern Inshore Fisheries)
NZ Sports Fishing Council (NZSFC) joint submission with LegaSea, NZ Underwater Association (NZUA) and NZ Angling and Casting Association (NZACA)
Royal New Zealand Society for the Prevention of Cruelty to Animals Incorporated (SPCA)
Te Parawhau ki Korokota
Hauraki Gulf Forum
Fat Boy Charters
Ngātiwai Trust Board (Ngātiwai Holdings Limited is a subsidiary)
Silverspray Fishing Ltd.
Gisborne Fisheries Ltd.
John McGrath - Tauranga Fishing Company Ltd
Jason McGrath - Tauranga Fishing Company Ltd
Brett McGrath - Tauranga Fishing Ltd
Western Bay Fishing Ltd.
T. Mabbett
R. Craig
K. Hitchon
I. Broekhals
D. Marra
L. Williamson

SUBMISSION OF FOREST & BIRD ON THE REVIEW OF SUSTAINABILITY MEASURES FOR EAST COAST TARAKIHI (TAR 2, TAR 3 AND EASTERN PORTIONS OF TAR 1 AND TAR 7) FOR 2022/23

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July 12th, 2022.
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THE ROYAL FOREST & BIRD PROTECTION SOCIETY OF NEW ZEALAND INC.

Thank you for the opportunity to submit on sustainability measures for east coast tarakihi (TAR2, TAR 3 and eastern portions of TAR 1 and TAR 7) for 2022/23.

Forest & Bird has the constitutional purpose of taking all reasonable means to protect the native plants and animals and natural features of Aotearoa New Zealand. This includes protecting nature in the marine environment. Key marine priorities for Forest & Bird include seeking a transition to ecosystem-based management, a transition to zero bycatch, and protecting 30% of New Zealand's marine environment by 2030.

Forest & Bird notes that the transition to zero non-target mortality and ecosystem-based management are also Government objectives under Te Mana o Te Taiao, the Aotearoa New Zealand Biodiversity Strategy.

Forest & Bird has been involved in fisheries decision making over a number of years and is a party to litigation in relation to the fishery that is the subject of this submission.

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FOREST & BIRD KEY RECOMMENDATIONS:

- Forest & Bird does not support any of the Options as proposed by Fisheries New Zealand (FNZ) in the consultation document for reasons outlined in the submission below.

- Te Mana o te Taiao Aotearoa New Zealand Biodiversity Strategy is a formally agreed Government policy. To the extent that its objectives are consistent with the Fisheries Act 1996, the Minister should give effect to the objectives. Any management Option proposed by FNZ should demonstrate whether the measure proposed is sufficient to deliver on the relevant objectives of Te Mana o te Taiao.

- It is mandatory for the Minister to have regard to regional coastal plans and regional policy statements under the Resource Management Act 1991 (s 11(2)(a) Fisheries Act). Forest & Bird recommend FNZ includes an appendix which clearly identifies each Regional Council plan's provisions, objectives and policies for biodiversity and how they align with the proposed Options in the final advice paper to the Minister.

- Forest & Bird supports a 40% SB_0 target at a minimum. This target represents the best available information as required under s 10(a) of the Fisheries Act, which is consistent with the Harvest Strategy Standard guidance on a low productivity stock. From a biological and ecological perspective, there is a strong argument that rebuilding a depleted fish stock as soon as reasonably possible back to Bmsy or higher will have widespread ecological benefits, including making fish stocks and marine ecosystems more resilient to climate change. Forest & Bird propose FNZ transition towards a precautionary ecosystem-based management framework which would require managing fish stocks at higher targets of between 50-60% SB_0 by 2050 (aligns with Te Mana o te Taiao objectives).

- Forest & Bird advocates that any TAC should be set taking into account the trophic interactions between the stock and its predators and prey. Any proposed TAC should also take into account any consequential ecosystem effects of altering those interactions. Where the Minister cannot be presented with information outlining the effects of catches on trophic interactions a precautionary buffer in the form of a relative reduction in TAC should be adopted to take into account any risks arising from unknown interactions.

- The East Coast tarakihi formal time-constrained rebuild plan was initiated in 2018. All rebuild timeframes proposed as Options must use 2018 (2018/19 fishing year), not 2022 (2022/23 fishing year) as year 1. Forest & Bird considers that it is an error of law for the Minister to "re-start" the rebuild timeframe each year he or she makes a new TAC decision.

- Forest & Bird does not support the proposed rebuild period of 10 - 19.7 years. This is not a period appropriate to East Coast tarakihi.
    - The use of generation time to calculate T_{max} is inappropriate and does not align with the Harvest Strategy Standard or international best practice protocols given T_{min} for the stock is known (5 years) and T_{min} is less than 10 years.
    - There is inadequate information in the consultation document on how the generation time of 14.9 years was calculated.
    - Forest & Bird does not support the use of the Harvest Strategy Standard T_{max} protocol ($2*T_{min}$) being misused as the minimum period.
    - T_{min} is the minimum time and must be used based on international and domestic rebuild protocols.

- Based on the best biological and scientific information available internationally and domestically Forest & Bird recommends the period appropriate to rebuild the East Coast tarakihi, as required under s 13(2)(b)(ii) of the Fisheries Act is T_{min} to $3*T_{min}$, which equates to a period of 5 - 15 years.

- FNZ have failed to provide the best available information in the consultation document as required under s 10(a) of the Fisheries Act. FNZ incorrectly included the out of date stock projections graph based on the 2017/18 fishing year instead of including the up to date spawning biomass projection graph. This is a critical error and misled stakeholders as the latest graph shows the stock will continue to decline over the next few years (the most accurate time period for projections) under current catch conditions. FNZ must provide the best available stock status and projections information in the final advice paper to the Minister.

- The Harvest Strategy Standard and Harvest Strategy Standard Operational Guidelines are mandatory relevant considerations for the Minister when setting a TAC under s 13 of the Fisheries Act.

- The Minister must have regard to what the Harvest Strategy Standard says about probability (certainty in projections). All Options proposed must show both 50% and 70% probabilities of the stock reaching the target under the different rebuild timeframes proposed.

- Forest & Bird supports the position of FNZ that status quo (current catch conditions) is not a suitable Option for the October 2022 Minister's decision given the status of the stock and that the stock is projected to not rebuild within the period appropriate to the stock (10-15 years) under current catch conditions.

- Forest & Bird recommends alternative Options (Table 1). There is biological and international scientific evidence to support that an appropriate period to rebuild east coast tarakihi to the

40% SB_0 target is between T_{min} up to $3xT_{min}$. This equates to a period of 5 – 15 years. Most international best practice rebuild protocols along with the Harvest Strategy Standard use $2xT_{min}$ for T_{max}. The recommendation is that FNZ presents the Minister with three rebuild Options each with a 50% and 70% probability of reaching the target (Table 1). The rebuild timeframes proposed for each of the three options are within the period appropriate to the stock of 5 – 15 years. These three Options are:

Option 1: $T_{max} = 2xT_{min}$ = 10 years
Option 2: $T_{max} = 2.5xT_{min}$ = 12 years
Option 3: $T_{max} = 3xT_{min}$ = 15 years

- Forest & Bird preference is the new Option 1 (Table 1).

- Forest & Bird have previously highlighted that the industry volunteering to split their catch in Quota Management Areas TAR 1 and TAR 7 is not a long-term solution and recommended FNZ put forward a regulatory plan to adjust the boundaries of the QMA to reflect the biological stock boundary in 2022. This would allow the Minister to set appropriate TACs for each QMA during the duration of the rebuild plan.

- Forest & Bird is advocating for phasing out bottom trawling. Forest & Bird recommend that FNZ consults on gear restriction spatial closures to protect all three known East Coast tarakihi nursery grounds while the stock rebuilds to the target of 40% SB_0, focusing on areas within TAR 3 as a priority in 2022.

- Forest and Bird recommends 100% observer coverage through the use of on-board cameras across all fisheries and supports the current roll-out across the inshore fleet.

Table 1: Summary of FNZ proposed Options showing Forest & Bird's alternative recommendations in gray.

Status of FNZ Options:	Update rebuild timeframe	Remove options, timeframe (years) exceeds appropriate rebuild period		Forest & Bird recommended Options					
	FNZ Option 1[1]	**FNZ Option 2**	**FNZ Option 3**	**Option 1a**	**Option 1b**	**Option 2a**	**Option 2b**	**Option 3a**	**Option 3b**
Target biomass[2]	40% SB_0 by 2032	40% SB_0 by 2037	40% SB_0 by 2042	40% SB_0 by 2027/28	40% SB_0 by 2027/28	40% SB_0 by 2029/30	40% SB_0 by 2029/30	40% SB_0 by 2032/33	40% SB_0 by 2032/33
Rebuild timeframe (years) **2018=year1[3]**	10 years or $2*T_{min}$[4]	15 years or $3*T_{min}$[5]	19.7 years or T_{min} plus one generation time[6]	10 years or $2*T_{min}$	10 years or $2*T_{min}$	12 years or $2.5*T_{min}$	12 years or $2.5*T_{min}$	15 years or $3*T_{min}$	15 years or $3*T_{min}$
Rebuild way and rate	40% catch reduction in TAR 2 and TAR 3 and eastern portions of TAR 1 and 7, implemented in 2022/23	15% catch reduction in TAR 2 and TAR 3 and eastern portions of TAR 1 and 7, implemented in 2022/23	5% catch reduction in TAR 2 and TAR 3 and eastern portions of TAR 1 and 7, implemented in 2022/23	To be determined by FNZ based on s13(2)(b)(i) No model projections available to estimate what catch reductions would be required				40% catch reduction in TAR 2 and TAR 3 and eastern portions of TAR 1 and 7, implemented	To be determined by FNZ
Probability[7] of achieving target within rebuild timeframe	55%	53%	56%	50%	70%	50%	70%	55%	70%

[1] This FNZ Option 1 becomes Forest & Bird Option 3a when the rebuild timeframe is updated to reflect the 2018 rebuild plan start date.

[2] Rationale for Forest & Bird proposals: This target represents the best available information as required under s 10(a).

[3] Rationale for Forest & Bird proposals: section 13(2)(b)(ii) period appropriate to the stock based on s 10(a) and court ruling that HSS is a mandatory relevant consideration. This also aligns with international best practice where T_{min} is known.

[4] Actually 15 years or $3*T_{min}$ (start date of the rebuild was 2018). This would be Option 3a under Forest and Bird's proposed alternative options

[5] Actually 20 year or $4*T_{min}$ (start date of the rebuild was 2018).

[6] Actually 24.7 years or $2*T_{min}$ plus one generation time (start date of the rebuild was 2018).

[7] Rationale for Forest & Bird proposals: High court ruled that HSS and HSS OG are mandatory relevant considerations and that the Minister must have regard to what the HSS says about probability. This requires FNZ to put forward both a 50% and 70% probability.

BACKGROUND:

1. This submission is informed by the High Court ruling *Royal Forest and Bird Protection Society of New Zealand Incorporated v Minister of Fisheries* [2021] NZHC 1427.

   The High Court ruled in favour of Forest & Bird on four causes and directed the Minister to review the Total Allowable Catch (TAC) and Total Allowable Commercial Catch (TACC) settings for the East Coast tarakihi in 2021 having regard to the findings:[8]

   > *"a) The Minister made an error of law, in that he did not make an assessment of the period of rebuild appropriate to the East Coast tarakihi stock as required by s13(2)(b)(ii) of the Act.*
   > *b) The Minister did not make an error of law in adopting an approach that had modelled a 50 per cent probability of achievement.*
   > *c) The guidance on probability in the HSS and the HSS Operational Guidelines was a mandatory relevant consideration, and the Minister failed to have regard to this when making the 2019 Decision.*
   > *d) The Minister had regard to an irrelevant consideration, the Industry Rebuild Plan, in relation to the period appropriate to the stock under s 13(2)(b)(ii) of the Act.*
   > *e) Given the overlap between Forest & Bird's causes of action, it has not been necessary for me to reach a finding on unreasonableness.*
   > *f) The 2019 TACC decisions were consequently affected by the material errors made in setting the TAC"*[9]

2. The High Court ruling means the Harvest Strategy Standard (HSS) and Harvest Strategy Standard Operational Guidelines (HSS OG) are both mandatory relevant considerations.

3. Following the High Court ruling a group representing the inshore commercial fishing industry (Fisheries Inshore New Zealand) filed an appeal which was heard in the Court of Appeal in March 2022. A decision is yet to issue.

4. The High Court granted a stay given a new stock assessment was underway in 2021 to enable this to be completed before the Minister reviewed the TAC decisions for East Coast tarakihi in 2022. The stay has expired and no further application for a stay has been made.

5. Tarakihi is considered a low productive species as they are relatively long-lived with a maximum age of over 40+ years. This means tarakihi is less resilient to high levels of fishing pressure than highly productive species. Despite being long-lived, in the first eight years of life

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[8] Forest & Bird advanced six causes of action and were successful on four causes of action (error of law, failure to consider mandatory relevant consideration, and considering irrelevant consideration), unsuccessful on one cause of action (error of law), and it was unnecessary to consider one cause of action (unreasonableness). Royal Forest and Bird Protection Society of New Zealand Incorporated v Minister of Fisheries [2021] NZHC 1427 — Courts of New Zealand (courtsofnz.govt.nz)

[9] *Royal Forest and Bird Protection Society of New Zealand Incorporated v Minister of Fisheries [2021]* NZHG 1427 [215]

tarakihi undergo a period of rapid growth. This means tarakihi has the biological potential to rebuild relatively quickly and is reflected in having a T_{min} (the number of years required to rebuild a stock in the absence of fishing) of five years.[10]

6. East Coast tarakihi (ECT) is one biological stock and includes stock found in four Quota Management Areas (QMA). ECT stock includes all of TAR 2 and TAR 3 and the east coast portions of TAR 1 and the Cook Straight portion of TAR 7 (as shown in blue in Figure 1). Total Allowable Catch (TAC) is set as a whole or combined TAC and then this is proportioned up into the different QMAs.

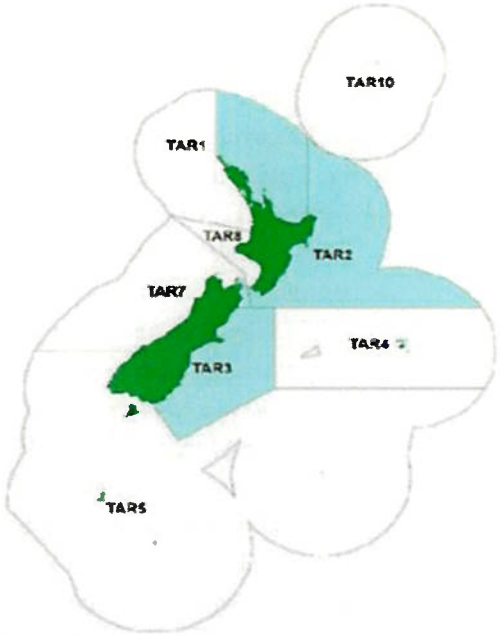

Figure 1: Quota Management Areas for East Coast tarakihi. Source: FNZ, 2021

7. ECT has been historically overfished and has been generally declining since the 1960s, and below the fisheries management 'soft limit' of 20% of the unfished biomass (SB_0) since the early 2000s. A depleted stock has implications for both the fishery and marine ecosystems. When stocks are below this soft limit stock reproduction and sustainability can be impaired and serious ecosystem impacts can occur.[11]

8. The Fisheries Act 1996 (Act) requires that depleted stocks are rebuilt to Maximum Sustainable Yield (MSY) within a period appropriate to the stock, having regard to its biological characteristics and any environmental conditions affecting the stock.[12] This sustainability backstop ensures rebuilding occurs over a sustainable maximum period, while still providing flexibility to consider social, cultural, and economic factors in determining the way in which and rate at which the stock is moved towards MSY[13] within that period.

[10] FNZ 2022 (paragraph 51)
[11] Affidavit of Dr Dunn March 16th 2020, paragraph 12
[12] Fisheries Act s(2)(b)(ii).
[13] Fisheries Act s(2)(b)(i).

9. In 2018 ECT stock was estimated at 17% SB_0. This was below the 'soft limit' reference point of 20% SB_0, and well below the target of 40% SB_0. This triggered a formal time-constrained rebuild plan based on Government accepted best practice policy the HSS and the HSS OG.[14]

10. The formal time-constrained rebuild plan for ECT was initiated on the 1st of October in 2018. In 2018 the Minister of Fisheries[15] decided the ECT stock should be rebuilt to a target of 40% SB_0, within a 10-year period (based on the HSS guidelines), and that a probability (certainty) of 50% was sufficient, and that this would require a 55% reduction in the 2017 catch level.[16] The Minister decided against the 55% reduction and instead decided to implement a phased reduction over two years. In year 1 (2018 = 2018/19 fishing year) the Minister reduced the TACC by 20%.

11. In 2019 the ECT stock assessment model was updated (extra fishing year added), and different catch reduction scenarios were run.[17] The update confirmed the stock was overfished and was estimated at 15.9% SB_0. Instead of implementing the 35% reduction in TACC indicated in year one (2018) that would have been required in year two to rebuild the stock in accordance with the Minister's 2018 decision, the Minister decided to reduce the TACC by just 10%[18] which extended the rebuild period. The Minister also implemented a voluntary Industry Rebuild Plan (IRP), with an amendment to require some electronic monitoring (cameras) on vessels fishing within QMA TAR 2 and TAR 3.

12. Based solely on the combined reductions in TAC for year one and year two (2018 and 2019 respectively) the ECT stock was predicted to rebuild to the 40% SB_0 target in 25 years, with a 50% probability, and that it would take more than 30 years (which was the maximum period modelled) to achieve the target with a 70% probability.[19]

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[14] "*Stocks that have fallen below the soft limit should be rebuilt back to at least the target level in a time frame between Tmin and 2 * Tmin with an acceptable probability*" Harvest Strategy Standard, 2008 (paragraph 24)

[15] The Minister of Fisheries was the Hon. Stuart Nash between 26th October 2017 – 6th November 2020 and is currently the Hon. David Parker 6th November 2020 – present.

[16] Minister of Fisheries, 2018

[17] Refer to appendix 1 – model projection table from 2019 consultation and appendix 2 – model projection table from Forest and Bird OIA 20-0031

[18] Minister of Fisheries, 2019

[19] Refer to appendix 1 and 2 tables, Dr Dunn's Affidavit dated 16th March 2020 & 10th June 2020 and Dr Griffiths Affidavit dated 14th April 2020.

FNZ 2022 CONSULTATION OPTIONS:

13. FNZ is currently consulting on the ECT 2022 sustainability measures and has proposed three Options (Table 2).

14. The target dates in Table 2 are 2032 (2032/33 fishing year), 2037 (2037/38 fishing year) and 2042 (2042/43 fishing year). Table 2 does not state that the formal time-constrained rebuild for ECT began in 2018, which means year 1 is 2018 (2018/19 fishing year). All rebuild timeframes in Table 2 are based on year 1 being 2022 (2022/23 fishing year), this should be year 5. The effect of re-starting the rebuild in 2022 is that the four previous fishing years of the rebuild are not accounted for and in total five years must be added to the rebuild timeframes shown in Table 2[20]. Forest & Bird considers that it is an error of law for the Minister to "re-start" the rebuild timeframe each year he or she makes a new TAC decision.

Table 2: FNZ proposed options. Source: FNZ, 2022[21]

	Option 1	Option 2	Option 3
Target biomass	40% *SBo* by 2032	40% *SBo* by 2037	40% *SBo* by 2042
Rebuild timeframe (years)	10 years or 2**Tmin*	15 years or 3**Tmin*	19.7 years or *Tmin* plus one generation time
Rebuild way and rate	40 percent catch reductions in TAR 2 and TAR 3, and the eastern portions of TAR 1 and TAR 7 implemented in 2022/23. In practice, this amounts to a 27 and 29 percent reduction in the combined TAC and TACC respectively, implemented in 2022/23.	15 percent catch reductions in TAR 2 and TAR 3, and the eastern portions of TAR 1 and TAR 7 implemented in 2022/23. In practice, this amounts to a 12 and 13 percent reduction in the combined TAC and TACC respectively, implemented in 2022/23.	5 percent catch reductions in TAR 2 and TAR 3, and the eastern portions of TAR 1 and TAR 7 implemented in 2022/23. In practice, this amounts to a 7 percent reduction in the combined TAC and TACC respectively, implemented in 2022/23.
Probability of achieving target within rebuild timeframe	55%	53%	56%

15. Forest & Bird does not support the proposed rebuild timeframes (years) in Table 2 which do not reflect the best available information on the period appropriate to the stock as required by the Act.[22] Forest & Bird do not support the three Options proposed[23] and will justify its position in the submission below. Forest & Bird will also recommend alternative Options for FNZ to include in the Final Advice Paper (FAP) to the Minister.

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[20] For example Option 1 target is reached by 2032 (2032/33 fishing year) - FNZ states this is 10 years. From 2018 (2018/19 fishing year) this is 15 years. Rebuild timeframe needs five years added.

[21] FNZ, 2022

[22] Fisheries Act s(2)(b)(ii).

[23] In the current format (incorrect rebuild timeframes)

FOREST & BIRD SUBMISSION ON CONSULTATION DOCUMENT AND OPTIONS:

16. FNZ is seeking specific feedback on the suitability of the periods appropriate to the stock and the rebuild way and rate as outlined in the Options (Table 2). Forest & Bird feedback on the consultation document will be split into the following sections:

- Te Mana o te Taiao Aotearoa New Zealand Biodiversity Strategy
- Regional plan provisions
- Stock status
- Harvest Strategy Standard and Operational Guidelines
- Target
- Period appropriate to the stock
- Acceptable probability
- FNZ Options & Forest & Bird recommendations
- Catch splitting
- Industry rebuild plan
- Nursery habitat protection
- Observer coverage

TE MANA O TE TAIAO AOTEAROA NEW ZEALAND BIODIVERSITY STRATEGY

17. Previous Biodiversity Strategies have failed to achieve their objectives, and this failure has been largely put down to the Strategies being "placed on the shelf" and not integrated across Government decision-making.

18. To the extent that its objectives are consistent with the Fisheries Act 1996, the Minister should give effect to the objectives outlined within Te Mana o te Taiao. The nature of Te Mana o te Taiao is such that it should be considered a mandatory consideration. It is formally agreed Government policy with fisheries-specific objectives that was developed through a thorough process of technical, stakeholder and policy engagement, including representatives of the fishing industry. To avoid the failures of previous Biodiversity Strategies, it is essential that Te Mana o Te Taiao is operationalised.

19. The Minister will need to take into account the more granular 2025, 2030 and 2050 objectives within Te Mana o te Taiao, as well as the more high-level objectives[24]. The objectives the Minister should have particular regard to because of their particular relevance to decisions under the Fisheries Act 1996 include:

[24] New Zealand Government, 2020

- 10.5.1: A framework has been established to promote ecosystem-based management, protect and enhance the health of marine and coastal ecosystems, and manage them within clear environmental limits by 2025
- 12.1.1: Environmental limits for the sustainable use of resources from marine ecosystems have been agreed on and are being implemented by 2025
- 12.1.2: Marine fisheries are being managed within sustainable limits using an ecosystem-based approach by 2030
- 12.1.3: Marine fisheries resources are abundant, resilient and managed sustainably to preserve ecosystem integrity by 2050
- 12.2.1: The number of fishing-related deaths of protected marine species is decreasing towards zero for all species by 2025
- 12.2.2: The direct effects of fishing do not threaten protected marine species populations or their recovery by 2030
- 12.2.3: The mortality of non-target species from marine fisheries has been reduced to zero by 2050

20. These objectives are broadly consistent with purpose and principles contained with the Act and so Ministerial decisions that comply with the Act should also be able to place stocks on trajectories that deliver these outcomes. For example:
    - The preservation of ecosystem integrity is achieved by delivering on the s 9 (Environmental Principles) of the Act, as well as the general s 8 purpose of ensuring sustainability, and should be supported by a precautionary interpretation of s 10 of the Act.
    - Reducing the number of fishing related deaths of protected, endangered or threatened marine species towards zero is achieved by giving proper attention to the direct impact of fishing on associated and dependent species under s 9(a), the wider requirement to maintain the biological diversity of the marine environment in s 9(b) and managing the impact of fishing on the marine environment in s 8. This relates as well to bottom trawling because of its propensity to damage protected seafloor species.

21. The consultation document provides an inadequate level of information for submitters or the Minister to assess whether the proposed TAC reduction Options are suitable to achieve the objectives in Te Mana o te Taiao outlined above. For each management Option proposed FNZ should demonstrate whether the measure is sufficient to deliver on the objectives.

22. In relation to Te Mana o te Taiao objectives:
    - 10.5.1: the consultation document should have shown where the stock is located within the trophic structure of the ecosystem along with any spatial and temporal distribution and what the wider ecosystem limits are, including limits where changes

in stock abundance may cause systemic changes (such as system changes caused by the removal of too many upper trophic level predators)

- 12.1.1; 12.1.2; 12.1.3; 12.2.1; 12.2.2; 12.2.3: The consultation document should have disclosed which management options will achieve these milestones
- 12.1.1; 12.1.2; 12.1.3; 12.2.1; 12.2.2; 12.2.3: The decision of the Minister will need to show how management of the stock will achieve these milestones.

23. In practice this will require over the period of the rebuild:
    - Setting a precautionary TAC for tarakihi that takes into account the lack of information provided about predator-prey interactions and their implications across the trophic structure, and the lack of information on the ecological impact of bottom trawling carried out by the fishery
    - Initially putting in place spatial restrictions on bottom trawling, and then phasing out bottom trawling, to contribute to the reduction of non-target catch including protected, endangered or threatened species mortality to zero
    - Monitoring the effectiveness of Government endangered, protected and threatened species management plans and strategies including: National Plans of Actions (NPOA), such as NPOA-Seabirds and the soon to be released NPOA-Sharks, the Threat Management Plans for Hectors and Maui dolphins, Te Kaweka Takohaka mō te Hoiho[25] and taking corrective measures if these plans and strategies objectives are not being achieved.

REGIONAL PLAN PROVISIONS

24. It is mandatory for the Minister to have regard to regional coastal plans and regional policy statements under the Resource Management Act 1991 (s 11(2)(a) Fisheries Act).

25. Eight Regional Councils have coastlines within the boundaries of ECT (Figure 1). FNZ state that the relevant regional council plans include: "*Northland Regional Coastal Plan, Bay of Plenty Regional Coastal Environment Plan, Gisborne Region Tairāwhiti Resource Management Plan, Hawke's Bay Regional Coastal Environment Plan, Hawke's Bay Marine and Coastal Group Roadmap Wellington Region Coastal Plan, Marlborough District Council Coastal Monitoring Strategy, Marlborough District Council Ecologically Significant Marine Habitats, Environment Canterbury Regional Coastal Environment Plan and Otago Regional Council Coast for Otago Plan*"[26]

26. Each of those regional coastal plans contains objectives and policies for biodiversity and habitats in the coastal environment. Those provisions have direct relevance for the proposed TAC decisions.

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[25] A strategy to support the ecological and cultural health of hoiho (yellow-eyed penguin).

[26] FNZ, 2022 (paragraph 199).

27. There is no information in the consultation document to demonstrate how each of these regional plans provisions have been assessed, or that adequate consideration has been given to whether those objectives or policies align with what FNZ is proposing. Forest & Bird recommend FNZ includes an appendix which clearly identifies each Regional Council plan's provisions, objectives and policies for biodiversity and how they align with the proposed Options in the final advice paper to the Minister.

STOCK STATUS

28. In 2021 the ECT stock assessment model was updated. The current (2021) spawning stock biomass was estimated to be 19% SB_0 ($SB_{2021}/SB_0 = 0.193$) using a three-region updated model or 17% SB_0 ($SB_{2021}/SB_0 = 0.171$) using a one-region model.[27] The one-region model (17% SB_0) is comparable to the previous 2019 assessment (15.9% SB_0). Plenary selected the three-region model as the preference but opted to retain the 1-region comparable model.[28] FNZ did not reflect the different model estimates in paragraph 39.[29]

29. The 2021 assessment confirms that ECT stock remains overfished[30] and is not likely to rebuild to the 40% SB_0 target within a period appropriate to the stock, based on the 2018 initiation date of the rebuild plan and the 2018 and 2019 TAC reductions (current catch conditions). There is no information, such as model outputs provided in the consultation document or supporting documents[31] that show under different probabilities (different certainties e.g. 50% or 70%) when the ECT stock will reach 40% SB_0 under current TAC conditions.

30. The only updated (2021) stock projection information is a sentence that it will take 22 years from 2022 (meaning by 2044) with a 50% probability for the ECT stock to reach 40% SB_0 based on existing TAC conditions[32]. This means 27 years after the rebuild was initiated in 2018 (2018/2019 fishing year) ECT stock is predicted to reach the target with a 50% probability.

> *"Note that the status quo for East Coast tarakihi is not being proposed as an option for the October 2022 Minister's decision. The recent stock assessment and projections show that, under the current commercial catch levels, the stock is expected to be above the soft limit (20% SB_0) with a greater than 50% probability by 2026 (4 years) and 40% SB_0 with a greater than 50% probability by 2044 (22 years). However, because the East Coast tarakihi stock is currently below the soft limit, FNZ is obligated to rebuild the stock to 40% SB_0 within a time period appropriate to*

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[27] Langley, 2022

[28] Fisheries New Zealand, 2022

[29] FNZ, 2022 (section 4)

[30] "*Overfishing threshold: Virtually Certain (> 99%) that overfishing is occurring*" (Fisheries New Zealand, 2022)

[31] E.g. the 2021 stock assessment report only provides 5 year projections from the base case current catch (Langley, 2022)

[32] FNZ, 2022 (paragraph 123)

the stock. FNZ does not consider 22 years is an appropriate rebuild time period for the East Coast tarakihi stock at this time".[33]

31. FNZ have failed to provide the best available information in the consultation document as required by the Act.[34] FNZ incorrectly refer to out of date stock projections based on the 2017/18 fishing year.[35] FNZ include an out of date and inaccurate spawning biomass projections graph (Figure 2[36]) instead of including the up to date spawning biomass projection graph (Figure 3).

32. The red line in Figure 2 predicts that the ECT stock will start increasing from 2018. This is an unacceptable misrepresentation of the best available information and what the stock is doing and is predicted to currently do. It isoverly optimistic when compared to the best available information (2021) projections. Stakeholders that are not aware or have access to the 2021 projections[37] will be misled by the status of the stock section[38]. The best available information must be used in the FAP to the Minister as required by the Act.[39]

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[33] FNZ, 2022 (paragraph 123)
[34] Fisheries Act s10(a)
[35] FNZ, 2022 (paragraph 42 and Figure 2)
[36] FNZ, 2022 (Figure 2 paragraph 43 page 6)
[37] from the Plenary working group
[38] FNZ, 2022 (section 4)
[39] Fisheries Act, s10(a)

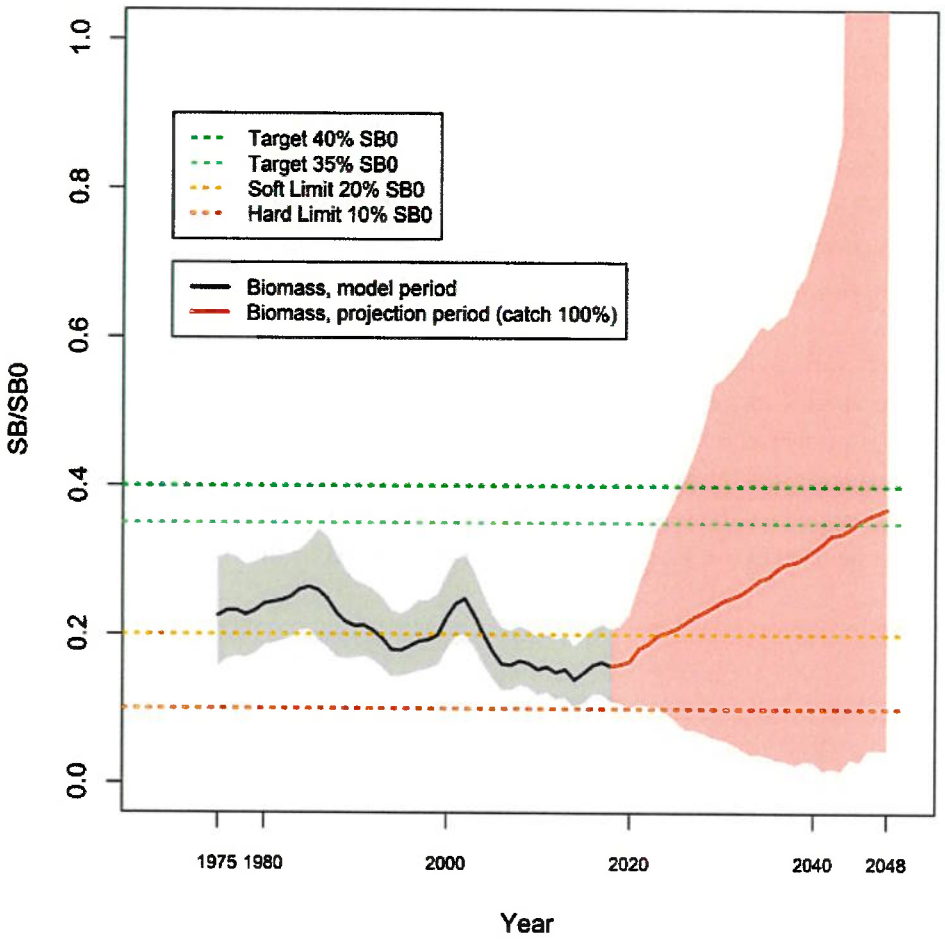

Figure 2: Spawning biomass levels. The projection, from 2018 forward is based on 2018/19 fishing year catch and the confidence intervals (red shading) reflect uncertainty in recent and future spawning success and subsequent recruitment. Source: FNZ, 2022

33. The 2021 projections[40] (Figure 3) shows that ECT stock will continue to decline. The orange line on Figure 3 shows the current (2021) status of the stock, which confirms it is below the soft limit (20% SB_0). The red line shows the predicted trend which declines over the next few years (the most accurate time period) then starts to increase towards the soft limit (20% SB_0 dashed line). This red line reflects what is known about the recruitment into ECT stock. There was some below average recruitment, and these cohorts of fish classes are starting to come through in the model which supports the decline predicted. Where the red line is predicted to start increasing, this is based on the model assuming that there will be average recruitment coming through. ECT stock has highly variable recruitment, and the model does not account for potential impacts of climate change on recruitment and other environmental conditions.

[40] Presentation presented to the Eastern Tarakihi stock assessment Plenary working group in November 2021.

34. Projections beyond a few years have increased uncertainty, as indicated by the light red shaded area on either side of the red lines in Figures 2 and 3 due to the unpredictable fluctuations in recruitment and other environmental factors. This uncertainty is another reason why internationally rebuilding policies[41] and plans recommend regular stock status reviews to ensure stocks are rebuilding to targets within rebuild timeframes.

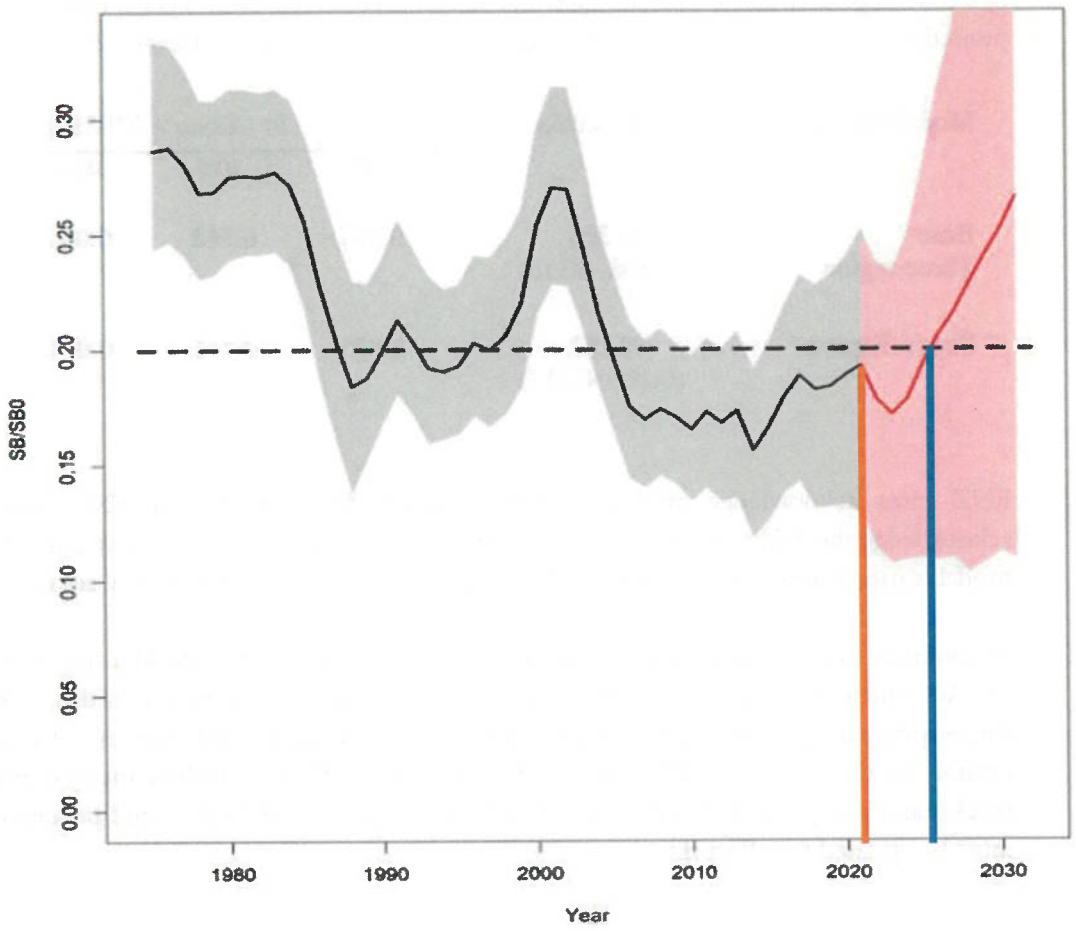

Figure 3: Spawning biomass levels and projections from 2021, annotated to show current status (orange) and 2026 (5 years) (blue). Source: FNZ Plenary meeting 2021.

35. The 2021 projections estimate the ECT spawning biomass will reach the soft limit (dashed line) around 2026.[42] Table 3 provides more clarity on what is likely to occur under the current catch conditions, and again this valuable information was excluded by FNZ in the consultation document. The model predicts that in five years (2026), under current catch conditions there is a 54.2% probability that ECT stock will be above the soft limit (20% SB_0) based on the

[41] Canadian (DFO, 2022), Australian (Queensland Government, 2017) & the United States (NOAA, 2022).
[42] As indicated by the annotated blue line on Figure 3

three-region model or a 44.1% probability based on the one-region model (Table 3). This means in 2026 there is just as likely a probability[43] that the ECT stock will be below the soft limit (20%SB_0) under current catch conditions.

Table 3: Estimated stock status (and 95% confidence intervals) and the probabilities of the spawning biomass being above default biomass limits and interim target level in 2026 (5 years) from catch based projections for the single-region and three-region base case models. Source Langley, 2022[44]

Model option	SB_{2026}/SB_0	Pr (SB_{2026} > X%SB_0)		
		10%	20%	40%
Base Three-region	0.206 (0.108–0.313)	0.987	0.542	0.001
Single-Region	0.192 (0.105–0.312)	0.981	0.441	0.001

36. FNZ must acknowledge previous models and rebuild commitments. FNZ must also acknowledge the different sensitivities used in the model runs and explain why only the base model is used for projections. What is the purpose of these sensitivities if they are not used?

37. In summary under current catch conditions ECT stock is failing to rebuild as per s 13(2) of the Act which means further management intervention is required. Based on this, Forest & Bird support the position of FNZ that status quo (current catch conditions) is not a suitable Option for the October 2022 Minister's decision. The FAP must include the best available stock status and projections information, including Figure 3 and Table 3, and paragraph 123 must be updated to reflect this.

HARVEST STRATEGY STANDARD AND OPERATIONAL GUIDELINES

38. The HSS and OG is a policy statement of best practice (and guidelines) for setting targets and limits for fish stocks in the Quota Management System (QMS). It is "*intended to provide guidance as to how fisheries law will be applied in practice, by establishing a consistent and transparent framework for decision-making to achieve the objective of providing for utilisation of New Zealand's QMS species while ensuring sustainability*".[45]

[43] 45.8% or 55.9% probability (three-region or one-region model projections respectively)
[44] Table 8 (Langley, 2022).
[45] Ministry for Primary Industries, 2008

39. As stated by FNZ, based on the High Court ruling the HSS and HSS OG are a mandatory relevant consideration for the Minister when setting a TAC under s 13 of the Act.[46] The High Court also ruled that *"the HSS is the "best available information", in terms of s 10(a), in relation to acceptable probability levels, as well as for other matters relevant to the interpretation of s 13"*.[47]

40. The HSS defines how to calculate the appropriate period (length of time) for a rebuild:

> *"stocks that have fallen below the soft limit should be rebuilt back to at least the target level in a time frame between T_{min} and 2 * T_{min} with an acceptable probability"*.[48]

41. For ECT T_{min} is 5 years[49], so based on the HSS the period appropriate to rebuild ECT is 5 – 10 years (T_{min} to $2*T_{min}$). The HSS does not state this *"time frame between T_{min} and $2*T_{min}$"*[50] is the minimum length of time for a rebuild to occur. FNZ have selectively used the upper period calculation (maximum rebuild time, often referred to as T_{max} or within the HSS is the upper limit of $2*T_{min}$) as the minimum: *'FNZ considers 10 years ($2*T_{Tmin}$) to be the appropriate minimum limit for the rebuild period for the East Coast tarakihi stock'*[51] [emphasis added]. FNZ have justified this incorrect use of $2*T_{min}$ as the stock is *"above the hard limit and projected to increase under current catch levels"*.[52] As shown in Figure 3 (above), the stock is not projected to increase in the immediate few years when the projections are most accurate.

42. The HSS defines the default "hard limit" as *"¼ B_{MSY} or 10% B_0, whichever is higher"*.[53] If a fish stock is below the hard limit the HSS states:

> *'The hard limit is the biological reference point at which closure should be considered for target fisheries; it may be also be appropriate to consider curtailment or closure of fisheries that incidentally catch the species concerned"*.[54][emphasis added]

43. ECT is not below the hard limit. FNZ states to stakeholders that if ECT stock was below the hard limit a shorter rebuild time would be more appropriate, using T_{min}. If ECT was below the hard limit then Forest & Bird would recommend a full closure of the fishery and agree a maximum rebuild timeframe of 5 years would be appropriate to the stock based on the HSS, not a minimum of 5 years.

> *"A shorter rebuild time closer to 5 years (Tmin) may be more appropriate for a stock which is below the hard limit"*.[55]

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[46] FNZ, 2022 (paragraph 129)
[47] *Royal Forest and Bird Protection Society of New Zealand Incorporated v Minister of Fisheries [2021]* NZHG 1427 [152]
[48] Ministry for Primary Industries, 2008 (paragraph 24)
[49] FNZ, 2022 (paragraph 51)
[50] Ministry for Primary Industries, 2008 (paragraph 24)
[51] FNZ, 2022 (paragraph 54)
[52] FNZ, 2022 (paragraph 54)
[53] Ministry for Primary Industries, 2008 (paragraph 24)
[54] FNZ, 2022 (paragraph 54)
[55] FNZ, 2022 (paragraph 54)

44. The goal of the HSS is to fully rebuild depleted fish stock to the biomass target with an acceptable probability of 70%.

> *"Stocks will be considered to have been fully rebuilt when it can be demonstrated that there is at least a 70% probability that the target has been achieved*[56] *and there is at least a 50% probability that the stock is above the soft limit".*[57]

45. FNZ acknowledges the benefits of using a 70% probability such as rebuilding the age composition of a depleted stock *"a probability of 70% may be needed to ensure that not only the biomass, but also the age structure is fully rebuilt".*[58] FNZ have not provided any modelling outputs, with any probabilities of reaching the target within the period appropriate to the stock in the consultation document. It is therefore unknown if FNZ has projections with a 70% probability.

46. The HSS recommends using a 70% probability. Given ECT stock is below the soft limit meaning it is likely to have a distorted age structure these projections should be assessed and included in the FAP. The Minister must have regard to the minimum standard of acceptable probability of 70% for stocks below the soft limit in the HSS and HSS OG, and the reasons for this minimum standard. Forest & Bird recommend all options put forward should clearly display the rebuild period (in years) to reach the target with a probability of 50% and 70% under any proposed catch reduction scenario.

TARGET

47. A target is referred to as the spawning stock biomass level that will produce the maximum sustainable yield (MSY) and is guided by biological characteristics of the stock. Where MSY is not known, the HSS recommends a default target of 40% of the unfished biomass (40% SB_0, this is often called B_{msy}[59]) for long-lived fish stocks, such as tarakihi.[60]

48. In 2018 the Minister of Fisheries decided[61] based on the evidence provided by FNZ that ECT stock was overfished and needed to be rebuilt, and that the appropriate target was 40% SB_0. For ECT the soft limit is 20% SB_0 and the hard limit is 10% SB_0 (based on the HSS).

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[56] *"Use of a probability level greater than 50% ensures that rebuilding plans are not abandoned too soon; in addition, for a stock that has been depleted below the soft limit, there is a need to rebuild the age structure as well as the biomass, and this may not be achieved by using a probability as low as 50%"* HSS, 2008 (footnote 8)

[57] Ministry for Primary Industries, 2008 (paragraph 24)

[58] FNZ, 2022 (paragraph 60)

[59] Bmsy = the biomass that enables a fish stock to deliver the maximum sustainable yield

[60] FNZ, 2022 (paragraph 44)

[61] Minister of Fisheries, 2018

49. In 2019 the Minister of Fisheries reviewed ECT stock and confirmed that the 40% SB_0 target remained appropriate.

50. In 2022 FNZ is still recommending that the 40% SB_0 target represents the best available information[62] as required under s 10(a), which is consistent with the HSS guidance on a low productivity stock. Forest & Bird continues to support this target of 40% SB_0 for ECT as a minimum, but supports increasing biomass target to transition to ecosystem-based fisheries management.

51. The fishing industry has stated that it does not support this target[63], and have pushed that the Minister adopts a lower target of 35% SB_0. Reducing the target would have consequences on the rebuild and could affect the ecological integrity and recovery of the stock.

52. From a biological and ecological perspective, there is a strong argument that maintaining a stock at a higher target, above MSY / B_{msy}, such as 60% B_{msy} or more would have widespread ecological benefits including the fish stock being more capable of fulfilling their ecological role[64], benefits to associated and dependent species and overall, build ecosystem resilience to climate change.[65] Fisheries authorities around the world are transitioning towards ecosystem-based fisheries management including the application of the precautionary approach, such as Canada[66]. Forest & Bird recommend FNZ transitions towards ecosystem-based management, apply a precautionary approach, and review B_{msy} targets for all QMS fish stocks with a goal of managing all stocks to between 50% - 60% B_{msy} by 2050.[67,68]

PERIOD APPROPRIATE TO THE STOCK

53. Section 13(2)(b) of the Act states that the Minister shall set a total allowable catch that:

> *"enables the level of any stock whose current level is below that which can produce the maximum sustainable yield to be altered*
>
> *(i) in a way and at a rate that will result in the stock being restored to or above a level that can produce the maximum sustainable yield, having regard to the interdependence of stocks; and*

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[62] FNZ, 2022 (paragraph 45)
[63] Refer to the Industry Rebuild Plan
[64] Pauly & Froese, 2021
[65] Sumaila & Tai, 2020
[66] DFO, 2018
[67] 2050 aligns with Mana o te Taiao - Objective 12
[68] If biologically possible, if not then as soon as biologically possible

(ii) ***within a period appropriate to the stock,*** *having regard to the biological characteristics of the stock and any environmental conditions affecting the stock*".[69] [emphasis added]

54. The High Court ruling found that the Minister made an error of law in 2019 as "*he did not make an assessment of the period of rebuild appropriate to the East Coast tarakihi, as required by s 13(2)(b)(ii) of the Act, before applying social, cultural and economic factors to the determination of the way and rate of rebuild*"[70]. This confirms that social, cultural, and economic factors are only relevant when considering the way and rate of rebuild, and not when determining what the period appropriate to the stock is. The rate of rebuild cannot extend (in years) beyond the period appropriate to the stock.

55. FNZ have not accurately reflected the requirement to rebuild ECT stock within a period appropriate to the stock:

> *'When considering a rebuilding strategy for a stock as depleted as East Coast tarakihi, the main objective should be to take decisive action to move the stock sufficiently far above both the hard and soft limits as soon as possible and, in particular, to minimise the risk of the stock declining further. Once the stock has a high probability of being above these limits, it could be justified from a stock and sustainability perspective to* ***then proceed more slowly towards the target***"[71]

56. The soft limit is not a target, it is a policy-based limit a stock should not fall below if well managed and overfishing is not occuring. FNZ implies that once a depleted stock has started to rebuild past the hard and soft limits defined in the HSS (10% and 20% SB_0 respectively), that the time it takes to rebuild the stock can "*proceed more slowly*". The Act and the High Court ruling was clear, the time period to rebuild an overfished stock, such as ECT referred to as "*period appropriate to the stock*" can not be extended (additional years added due to rebuilding slower) during the duration of the rebuild. This period is set at the beginning of the rebuilding plan and the period appropriate "*is determined having regard to the biological characteristics of the stock and any environmental conditions affecting the stock*"[72]. The court ruled "*s13(2) requires more of the Minister than simply moving in the right direction. That would, as Forest & Bird put it, allow for a constant shift of the goalposts despite no change in the relevant scientific information since 2017. Section 13(12) requires the setting of a "period appropriate to the stock*"[73]. FNZ has therefore incorrectly stated that the length of time could change depending on the status of the stock. This is not correct and misleading to stakeholders.

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[69] Fisheries Act, s13(2)

[70] *Royal Forest and Bird Protection Society of New Zealand Incorporated v Minister of Fisheries [2021]* NZHG 1427 [109]

[71] paragraph 65, FNZ Consultation document

[72] *Royal Forest and Bird Protection Society of New Zealand Incorporated v Minister of Fisheries [2021]* NZHG 1427 [192]

[73] *Royal Forest and Bird Protection Society of New Zealand Incorporated v Minister of Fisheries [2021]* NZHG 1427 [108]

57. The way and rate could theoretically change during the duration of a rebuild plan as long as the timeframe (period appropriate to the stock) is not exceeded. If paragraph 65 is used in the FAP to the Minister, it must be improved with the addition of a sentence acknowledging this period appropriate to the stock. For example:

> *"Once the stock has a high probability of being above these limits, it could be justified from a stock and sustainability perspective to then proceed more slowly towards the target"* [add in] "as long as the rebuild period <u>does not exceed</u> the period appropriate to the stock, which was initiated in 2018 (year 1)". [emphasis added]

58. FNZ are correct to summarise how the period appropriate to the stock is calculated based on the HSS:

> *"East Coast tarakihi is below the level associated with MSY (based on the default target of 40% SB_0) and below the soft limit (20% SB_0). For stocks that have fallen below the soft limit, the HSS recommends that a formal, time-constrained rebuilding plan is adopted, which should aim to restore the stock to, at least, the target level of biomass* ***within a timeframe of between T_{min} (minimum time to achieve rebuild to target in the absence of all fishing related mortality) and $2*T_{min}$ (twice the minimum time)***".[74] [emphasis added]

FORMAL TIME-CONSTRAINED REBUILDING PLAN

59. FNZ have not stated in the consultation document that a "formal time-constrained rebuilding plan" was initiated in 2018 by the then-Minister of Fisheries. This means year 1 of the rebuild was the 1st of October 2018 (2018/2019 fishing year). All periods appropriate to the stock must reflect this starting date. The relevance of this is clear when you compare the 2018 stock assessment against the 2021 stock assessment. The latest stock assessment is five years after the first stock assessment[75] and represents four years[76] of the rebuild plan. Figure 3 and Table 3 clearly show that five years on and four fishing years into the rebuild plan the ECT stock has shown little to no evidence of rebuilding based on the TAC reductions implemented since 2018.

60. FNZ have proposed three Options (refer to Table 2) with different rebuild timeframes (years): Option 1 uses $2*T_{min}$ (for ECT this is 10 years), Option 2 uses $3*T_{min}$ (for ECT this is 15 years) and Option 3 uses one T_{min} plus generation time (for ECT FNZ state the generational time is 14.7 years). These rebuild timeframes have been added to 2022 as year 1 and are reflected in the date the stock is estimated to reach the target. This table is incorrect. Before Forest & Bird addresses the rebuild timeframes used and whether they are appropriate to the stock, the first inaccuracy with this table is the <u>dates</u>. FNZ must update these. FNZ can not be selective on which aspects of the previous (2018 and 2019) Minister decisions to rebuild ECT are

[74] Paragraph 49, FNZ Consultation document

[75] The first quantitative stock assessment for ECT was in 2017 (used in the 2018 sustainability round)

[76] Fishing year starts 1st October. Year 1 = 2018/2019, year 2 = 2019/2020, year 3 = 2020/2021 & year 4 = 2021/2022

acknowledged and used. The rebuild was initiated in 2018, and the timeframes used must reflect this. It is an error of law to constantly push out year 1 of the rebuild plan - this means a period appropriate to the stock can also be constantly extended because it is always restarting.

61. FNZ state the period appropriate to the ECT stock is 10 years to 19.7 years[77], therefore any rebuild timeframe between 10 – 19.7 years would be an acceptable option (appropriate period), and any rebuild timeframe that exceeds 19.7 years would not be an acceptable option (not an appropriate period). FNZ reinforce this position when they state that "*FNZ does not consider 22 years is an appropriate rebuild time period for the East Coast tarakihi stock at this time*".[78] [emphasis added]

62. The fishing year for some QMS stocks including ECT starts on the 1st of October each calendar year. Since 2018 to present (July 2022) there have been four full fishing years and ECT stock is about to enter the fifth.[79] Table 4 shows the three FNZ Options proposed updated to reflect that the formal time-constrained rebuild plan was initiated in 2018 (in yellow).

Table 4: FNZ proposed options with additional showing updated rebuild period.

	FNZ Option 1	**Option 1 updated**	**FNZ Option 2**	**Option 3 updated**	**FNZ Option 3**	**Option 3 updated**
Target biomass	40% SB_0 by 2032		40% SB_0 by 2037		40% SB_0 by 2042	
Rebuild timeframe (years)	10 years or 2*Tmin	2018 = year 1 **15 years** or 3*Tmin	15 years or 3*Tmin	2018 = year 1 **20 year** or 4*Tmin	19.7 years or Tmin plus one generation time	2018 = year 1 **24.7 years** or 2*Tmin plus one generation time
Rebuild way and rate	40% catch reduction in TAR 2 and TAR 3 and eastern portions of TAR 1 and 7		15% catch reduction in TAR 2 and TAR 3 and eastern portions of TAR 1 and 7		5% catch reduction in TAR 2 and TAR 3 and eastern portions of TAR 1 and 7	
Probability of achieving target within rebuild timeframe	55%		53%		56%	

[77] Note Forest and Bird does not support this range and details why in subsequent paragraphs but has used this FNZ recommended period to emphasise a point about shifting goal posts.

[78] FNZ, 2022 (paragraph 123)

[79] Note fisheries management does not use calendar years. The 2018 rebuild was initiated on the 1st October 2018. This equates to the 2018/2019 fishing year being year 1. Since the rebuild was initiated there have been four full fishing years: 2018/2019 (year 1), 2019/2020 (year 2), 2020/2021 (year 3) and 2021/2022 (year 4). Pending the Ministers decision this year the TAC reduction option would come into effect on the 1st October 2022 (the 2022/2023 - year 5). The target biomass date is likely the 2032/2033 or 2037/2038 or 2042/2043 fishing years respectively.

63. If the ECT stock reaches the 40% SB_0 target by 2032 (Option 1), or by 2037 (Option 2) or by 2042 (Option 3) based on the proposed TAC reductions (40%, 15% and 5% respectively), then when the rebuild timeframe is calculated accurately (year 1 = 2018), this results in a 15 year rebuild period (or $3*T_{min}$) for Option 1, a 20 year rebuild period (or $4*_{Tmin}$) for Option 2 and a 24.7 year rebuild period (or $2*T_{min}$ plus one generation time) for Option 3 (as shown in Table 4). FNZ stated the period appropriate for ECT is between 10 years to 19.7 years. This means FNZ's Options 2 and 3 would not be appropriate as the rebuild periods for the ECT stock exceeds 19.7 years to reach the target with about a 50% probability.[80] FNZ's Option 1 is the only option that has an appropriate rebuild timeframe based on FNZ rebuild period of 10 – 19.7 years.[81]

CALCULATION OF PERIOD APPROPRIATE TO THE STOCK

64. There is a lack of adequate scientific or biological information provided in the consultation document justifying how the rebuild timeframes have been calculated based on the biological characteristics and other environmental conditions affecting tarakihi stock. For example how many multiples of T_{min} should be used to determine the upper range (T_{max} - maximum rebuild period), what impact does extending the length of the rebuild have on the biology of the stock. How did FNZ determine what was "*appropriate*", given they have exceeded the HSS and HSS OG best practice rebuild protocols. How is the use of generation time or multiples of T_{min} plus generation time appropriate to the stock, the biology, other environmental conditions and uncertainty.

65. FNZ acknowledges that ECT stock has "*high inter-annual variability in recruitment*" and is a "*low productivity stock*" but there is no analysis how variability in recruitment in a low productivity stock can affect rebuild timeframes and what would be appropriate for tarakihi given environmental uncertainty. As highlighted above, ECT has been in a rebuilding plan for four fishing years and the latest (2021) stock projections predict in the next few years the stock will decline. Section 10 requires decision makers to be cautious when information is uncertain, unrealistic or inadequate.[82] How has the precautionary approach been applied. There is no biological or environmental analysis presented around the rebuild timeframes based on any peer reviewed international or domestic research. There is no link between the basic tarakihi biology listed in section 3.2 and how this informed the T_{max} calculation.

66. There is a lack of information on other environmental conditions like how climate change may influence the rebuilding of tarakihi, how climate change impacts are considered under the different Options proposed, or even how environmental conditions over the next few years

[80] It is worth noting that the acceptable probability when a stock is to be considered rebuilt is 70% based on the HSS.
[81] FNZ 2022 (paragraph 58)
[82] Fisheries Act s(10).

are predicted to change[83] or how they were considered when determining T_{max}. Climate change is only mentioned once in the consultation document when FNZ describe the "*potential long-term benefits*" of restoring the stock as:

> "*Increased resilience of tarakihi to years of poor or below average recruitment and to the negative effects of climate change, potentially resulting in a more stable fishery*".[84]

67. Section 8 of the consultation document[85] does highlight the environmental principles of the Act[86], but not how they have been considered in the calculation of what the appropriate length of time is to rebuild ECT stock in the Options put forward by FNZ. For example, how will dependent or associated species, such as other fish, marine mammals, seabirds, and the benthic habitat be impacted or potentially impacted by rebuilding over different time periods. How does the resilience of the marine ecosystem change under different T_{max} periods.

68. FNZ have determined the rebuild period appropriate to ECT by calculating a minimum number of years and a maximum number of years (a period) based on aspects of different policies and guidelines. FNZ has used the HSS to determine the lower, minimum period ($2*T_{min}$)[87] and selective aspects of international best practice from the US, Australia, Canada, and the European International Commission for the Exploration of the Seas (ICES) rebuilding policies to determine how to calculate the upper maximum rebuild period (T_{max}).

69. FNZ summarised some international best practice examples in paragraph 52 and used this information to justify extending the maximum rebuild period and abandoned the use of the HSS guidelines to put forward the use of a generation time to determine the T_{max} for ECT.

70. Forest & Bird is concerned that paragraph 52 and Table 2[88] misrepresents aspects of these international examples and how they could apply in New Zealand if they were to be used as the rebuilding guidelines. The following paragraphs summarise Forest & Bird's key issues with each international example FNZ has presented. Based on Forest & Bird's assessment Table 5 (below) highlights how these international rebuild timeframes could apply to ECT stock.

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[83] For example research by NIWA or from the National Science Challenge (i.e. sustainable seas)

[84] FNZ, 2022 (paragraph 73)

[85] FNZ, 2022 (paragraphs 171 - 192)

[86] Fisheries Act s(9).

[87] As highlighted earlier this is a misrepresentation of the HSS, $2*T_{min}$ is intended to be the upper range of the rebuild period.

[88] FNZ, 2022 (Table 2 page 9)

INTERNATIONAL BEST PRACTICE

Canada:

71. Canada is implementing an ecosystem approach[89] to fisheries management and has specific policies[90] and guidelines for writing rebuilding plans that are similar to the HSS which require time-constrained rebuilding plans[91] to a target within a specific rebuilding period when a stock falls into the 'critical zone'[92].

72. Canadian fisheries policy clearly defines how the rebuild period is to be calculated (equivalent of s(2)(b)(ii) of the Act) as:

> *'The timeline to rebuild a stock to its rebuilding target must be between T_{min} and a maximum of two to three times T_{min}, where T_{min} is the time the stock would take to rebuild to that target in the absence of all fishing (F=0) under prevailing productivity conditions".*[93]

73. FNZ have used the Canadian example to justify using generation time to calculate the T_{max} for ECT stock (Option 3, Table 2 above). FNZ states that:

> *"Canada have used 1.5-2 generations as a rebuilding timeframe since 2009. Furthermore, a recent Canadian Department of Fisheries and Oceans workshop report suggested that the maximum rebuild time (T_{max}) should likely not be capped at 2*T_{min}, and that the use of 2-3 *T_{min} can be considered based on international practice and experience. The report went on to say that if 2-3 *T_{min} cannot be calculated then 1.5 to 2 generation time can be an appropriate rebuild period instead".*[94]

74. The same workshop FNZ refers to above also stated that T_{min} <u>should be used</u> over generational time if it can be calculated as it is better:

> *"There was discussion about the use of generation time to set timelines for rebuilding and reiteration that this does not take into account the state of depletion or current environmental conditions. There was consensus that when possible, T_{min} (time to reach the rebuilding target with zero fishing mortality) should be calculated to inform rebuilding times. It is recognized that this will not be possible for all stocks, in particular those that are data-poor, however where possible T_{min} should be calculated".*[95]

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[89] *"An **ecosystem approach** requires that fisheries management decisions consider the impact of the fishery not only on the target species, but also on non-target species, seafloor habitats, and the ecosystems of which these species are a part. This approach also requires that management decisions take into account changes in the ecosystem which may affect the species being fished. This includes the effects of weather and climate, and the interactions of target fish stocks with predators, competitors, and prey species"* DFO, 2009a

[90] DFO, 2009b

[91] DFO, 2022

[92] The critical zone is *"if the mature biomass, or its index, is less than the limit reference point. This means it's less than or equal to 40% biomass maximum sustainable yield, which is where serious harm is likely occurring to the stock"* DFO, 2022. Note 40% B_{msy} is not the same as 20% SB_0, but this is a similar framework to New Zealand and is useful to look at.

[93] DFO, 2022

[94] FNZ, 2022 (paragraph 52)

[95] DFO, 2021

75. Canadian policy is clear:

> *"Where T_{min} cannot be calculated, estimates of generation time should be provided to inform rebuilding timelines. The 2009 PA Policy suggests that a "reasonable timeframe" for a stock to grow above its LRP[96] should be between 1.5 to 2 times the generation time".*[97]

76. FNZ used a generation time calculation despite knowing T_{min} for ECT. Use of generation time in those circumstances goes against Canadian best practice protocol for calculating a rebuild period. Generation time is only to be used when T_{min} can not be calculated[98]. If Canadian policy was applied in a New Zealand context[99], given T_{min} can be calculated generational time is not appropriate, the minimum rebuild time is T_{min} and the maximum rebuild time is T_{max} which can be either two or three times T_{min} (2-3*Tmin). T_{min} for ECT is 5 so the appropriate period could be either 5 - 10 years or 5 to 15 years (as shown in Table 5).

United States:

77. The United States National Standard 1 Guidelines implements the Magnuson-Stevens Fishery Conservation and Management Act, which is the United States primary law that governs marine fisheries management in federal waters. The objectives of this Act include preventing overfishing, rebuilding overfished stocks, increasing long-term economic and social benefits, and ensuring a safe and sustainable supply of seafood.[100] Overfished stocks are mandated to be rebuilt to levels that support the maximum sustainable yield in as short a time as possible.

78. The Act states that:

> *"For a fishery that is overfished, any fishery management plan, amendment, or proposed regulations prepared pursuant to paragraph (3) or paragraph (5) for such fishery shall—*
> *(A) specify a time period for rebuilding the fishery that shall—*
> *(i) be as short as possible, taking into account the status and biology of any overfished stocks of fish, the needs of fishing communities, recommendations by international organizations in which the United States participates, and the interaction of the overfished stock of fish within the marine ecosystem; and*
> *(ii) not exceed 10 years, except in cases where the biology of the stock of fish, other environmental conditions, or management measures under an international agreement in which the United States participates dictate otherwise".*[101] [emphasis added].

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[96] Limit reference point

[97] DFO, 2022

[98] DFO, 2022

[99] Acknowledging Canada and New Zealand have different targets, but applying the protocols principles.

[100] NOAA, 2022

[101] Electronic Code of Federal Regulations. National Standard 1. Current as of July 4, 2022 Electronic Code of Federal Regulations (eCFR)

79. The United States guidelines detail how there are some exceptions when fish stocks are not rebuilt within the default ten years (as stated above in A(ii)). In these situations, sometimes the maximum time for the rebuild is determined using T_{min} plus one generation time[102]. Generation time is defined as "*the average length of time between when an individual is born and the birth of its offspring*".[103]

80. T_{min} is scientifically derived from the stock and T_{max} of 10 years was selected as the maximum rebuild period according to Patrick & Cope (2014) because scientists found that 10 years was twice the time needed for most United States stocks to rebuild in the absence of fishing based on biological characteristics, was a reasonable period to ensure and monitor a timely rebuild, and it also accounted for some socio-economic impacts.[104]

81. The rebuild time constraint, T_{max} of 10 years (where biologically possible) provides a backstop on the time allowed to rebuild a stock[105]. The United States policy is not to readjust the T_{max}. In order words each time the stock is reassessed to monitor the rebuild progress year 1 of the rebuild plan does not change from when the time-constrained rebuild plan was initiated.

82. The United States applies ecosystem-based fisheries management which is transitioning away from single species fisheries management to consider relationships the fish stock has among parts of different ecosystems and the environment.[106] Many fish stocks in the United States are managed at higher biomass targets than 40% SB_0, such as 50% SB_0 or above.

83. In summary, the United States rebuilds depleted fish stocks to biomass levels consistent with the production of MSY in a period of time that is "*as short as possible*",[107] but not to exceed 10 years (unless biologically it is impossible). Generational time would not be applied as T_{min} can be calculated. T_{min} for ECT stock is 5 years which is lower than 10 years so based on the United States guidelines the maximum rebuild time, T_{max} for ECT stock is automatically 10 years. Ten years equates to $2*T_{min}$ (as shown in Table 5).

ICES:

84. The European International Commission for the Exploration of the Sea (ICES) provides scientific advice to European countries. The ICES workshop on guidelines and methods for evaluation of rebuilding plans in 2020 reviewed international best practices. The ICES suggests

[102] Note there are other approaches besides Tmin + one generation that the United States use that FNZ have not mentioned.
[103] Electronic Code of Federal Regulations. National Standard 1. Current as of July 4, 2022 Electronic Code of Federal Regulations (eCFR)
[104] Patrick & Cope, 2014
[105] Kronlund et al., 2021.
[106] NOAA, 2018
[107] NOAA, 2022

a maximum rebuilding period, T_{max} of $X*T_{min}$, where $X>1$.[108] The workshop could not reach consensus on a default value for T_{max}, so it was suggested that $T_{max} = 2*T_{min}$ be explored[109]. The workshop also highlights the benefits of using Tmin over generational time[110].

85. If the ICES workshop suggestion was applied in New Zealand, given T_{min} can be calculated generational time is not necessary, T_{max} is $2*T_{min}$. For ECT this means T_{max} is 10 years (as shown in Table 5).

Australia:

86. Australian guidelines are similar to New Zealand. Australia has a Harvest Strategy policy and guidelines which state when a fish stock is depleted it must be rebuilt within a timeframe of T_{min} to $2*T_{min}$ and similarly to the other international fisheries authorities promotes using T_{min} where it can be calculated or "*in circumstances where T_{min} cannot be estimated with reasonable confidence, it may be appropriate to define the rebuilding time frame in terms of the estimated generation time of the stock (defined as the average age of a reproductively mature animal in an unexploited population). In this case, rebuilding times may be defined as the lesser of the mean generation time plus 10 years, or three times the mean generation time.*[111]

87. A difference between New Zealand and Australia is that the Australian Government is actively implementing ecosystem-based management and managing stocks at higher biomass targets. For example in Queensland the Government has committed to rebuilding all fish stocks to a higher biomass target of 60% by 2027, or sooner for some fish stocks.[112]

88. If applying the Australian guidelines in New Zealand for ECT the rebuild timeframe is the same as ICES and the United States, $T_{min} – 2*T_{min}$ which is 5 – 10 years (as shown in Table 5).

INTERNATIONAL BEST PRACTICE REBUILD PROTOCOLS:

89. The US, Canada, Australia, and the ICES often refer to each other's rebuild protocols for depleted fish stocks. Internationally, New Zealand is often recognised for its fish stock rebuilding policy and guidelines (HSS and HS OGG) and the use of T_{min} and T_{max}[113].

90. Consistently across international fisheries authorities, T_{min} is used as the minimum period to rebuild a depleted stock. FNZ incorrectly applied the HSS protocols to determine the

[108] ICES, 2020
[109] ICES, 2020.
[110] ICES, 2020.
[111] Department of Agriculture and Water Resources, 2018.
[112] Queensland Government, 2017
[113] Kronlund et al.,. 2021

minimum rebuild period as $2*T_{min}$. The HSS clearly states the rebuild period lower timeframe is T_{min}. The HSS is consistent with international best practice. FNZ must update all Options and timeframes to use T_{min} as the minimum.

91. To assess FNZ's Table 2 in the consultation document[114] (Figure 4), Forest & Bird has created Table 5. Table 5 compares the international best practice rebuild protocols against the ECT stock and the rebuild timeframes the protocols calculate.

92. FNZ have incorrectly used generation times to calculate T_{max} (Figure 4), which as discussed above is not appropriate given T_{min} can be calculated for ECT.

93. The Canadian rebuild timeframe of T_{min} to $3*T_{min}$ which for ECT is 5 – 15 years would have a T_{max} of 2023 (2023/2033 fishing year). This meets the proposed FNZ Option 1 rebuild timeframe (2023). No other FNZ Options (rebuild timeframes) align with any of the other international fisheries authorities' best practice rebuilding protocols to calculate T_{max} (Table 5).

	Rebuild time period required to reach target (years)	
Management system	**Biomass Limit (approx. 20% *SB0*)**	**Management Target (B_{MSY} proxy or higher)**
Australia	5 – 10	
Canada	7.5 – 10	
European International Commission for the Exploration of the Sea		10 – 19.7
Marine Stewardship Council		20
New Zealand (Harvest Strategy Standard)		5 – 10
United States of America		10 – 19.7

Figure 4: Summary of applying East Coast tarakihi stock to rebuild protocols of authorities with strong fisheries management systems, within their applicable targets. Source: FNZ, 2022 (Table 2).

[114] FNZ, 2022 (paragraph 53 and Table 2).

Table 5: International rebuild protocols applied to east coast tarakihi (rebuilding to the target of 40%SB_0) and compared to the FNZ proposed options.

Country	Rebuild timeframe formula based on protocol[115]*	Rebuild timeframe appropriate for ECT to reach target	Rebuild timeframe in years for ECT (year 1 = 2018)	FNZ proposed Options[116] meets the rebuild timeframe?
Canada	Period = T_{min} to T_{max} Tmax = 2 -3*T_{min}	Tmin = 5 years Period = 5 – 10 years or 5 – 15 years	Period = 2018/2019 to 2027/2028 or 2018/2019 to 2032/2033	Options all exceed period or Option 1: 40% SB_0 by 2032
United States	Period = T_{min} to T_{max} Tmax = 2*T_{min} Note: if T_{min} <10 years, T_{max} is 10 years or 2*T_{min} if less.	Tmin = 5 Period = 5 – 10 years	Period = 2018/2019 to 2027/2028	Options all exceed period
ICES	Period = T_{min} to T_{max} T_{max} = 2*T_{min} T_{max} = X*T_{min}. No consensus agreement to what X should be (>1), but ICES workshop noted that 2*T_{min} was used overseas.	Tmin = 5 Period = 5 – 10 years	Period = 2018/2019 to 2027/2028	Options all exceed period
Australia	Period = T_{min} to T_{max} T_{max} = 2*T_{min}	Tmin = 5 Period = 5 – 10 years	Period = 2018/2019 to 2027/2028	Options all exceed period

GENERATION TIME

94. FNZ state that "*For East Coast tarakihi, FNZ considers the generation time relevant when determining an appropriate period as it provides a measure of the potential growth rate of a population*".[117] Forest & Bird do not support the use of generation time to determine the rebuild timeframe or period appropriate to the stock, as it does not represent the best available information.[118]

95. International rebuild protocol examples described above clearly state where T_{min} can be calculated and / or is less than 10 years, decision-makers should use T_{min} over generation time. The HSS does not have a protocol to use generation time to determine the maximum rebuild

[115] No generational times used given T_{min} is known and recommended over generation times

[116] Refer to Table 4 above to see FNZ Options

[117] FNZ, 2022 (paragraph 55)

[118] Required under Fisheries Act s(10)(a).

period[119]. There is no information principle, scientific reason, biological reason or policy guidelines to justify why FNZ has used generation time in the calculation to determine the T_{max} for ECT. If T_{min} for ECT was not known or exceeded 10 years, then there would be justification to calculate T_{max} using an estimate of generation time. Forest & Bird recommend FNZ do not use generation time in any calculations to determine the period appropriate to rebuild ECT as required under s 12(2)(b)(ii) of the Act. In addition the definition of generation time can vary widely.[120]

96. FNZ have failed to provide adequate information in the consultation document to assess the accuracy of the proposed generation time for ECT stock. To determine generation time, you need good data, and a good knowledge of the life history characteristic of the current stock. FNZ have provided no detail around the calculation except to state that: "*The generation time for East Coast tarakihi, based on the weighted average age of a mature female in an unexploited population, has been calculated as 14.7 years*".[121] There is no information around the uncertainties potentially associated with this calculation of ECT generation time and if this generation time adequately reflects the productivity of the stock.

97. FNZ have used the generation time of 14.7 years to calculate multiple rebuild timeframe estimates:

> "*Use of T_{min} plus one generation time gives a maximum rebuilding period of 19.7 years. Use of 1.5 generation times gives a maximum rebuilding period of 22 years. Use of 2 generation times gives a maximum rebuilding period of 29.4 years.*"[122]. FNZ have concluded, with insufficient justification that "*the use of T_{min} plus one generation time is appropriate as the upper limit for the rebuild period.*"[123] (19.7 years).

98. Forest & Bird do not support that "*any time period in the range of 10-19.7 years would be appropriate for rebuilding the East Coast tarakihi stock*".[124] Generation times do *"not incorporate the productivity and current depletion of a stock which both reflect rebuilding times*"[125] or take into account "*current environmental conditions*".[126] The Act clearly states the period appropriate to the stock must have *"regard to the biological characteristics of the stock and any environmental conditions affecting the stock*"[127] and be based on the best available information.[128]

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[119] HSS OG uses generation time as a parameter for categorising productivity levels for exploited fish species (Table 1), Ministry of Fisheries, 2011.

[120] Other international definitions to determine generation time include for example the average time to first maturity. For tarakihi this is six years.

[121] FNZ, 2022 (paragraph 56)

[122] FNZ 2022 (paragraph 56)

[123] FNZ, 2022 (paragraph 57)

[124] FNZ, 2022 (paragraph 58)

[125] Kronlund et al., 2021

[126] DFO, 2021

[127] Fisheries Act, s13(2)(b)(ii)

[128] as required under s(10)(a) of the Fisheries Act

ACCEPTABLE PROBABILITY

99. The probability of a stock reaching the rebuild target (Bmsy) affects the rebuild period. The higher the probability the more certainty the stock will be at or around the target but the longer the timeframe to achieve Bmsy (it will take more time to reach Bmsy with a 70% probability than a 50% probability if the TAC reduction is the same).

100. The HSS states a rebuild is said to have been achieved when there is at least a 70% probability that the target has been achieved, and at least a 50% probability that the stock is above the soft limit.[129] The HSS state that the use of a probability level greater than 50% ensures that rebuilding plans are not abandoned too soon; and in addition, for a stock that has been depleted below the soft limit, there is a need to rebuild the distorted age structure (over-reliance on juvenile fish, with relatively few large, highly fecund fish) as well as the biomass, and this may not be achieved using a probability as low as 50%. The HSS OG also state "*the minimum standard for a rebuilding plan is that 70% of the projected trajectories will result in the achievement of a target based on MSY-compatible reference points or better within the timeframe of T_{min} to 2*T_{min}*".[130]

101. Internationally acceptable probabilities vary[131]. The United States guidelines are to achieve a 50% probability of achieving B_{msy} within T_{target} years, and a 90% probability of achieving B_{msy} in T_{max} years[132]. Australia requires a 75% probability, which is considered a reasonable level of certainty to cease overfishing and rebuild the fish stock above its limit reference point within the established timeframe.[133] Canada also uses a similar approach to Australia and requires a high probability (in the short term) that the stock is starting to rebuild above the limit reference point of between 75% and 95% probabilities within a defined timeframe.[134]

102. Given the "*Minister must have regard to what the HSS says about probability*"[135] Forest & Bird recommend FNZ include multiple Options showing both 50% and 70% probabilities of the ECT stock meeting the rebuild timeframes and target under different TAC reductions (refer to Table 6 below). Both probabilities are relevant considerations and should have been provided for stakeholders to consider when providing feedback to FNZ.

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[129] Ministry for Primary Industries, 2008
[130] Ministry of Fisheries, 2011
[131] Kronlund et al., 2021
[132] NOAA, 2018
[133] Kronlund et al. 2021
[134] DFO, 2009
[135] *Royal Forest and Bird Protection Society of New Zealand Incorporated v Minister of Fisheries [2021]* NZHG 1427 [166]

FNZ OPTIONS AND FOREST & BIRD RECOMMENDATIONS

103. FNZ have proposed three Options as highlighted in Table 2 above. Forest & Bird do not support any of these Options as they have failed to use the 2018 formal time-constrained rebuild plan initiation date in calculations of the rebuild timeframes. Two of the Options (2 and 3) have rebuild timeframes outside of the period appropriate to ECT stock (5 - 15 years).[136]

104. The only domestic accepted rebuilding guidelines and best practice protocols on the period appropriate to rebuild ECT stock as required by s 13(2)(b)(ii) of the Act are the HSS and HSS OG. International best practice rebuilding protocols are similar to New Zealand and internationally these fisheries authorities refer to New Zealand's protocols from the HSS and HSS OG. Both the HSS and HSS OG alongside international protocols represent the best available information to date on guidelines for rebuilding depleted stocks, specifically how to calculate the minimum and maximum time period appropriate to the stock.

105. The Act requires the Minister to set a TAC so that depleted stocks are rebuilt to B_{msy} within a period appropriate to the stock, having regard to its biological characteristics and any environmental conditions affecting the stock.[137] This sustainability backstop ensures rebuilding occurs over a sustainable maximum period, while still providing flexibility to consider social, cultural, and economic factors in determining the way in which and rate at which the stock is moved towards B_{msy}[138] within that period. Social, cultural, and economic factors do not justify setting a longer period than is appropriate to the stock.

106. T_{min} is based on biological factors (characteristics of tarakihi) and a scientific calculation to determine the minimum time required for the stock to rebuild to B_{msy} target in the absence of fishing. Theoretically, T_{min} represents the fastest rebuild period. The multiplier, either two or three based on international best practice protocols, is subjective when determining T_{max}. The use of $2xT_{min}$ as T_{max} is by far the most common international protocol used when T_{min} can be calculated and when T_{min} is less than 10 years. The use of $3xT_{min}$ as T_{max} is less common, but this approach could be considered when setting T_{max} if FNZ considers that the Canadian protocols are equally best practice with for example the United States. It is worth noting that many international fisheries authorities manage fish stocks at higher biomass targets than New Zealand. FNZ have not described the benefits of managing stocks at higher targets in the consultation document.

107. The period appropriate to a stock ranges from T_{min} to T_{max}. Internationally fisheries authorities chose any time period within this T_{min} to T_{max} based on additional biological factors,

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[136] Period appropriate: T_{min} - $3*T_{min}$ = 5 - 15 years.

[137] Section 13(2)(b)(ii).

[138] Section 13(2)(b)(i).

environmental conditions and socio-economic factors[139], this international approach is consistent with the Act (way and rate[140]).

108. There is biological and international scientific evidence to support that an appropriate period to rebuild east coast tarakihi to the 40% SB_0 target is between T_{min} up to $3xT_{min}$. This equates to a period of 5 – 15 years. Most international best practice rebuild protocols along with the HSS (a mandatory relevant consideration) use $2xT_{min}$ for T_{max}. Forest & Bird's recommendation would be that FNZ presents the Minister with three rebuild Options each with a 50% and 70% probability of reaching the target. The rebuild timeframes proposed for each of the three options are within the period appropriate to the stock of 5 – 15 years. These three Options are displayed in Table 6 and are:

Option 1: $T_{max} = 2xT_{min}$ = 10 years
Option 2: $T_{max} = 2.5xT_{min}$ = 12 years
Option 3: $T_{max} = 3xT_{min}$ = 15 years

109. The 2022 decision cannot be made in isolation. The High Court ruling was clear, the time period to rebuild an overfished stock does not change during the duration of the rebuild. This period is set at the beginning of the rebuilding plan. The court ruled "*s13(2) requires more of the Minister than simply moving in the right direction. That would, as Forest & Bird put it, allow for a constant shift of the goalposts despite no change in the relevant scientific information since 2017. Section 13(12) requires the setting of a "period appropriate to the stock*".[141] In 2018 and 2019 the Minister failed to make an assessment of the period appropriate to East Coast tarakihi in setting the TACs. In 2022 the Minister will need to determine the period appropriate for East Coast tarakihi. FNZ must advise the Minister and show in all Options put forward that the rebuild period started in 2018 (year 1). The proposed Options by Forest and Bird in Table 6 reflect this sustainability backstop and align with international best practice.

[139] NOAA, 2022
[140] Fisheries Act S13(2)(b)(i)
[141] *Royal Forest and Bird Protection Society of New Zealand Incorporated v Minister of Fisheries [2021]* NZHG 1427 [108]

Table 6: Summary of FNZ proposed Options showing Forest & Bird's alternative recommendations in gray.

Status of FNZ Options:	Update rebuild timeframe	Remove options, timeframe (years) exceeds appropriate rebuild period		Forest & Bird recommended Options					
	FNZ Option 1[142]	**FNZ Option 2**	**FNZ Option 3**	**Option 1a**	**Option 1b**	**Option 2a**	**Option 2b**	**Option 3a**	**Option 3b**
Target biomass[143]	40% SB_0 by 2032	40% SB_0 by 2037	40% SB_0 by 2042	40% SB_0 by 2027/28	40% SB_0 by 2027/28	40% SB_0 by 2029/30	40% SB_0 by 2029/30	40% SB_0 by 2032/33	40% SB_0 by 2032/33
Rebuild timeframe (years) 2018=year1[144]	10 years or $2*T_{min}$[145]	15 years or $3*T_{min}$[146]	19.7 years or T_{min} plus one generation time[147]	10 years or $2*T_{min}$	10 years or $2*T_{min}$	12 years or $2.5*T_{min}$	12 years or $2.5*T_{min}$	15 years or $3*T_{min}$	15 years or $3*T_{min}$
Rebuild way and rate	40% catch reduction in TAR 2 and TAR 3 and eastern portions of TAR 1 and 7, implemented in 2022/23	15% catch reduction in TAR 2 and TAR 3 and eastern portions of TAR 1 and 7, implemented in 2022/23	5% catch reduction in TAR 2 and TAR 3 and eastern portions of TAR 1 and 7, implemented in 2022/23	To be determined by FNZ based on s13(2)(b)(i) No model projections available to estimate what catch reductions would be required				40% catch reduction in TAR 2 and TAR 3 and eastern portions of TAR 1 and 7, implemented	To be determined by FNZ
Probability[148] **of achieving target within rebuild timeframe**	55%	53%	56%	50%	70%	50%	70%	55%	70%

[142] This FNZ Option 1 becomes Forest & Bird Option 3a when the rebuild timeframe is updated to reflect the 2018 rebuild plan start date.

[143] Rationale for Forest & Bird proposals: This target represents the best available information as required under s 10(a).

[144] Rationale for Forest & Bird proposals: section 13(2)(b)(ii) period appropriate to the stock based on s 10(a) and court ruling that HSS is a mandatory relevant consideration. This also aligns with international best practice where T_{min} is known.

[145] Actually 15 years or $3*T_{min}$ (start date of the rebuild was 2018). This would be Option 3a under Forest and Bird's proposed alternative options

[146] Actually 20 year or $4*T_{min}$ (start date of the rebuild was 2018).

[147] Actually 24.7 years or $2*T_{min}$ plus one generation time (start date of the rebuild was 2018).

[148] Rationale for Forest & Bird proposals: High court ruled that HSS and HSS OG are mandatory relevant considerations and that the Minister must have regard to what the HSS says about probability. This requires FNZ to put forward both a 50% and 70% probability.

110. All proposed options by Forest & Bird (Table 6), except for FNZ Option 1 require FNZ to determine the appropriate TAC reduction required based on model projections to achieve the target within the proposed timeframes. This calculation was not possible for Forest & Bird to complete as no model projections under different scenarios were included in the consultation document or provided in supporting material for stakeholders.

111. FNZ will also need to highlight the different benefits and costs of each of the three timeframes proposed by Forest & Bird so the Minister can make an informed decision. For example, Option 1 (both a or b) rebuilds the ECT stock the fastest and will have more ecological benefits to both the stock, other associated and dependent species and overall, more ecosystem resilience to climate change. Forest & Bird's Option 1 most closely aligns with the 2025 and 2030 objectives 12 in Te Mana o Te Taiao – Aotearoa New Zealand Biodiversity Strategy.[149] Given New Zealand is facing a biodiversity crisis[150] and the uncertainty of climate change, our proposed Option 1 (Table 6) would be Forest & Bird's preference. In comparison Option 3 (both a and b, Table 6) will rebuild the ECT stock the slowest to the maximum rebuild period appropriate to the stock of 15 years. This option would still have widespread ecological benefits, but they would likely be slower to be achieved. Option 3 (Table 6) would have the smallest economic impact on the commercial fishing industry, while Option 1 would have the largest short term economic impact.

112. Another reason Forest & Bird supports our proposed Option 1 (Table 6) is that this year (2022/2023 fishing year) is the five-year mark since the ECT stock rebuild plan was initiated. T_{min} for tarakihi is 5 years. The latest (2021) stock assessment (Figure 3) shows virtually no improvement in stock status over the last five years despite the two TAC reductions in 2018 and 2019[151]. This supports Forest & Bird's earlier positions in 2018 and 2019 that larger TACC reductions were required. The next stock assessment will be in 2026[152], eight years after the rebuild was initiated. Accuracy of model projections decreases the further out (years) the model predicts. This next stock assessment should be able to estimate how well the ECT stock rebuild is going and if it is likely to reach the target in 10 years ($2*T_{min}$, our Option 1 Table 6). Based on the projection stated by FNZ[153] that a 40% reduction to the east coast proportion of tarakihi TAC is required to rebuild the stock to the target in 15 years with a 50% probability. To rebuild in 10 years will require a larger TAC reduction.

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[149] Objective 12 (2025 Goals: 12.1.1 and 2030 Goals: 12.2.1 and 12.1.2): By 2030 "marine fisheries are being managed within sustainable limits using an ecosystem-based approach".

[150] New Zealand Government, 2022

[151] In 2018 the east coast proportion of tarakihi TACC was reduced by 20% and in 2019 the east coast proportion of tarakihi TACC was further reduced by 10%.

[152] Fisheries New Zealand, 2022

[153] FNZ, 2022 (Table 7)

CATCH SPLITTING

113. The single biological stock assumed for the ECT spans multiple QMAs (Figure 1) and does not align with the QMAs for TAR 1 and TAR 7. Since 2018 the fishing industry has agreed to a voluntary percentage split of the allocated quota into the East and West based on historic catches. This catch splitting is voluntary and unenforceable.

114. The east coast portion of QMAs TAR 1 and TAR 7 are going to be under a rebuild plan relying on this voluntary catch splitting for up to 10 more years until the 2032/2033 fishing year based on the rebuild period appropriate to the stock of 5 – 15 years. Forest & Bird have previously highlighted that industry volunteering to split their catch is not a long-term solution and recommended FNZ put forward a regulatory plan to adjust the boundaries of the QMA to reflect the biological stock. This would allow the Minister to set appropriate TACs for each QMA during the duration of the rebuild plan.

INDUSTRY REBUILD PLAN

115. The Industry Rebuild Plan (IRP) was written and released by Fisheries Inshore New Zealand, Te Ohu Kaimoana and Southern Inshore Fisheries in 2019 to be part of the 2019 sustainability round. The IRP is the industry's commitment to rebuild the ECT stock within 20 years, in place of determining a period appropriate to the stock, and in place of setting an appropriate TAC to achieve rebuild within that period.

116. The High Court ruled that the IRP was not relevant to setting the period appropriate to the stock under s 13(2)(b)(ii)[154], and can only be taken into account when considering the way and rate of the rebuild under s 13(2)(b)(i) of the Act.[155]

117. Forest & Bird maintains that the IRP is an irrelevant consideration for the Minister's decisions on the rebuild period appropriate for ECT[156].

NURSERY HABITAT PROTECTION

118. Forest & Bird have previously advocated that the known juvenile nursery grounds must be closed to bottom trawling to support the rebuild of this depleted ECT stock. FNZ describe three known spawning grounds in the consultation document as Cape Runaway to East Cape

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[154] *Royal Forest and Bird Protection Society of New Zealand Incorporated v Minister of Fisheries [2021]* NZHG 1427 [193]

[155] *Royal Forest and Bird Protection Society of New Zealand Incorporated v Minister of Fisheries [2021]* NZHG 1427 [189]

[156] Refer to Reply Affidavit of Katrina Goddard 10th June 2020

(North Island), Cape Campbell to Pegasus Bay (South Island) and the west coast of the South Island near Jackson Bay".[157]

119. A considerable proportion of the bottom trawl catch from TAR 3 is made up of juvenile (sub-legal immature) fish. Given this, and the fact that the population is overfished, these important juvenile areas should be protected.[158] Forest & Bird agrees not all threats to inshore nursery habitats will be from fisheries,[159] land-based impacts must be mitigated too. Forest & Bird is a leading advocate in resource management processes for policies and rules that aim to reduce land-based pollution of freshwater that ends up in the sea, and for improved management of coastal marine space from non-fisheries impacts.

120. Given the often irreversible impacts of bottom trawling on benthic biodiversity such as important fish nursery biogenic habitat, Forest & Bird is advocating for phasing out this destructive benthic impacting fishing method. Protecting nursery grounds would help support the rebuild as it would increase the likelihood these immature juvenile fish can survive long enough to reproduce and contribute to the rebuild.

121. The fishing industry is working on gear selectivity trials to reduce the number of juvenile fish they kill. When this technology has successfully proven itself, it may be possible to review the spatial nursery ground restrictions.

122. Forest & Bird recommend that FNZ consults on gear restriction spatial closures to protect all three known nursery grounds while the ECT stock rebuilds to the target of 40% SB_0, focusing areas within TAR 3 as a priority in 2022.

OBSERVER COVERAGE

123. Forest and Bird supports 100% observer coverage through the use of on-board cameras across all fisheries and supports the current roll-out across the inshore fleet.

124. Full (100%) observer coverage, through a combination of at sea observers and the use of cameras on vessels is essential not only to ensure that reductions in TACC (ACE) doesn't create incentives for fishers to discard or highgrade tarakihi while fishing for other fish quota, but is valuable for better information on protected, endangered and threatened species bycatch and general compliance.

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[157] FNZ, 2022 (paragraph 187).
[158] Fisheries Act s9(c).
[159] FNZ, 2022 (paragraph 189)

FNZ QUESTIONS FOR SUBMITTERS?

1. **Do you think the periods appropriate to the stock outlined in the options are suitable? Why?**
   No. Refer to submission paragraphs 53 to 98 for rationale. The use of generation time to calculate T_{max} is inappropriate and does not align with the HSS, HSS OG or international best practice protocols given T_{min} for ECT is known (5 years) and is less than 10 years. Forest & Bird does not support the use of the HSS T_{max} protocol ($2*T_{min}$) to be used as the minimum period. T_{min} is the minimum timeframe.
   The rebuild plan was initiated in 2018, all timeframes must use 2018 as year 1.
   The period appropriate to to east coast tarakihi stock is T_{min} to $3*T_{min}$ which equates to a period of 5 - 15 years.

2. **Do you think the different approaches to way and rate in the three options are appropriate? Why?**
   No. Refer to submission paragraphs 53 to 98 for rationale. Forest & Bird does not support the way and rate used in Table 2 as these exceed the rebuild period appropriate to the stock.
   Yes, having multiple rebuild Options which have different ways and rates available to the Minister is appropriate provided none of the proposed Options exceed the period appropriate to the stock (see above). Based on international best practice and mandatory relevant best practice domestic policy, the Options available to the Minister should include rebuilding timeframes that have a three T_{max} Options of: $2*T_{min}$, or $2.5*T_{min}$, or $3*T_{min}$. These three options would provide different ways and rates with different costs and benefits.

3. **Which option do you support for revising the TAC and allowances? Why?**
   None. Refer to submission paragraphs 103 - 112 for rationale. Refer to Table 6, Forest & Bird has proposed alternative Options.
   Forest & Bird's position is to support a range of appropriate Options but we would support the Option that rebuilds the stock the fastest with an appropriate level of certainty (70% probability). Forest & Bird supports the new Option 1 in Table 6.

4. **If you do not support any of the options listed, what alternative(s) should be considered? Why?**
   Refer to submission paragraphs 103 - 112 for rationale and Table 6. Forest & Bird supports the new Option 1 in Table 6.

5. **Are the allowances for customary Māori, recreational and other sources of mortality appropriate? Why?**
   Yes, the status quo for customary and recreational allowances is appropriate. Forest & Bird recommend using the best available information to inform other sources of mortality.

6. **Do you think the proposals recognise and provide for the exercise of kaitiakitanga by tangata whenua? Are there any changes that could better reflect kaitiakitanga?**
   No comment.

7. **Do you think these options adequately provide for social, economic, and cultural wellbeing?**
   No. The Options proposed will not rebuild ECT within a period appropriate to the stock with an appropriate level of certainty and do not adequately provide for social, economic and cultural wellbeing. A rebuilt stock, as required by the Fisheries Act will provide for utilisation while ensuring sustainability.

8. **Do you have any concerns about potential impacts of the proposed options on the aquatic environment?**
   Yes. Options do not align with s 9 of the Act or Government policy e.g. Te Mana o te Taiao Aotearoa New Zealand Biodiversity Strategy.

BIBLIOGRAPHY

Department of Agriculture and Water Resources. (2018). Guidelines for the Implementation of the Commonwealth Fisheries Harvest Strategy Policy, second edition. Australian Government https://www.agriculture.gov.au/sites/default/files/sitecollectiondocuments/fisheries/domestic/harvest-strategy-policy-guidelines.pdf

DFO. (2009a). *Principles of Ecosystem-Based Fisheries Management.* Government of Canada.https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/ecosys-back-fiche-eng.htm

DFO. (2009b). *A fishery decision-making framework incorporating the precautionary approach.* Government of Canada. https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/precaution-eng.htm#fn12-rf

DFO, 2018. https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/precaution-back-fiche-eng.htm

DFO. 2021. Proceedings of the national peer review of science guidelines to support development of rebuilding plans for Canadian fish stocks; January 14-16, 2020. DFO Can. Sci. Advis. Sec. Proceed. Ser. 2021/022.

DFO. (2022). Guidelines for writing rebuilding plans per the Fish Stock Provisions and A Fisheries Decision-making Framework Incorporating the Precautionary Approach. Government of Canada. https://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/precautionary-precaution-eng.htm#toc_3.4a

Fisheries New Zealand. (2022). Fisheries Assessment Plenary, May 2022: stock assessments and stock status. Compiled by the Fisheries Science Team, Fisheries New Zealand, Wellington, New Zealand. 1886 p https://www.mpi.govt.nz/dmsdocument/51739/direct

Fisheries New Zealand (2022). Fisheries Assessment Plenary, May 2022: stock assessments and stock status. Compiled by the Fisheries Science Team, Fisheries New Zealand, Wellington, New Zealand. 1886 p https://www.mpi.govt.nz/dmsdocument/51739/direct

FNZ, 2021. Overview of legislative requirements and other considerations in relation to sustainability measures. Fisheries New Zealand Discussion Paper No: 2021/17. Fisheries New Zealand review of sustainability measures: Overview of legislative requirements and other considerations in relation to sustainability measures (mpi.govt.nz)

FNZ. (2022). Review of Sustainability Measures for East Coast Tarakihi (TAR 2, TAR 3 and the East Coast portions of TAR 1 and TAR 7) for 2022/23. Fisheries NZ Discussion Paper No: 2021/19. *Fisheries New Zealand* https://www.mpi.govt.nz/consultations/review-of-east-coast-tarakihi-sustainability-measures-for-1-october-2022/

ICES. 2020. Workshop on guidelines and methods for the evaluation of rebuilding plans (WKREBUILD). ICES Scientific Reports. 2:55. 79 https://www.ices.dk/sites/pub/Publication%20Reports/Expert%20Group%20Report/Fisheries%20Resources%20Steering%20Group/2020/WKREBUILD_2020.pdf

Industry Rebuild Plan https://www.mpi.govt.nz/dmsdocument/37200-Eastern-Tarakihi-Management-Strategy-and-Rebuild-Plan-2019

Kronlund, A.R., Marentette, J.R., Olmstead, M., Shaw, J., and Beauchamp, B. 2021. Considerations for the design of rebuilding strategies for Canadian fish stocks. DFO Can. Sci. Advis. Sec. Res. Doc. 2021/051. viii + 134 p https://waves-vagues.dfo-mpo.gc.ca/Library/40998034.pdf

Langley, A.D. (2022). A stock assessment of eastern tarakihi for 2021. New Zealand Fisheries Assessment Report 2022/07. *Fisheries New Zealand* https://www.mpi.govt.nz/dmsdocument/50305-FAR-202207-A-stock-assessment-of-eastern-tarakihi-for-2021

Ministry of Fisheries. 2011. Operational Guidelines for New Zealand's Harvest Strategy Standard. Microsoft Word - Operational Guidelines for the HSS rev 1 Jun 2011.docx.docx (mpi.govt.nz)

Minister of Fisheries. 2018. Decision letter on the review of sustainability measures for 1 October 2018 30846-2018-October-sustainability-round-decision-letter-signed (mpi.govt.nz)

Minister of Fisheries. 2019. Decision letter on the review of sustainability measures for 1 October 2019. 37203-Ministers-decision-letter-on-the-review-of-sustainability-measures-for-1-October-2019 (mpi.govt.nz)

Ministry for Primary Industries. 2008. Harvest Strategy Standard Harvest Strategy Standard for NZ Fisheries (mpi.govt.nz)

New Zealand Government. (2020). Te Mana o te Taiao Aotearoa New Zealand Biodiversity Strategy 2020. https://www.doc.govt.nz/globalassets/documents/conservation/biodiversity/anzbs-2020.pdf

New Zealand Government. (2022). Te Mana o Te Taiao – Aotearoa New Zealand Biodiversity Strategy Implementation Plan https://www.doc.govt.nz/globalassets/documents/conservation/biodiversity/anzbs-implementation-plan-2022.pdf

NOAA, 2018. *Ecosystem-Based Fisheries Management Policy.* United States Government https://www.fisheries.noaa.gov/resource/document/ecosystem-based-fisheries-management-policy

NOAA Fisheries. (2022). *Magnuson-Stevens Fishery Conservation and Management Act* . United States Government from Laws & Policies | NOAA Fisheries

Patrick, W. S. & J. Cope. (2014). Examining the 10-Year Rebuilding Dilemma for U.S. Fish Stocks. *PLoS ONE* 9(11): e112232. https://journals.plos.org/plosone/article/file?id=10.1371/journal.pone.0112232&type=printable

Pauly, D. & R. Froese. (2021). MSY needs no epitaph – but it was abused. *Journal of Marine Science*, 78(6), 2204 – 2210. doi:10.1093/icesjms/fsaa224

Queensland Government. (2017). Queensland Sustainable Fisheries Strategy 2017 – 2027. https://www.publications.qld.gov.au/dataset/queensland-sustainable-fisheries-strategy/resource/319c7e02-f07b-4b2e-8fd5-a435d2c2f3c9

Royal Forest and Bird Protection Society of New Zealand Incorporated v Minister of Fisheries [2021] NZHG 1427

Sumaila, U.R. & Tai, T.C. (2020). End overfishing and increase the resilience of the ocean to climate change. *Front. Mar. Sci,* 7: 523 https://www.frontiersin.org/articles/10.3389/fmars.2020.00523/full

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Review of East Coast tarakihi sustainability measures for October 2022

The Environment and Conservation Organisations of NZ (ECO) is the national alliance of 48 groups with a concern for the environment. We welcome this opportunity to make a submission on the ECO has been involved in issues of marine and fisheries policy since its formation 49 years ago. This submission has been prepared by members of the ECO Executive and the marine and fisheries working group. It is in line with ECO Policy that was developed in consultation with ECO member bodies and endorsed by our AGM.

1. Introduction

ECO has supported measures to protect threatened species and to sustainably manage fisheries for the present and the future generations.

ECOs key reasons for making these recommendations include:

- The need to take a precautionary approach to fisheries management and setting Tarakihi catch limits;
- The low numbers of observers or cameras on inshore vessels undermines the management and monitoring regime in place.
- The Ministry has yet to implement key provisions of the Fisheries Act:
    - Benthic impacts of bottom trawl fishing when there is no strategy to avoid, remedy or mitigate the impacts of bottom fishing;
    - Habitat of particular significance for fisheries management have not been identified.
    - Maintenance of biological diversity has not been given the effect to.

ECO supports the reduction of catch limits, allowances and deemed values for the East Coast tarakihi stocks (TAR 2, TAR 3 and the east portions of TAR 1 and TAR 7) for the 1 October 2022 fishing year to rebuild the tarakihi stock.

Of the three options put forward we prefer Option 1 but there are two problems:

- The baseline should have been calculated from 2018 given the High Court decision on the Forest and Bird judicial review:
- Uncertainty over the information in the consultation document on the forward projections on which it is based given the more recent information MPI has sent ECO.

Therefore ECO supports a rebuild of 10 years (Tmin*2) from 2018.

2. Summary of issues

ECO notes the current assessment indicates the abundance of East Coast tarakihi was most recently estimated at 19.3% *SB010*, which is below the soft limit of 20% *SB011* and the default management target of 40% *SB0*. ECO consider the management target should be reviewed so that an ecosystem approach is developed requiring high stock sizes.

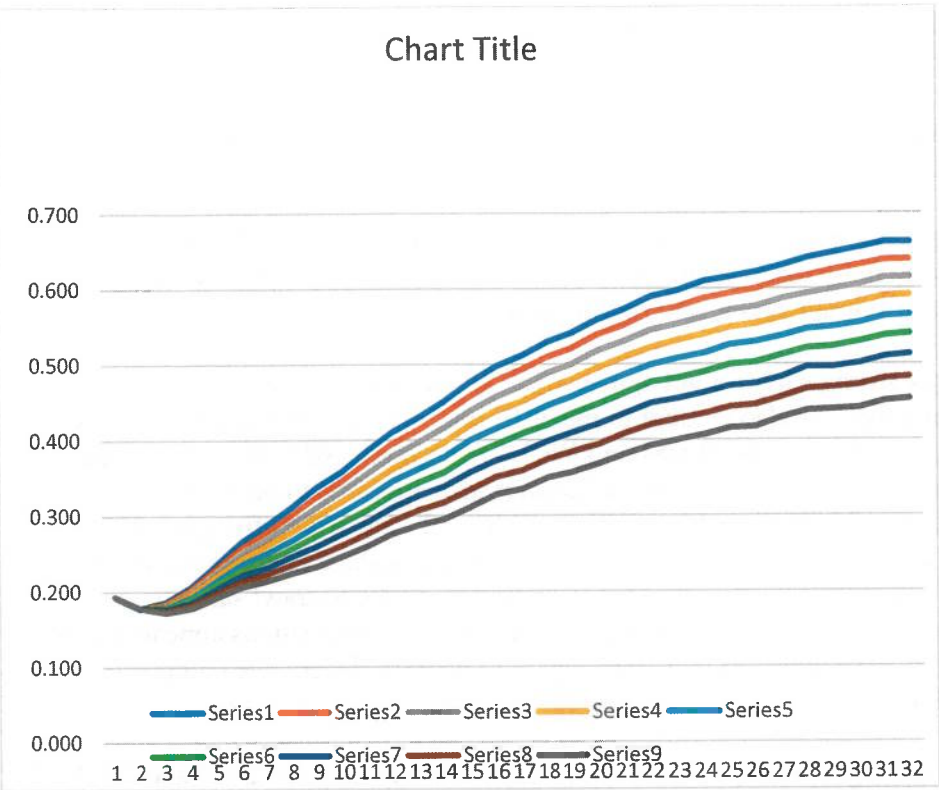
ECO notes the High Court decision (June 2021) on the Forest and Bird judicial review of the Minister's 2019 decision setting catch limits for East Coast tarakihi. ECO agrees the catch limit reductions were not sufficient to allow the stock to rebuild in a "period appropriate to the stock".

While the decision has been appealed the High Court decision sets the current consideration for the Minister.

3. Omissions and questions

In putting together this submission we found that there was no information on the assumptions made in the rebuild considerations. There was lots of details on the approach but not on the assumptions. There is no information in the May 2022 Plenary Report and it is absent in Langley 2022 (*New Zealand Fisheries Assessment Report 2022/07)* ECO asked for further information which added further questions on whether submitters had been supplied with the best available information in the consultation document.

The additional information from MPI included projections in an Excel spreadsheet and the associated figure (see below). The projections were clearly different from those in fig 2 of the Consultation document. The new projection showed a decline in the tarakihi stock size in the first couple of future years which is not in Fig 2 of the Consultation document.



So we further asked MPI on the different base year used eg 2021 vs 2018? ECO considered the excel projections seemed to better reflect the recruitment indicated in fig 9a of the plenary report which indicates lower recruitment in the last 5 to 8 years.

MPI responded to say *"Figure 2 on page 6 of the consultation document is a projection based on 2018/19 fishing year catch data. This is there to illustrate the larger confidence intervals of longer-term outlooks of the forecast (the difficulty of making longer term projections into the future) and figure 2 is referred to in order to make this point in paragraphs 42, 43, 64 and 65."*

"For the 2021 projections these are based on the 2021 stock assessment, that uses this year (2021/2022 fishing year) as the base year (year 0).

So the projections forward involve a mixture of known vs future unknown recruitment year classes. So we asked again as to whether average recruitment was used from the past or was some year period used (eg the last 10 years)? This is an important question as it influences how reliable the projection would be under different recruitment scenarios.

So if you have a list of assumptions used in the projections (eg table s 9 to 11 of the plenary report has this information for assessment of "current state of the stock".

They said for the "stock assessment, annual recruitment was derived from a Beverton-Holt spawner-recruit relationship (SRR). Interannual variability in recruitment was estimated as deviates from the SRR for the period that was informed by the age composition data and recent abundance indices (i.e., 1980–2020). During the projection period, recruitment was derived from the SRR with deviates sampled from the normal distribution. Recent (10 year

and 20 year) model estimates of recruitment were equivalent to the SRR recruitment average level (i.e., average recruitment deviates ~ 0)."

So average recruitment was used over the whole 40 year period and there was no consideration of using most recent recruitment (eg last 5 years).

All these assumptions are important as the next 5 years projections always has less uncertainty attached to them than looking further out. In other stock projections (eg hoki) projections using both average and recent recruitment has been used.

Year classes can look strong early on but appear weak when they finally recruit:
"A strong 2015 year class was also evident in the 2019 (age 4 y) and 2020 (age 5 y) TAR8-BT fishery and was recruiting to the WCSI and WCNI fisheries in 2020 (Figure 2c). The strong 2007 year class observed in the eastern fisheries also appeared to be relatively strong in the 2019 (age 12 y) and 2020 (age 13 y) WCSI, TAR8-BT, and WCNI fisheries. The adjacent 2008 year class also appeared to be relatively strong in the western fisheries but was weak in all the age compositions from the eastern fisheries and ECSI trawl surveys. Similarly, the strong 2012 year class evident in the eastern age compositions appeared to be relatively weak in the 2019 (age 7 y) and 2020 (age 8 y) western fishery age compositions (Figure 2c)" Landley 2022 p 7.

We note that while fishing mortality has declined in the most recent years 2019 and 2020, "current fishing mortality rates are estimated to remain high (above the fishing related mortality reference level that corresponds to the default target biomass of 40% *SB0*)." This further indicates the need for TAC cuts.

4. Current Estimated Stock State:

As noted in the discussion document:

1. The abundance of East Coast tarakihi was most recently estimated at 19.3% *SB010*, which is below the soft limit of 20% *SB0*11 and the management target of 40% *SB0*.

2. The stock assessments have indicated that the stock has been below the soft limit since the early 2000s and had an overall downward trend for approximately 30 years, reaching its lowest point around 2014. Over the same time period, fishing mortality had been rapidly increasing and in 2018, overfishing was assessed as being 'Virtually Certain' to be occurring.

3. The results of the current stock assessment of eastern tarakihi are very similar to the previous (2017) assessment, in terms of the estimates of current (*SB2021/SB0* = 0.193 and *SB2016/SB0* = 0.170, respectively). The current assessment estimates a small increase in stock abundance over the last three years (2019–2021), although the estimate of current (2021) biomass is uncertain.

4. While there were reductions in the TACC in 2018/19 and 2019/20 "the increase in stock biomass has been minor due to the lower recruitment estimated for 2017 and 2018.[1]"

[1] Langley, A.D. (2022). A stock assessment of eastern tarakihi for 2021. *New Zealand Fisheries Assessment Report 2022/07.* 68 p.

The projections that assume a rebuild in 35 years based on current catches assume average recruitment.

5. Harvest Strategy

ECO notes that the harvest strategy standard (HSS) is nearly 10 years past its review date. The Standard does not consider broader ecosystem and environmental factors. It does not consider the environmental principles. If those aspect of the Fisheries Act 1996 were considered it would result in higher stock targets than the 40% suggested in the discussion document.

Separate harvest control rules and limit and target reference points have yet to be adopted for Tarakihi. The current harvest strategy and Fisheries NZ approach is overly focused on the 20% "soft limit".

ECO considers it is well overdue for the Harvest Strategy Standard (2008) to be reviewed and made more ecosystem focused. In most cases the proposals use the default provisions in the harvest strategy. The Standard states it *"should be subject to review in a period not exceeding five years"* so this should have occurred in 2013 at the latest. So the standard is now nearly 10 years past it 5 year review.

The strategy still refers to old default soft and hard limits that do not meeting international best practice. For example, the hard limits are half the level used in Australia where targeted fishing for a species must stop.

The biomass targets are well below the practice used in CCAMLR for predator species (50%Bo) and prey species of (75%Bo). The NZ Harvest Strategy itself notes that *"it is becoming increasingly difficult to justify stock targets less than 30-40% Bo (or, equivalently, removing more than 60-70% of the unfished biomass)."*[2]

For example ECO notes that the Worm et al (2009)[3] paper recommends that stocks be maintained above Bmsy: *"In fisheries science, there is a growing consensus that the exploitation rate that achieves maximum sustainable yield (u) should be reinterpreted as an upper limit rather than a management target. This requires overall reductions in exploitation rates, which can be achieved through a range of management tools."*

Penney et al (2013)[4] in their review for the Australian harvest strategy suggested a range of best practice approaches would involve higher stock levels:

- Target for important forage fish at 75%Bo "to ensure stocks remain large enough to fulfil

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[2] Footnote 6 – Ministry of Fisheries (2008) Harvest Strategy Standard for NZ Fisheries. October 2008. 25p.

[3] Worm B, Hilborn R, Baum JK, Branch TA, Collie JS, et al. (2009) Rebuilding global fisheries. Science 325: 578–585

[4] Penney, AJ, Ward, P & Vieira, S 2013, Technical reviews for the Commonwealth Fisheries Harvest Strategy Policy 2007: technical overview, ABARES, Report to client prepared for the Fisheries Research and Development Corporation), Canberra, May.

their ecotrophic functions";

- The proxy for B_{MSY} for shark species may need to be closer to 50%Bo than the current proxy of 40%Bo;
- B_{MEY} proxy is more likely to lie in the range of 50-60%Bo.

Larger stock sizes are also recommended in a recent review by Pauly and Froest (2020)[5] noted that: *"In principle, most fisheries scientists and relevant legislations and regulations agree that MSY should be a limit, and not a target, for fisheries management, notably because if it were a target, and successfully implemented, then there would be a 50% probability that the biomass of the managed stock would be below the level that can produce MSY. This generally implies that target biomass should be set above the MSY level, as is done explicitly in recently formulated fisheries regulations (e.g. CFP, 2013[6]).*"

A key question for all the stocks is how to treat vulnerable biomass and what the target should be a precautionary and ecosystem approach supports larger stock sizes.

Larger stock sizes have been recommended for resilience to climate change, increased "blue" carbon sequestration, and reducing the carbon footprint of the fishing industry.

6. Rebuilding Period

On rebuilding period ECO notes the discussion in the consultation document and that the: "Projections suggest the East Coast tarakihi stock could reach 40% *SB0* within 5 years in the absence of fishing (*Tmin*). Applying the default approach of the HSS would suggest a rebuilding period of between 5 to 10 years."

Further: "Tarakihi are long-lived but grow relatively rapidly in their first 8 years. Due to the rapid growth of tarakihi, there is a potential, from a biological and environmental perspective, to rebuild the stock in a shorter timeframe than some other species.

New Zealand has signed up to the Sustainable Development Goals (SDG) and SDG 14 is to "Conserve and sustainably use the oceans, seas and marine resources".

Sub-goal 14.4 is
By 2020, effectively regulate harvesting, and end overfishing, illegal, unreported and unregulated (IUU) fishing and destructive fishing practices and implement science-based management plans, to restore fish stocks in the shortest time feasible at least to levels that can produce maximum sustainable yield as determined by their biological characteristics.

A rebuild period of 2 times Tmin or about 10 years appears appropriate. ECO notes that option 1 has only a 55% chance of achieving that target.

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[5] Pauly, D. and Froese, R. (2020) MSY needs no epitaph—but it was abused. – ICES Journal of Marine Science, doi:10.1093/icesjms/fsaa224

[6] CFP. 2013. Regulation (EU) No 1380/2013 of the European Parliament and of the Council of 11 December 2013 on the Common Fisheries Policy. Official Journal of the European Union, 354: 22–61.

7. Shelving of quota:

ECO does not support shelving quota (see out criticisms of this approach below)

In principle, we do not support the shelving of quota, which is sometimes suggested by fishing industry interests. Shelving goes against the fundamental direction of the quota management system and the setting of catch limits.

This questionable arrangement leaves fisher balance sheets unchanged even though there are in fact no fish to match the "shelved" portion of TACC. This means in effect "ghost" ITQ on the company's balance sheets. Such an arrangement has uncanny similarities with the dead serfs accumulated by the would-be landowner, Chichikov, at the centre of Gogol's 1842 novel Dead Souls (Gogol, 1842).

In 2000 there was a decision by the then Minister of Fisheries' to undertake a review of the shelving of quota. Could you please advise when the review of shelving of quota is to take place?

8. Other sources of Mortality

ECO looks forward to a review of other mortality in inshore fisheries. The 10% figure is a default which needs to consider seen and unseen mortality especially given the impact of bottom trawling.

9. Cameras and observers

ECO notes the low level of observer coverage in this inshore fishery: "observer coverage for all of the East Coast tarakihi stocks has been below 10% (between 0.1% and 7.2%) over the last 5 fishing years. FNZ deems this not sufficient to provide any further consideration of the other mortality allowance for East Coast tarakihi at this time."

ECO looks forward to a wider commitment to install cameras on all vessels so that there is a robust system of verification in the current reporting regime.

In all fisheries it is essential to achieve and retain high levels of observer coverage. Coverage should be designed to be representative of the fishery (across seasons and areas), enable statistically robust estimates of by-catch with a 20%CV on the estimates, and at least 20% of effort monitored.

Observer information is crucial for stock assessments and the analysis of bycatch and discards, including bycatch of threatened or protected species. Observers provide information to MPI, research providers, and to DOC and is reported in some circumstances to working groups and plenaries. DOC produces an annual summary of information provided by observers: MPI should do the same.

ECO supports video monitoring be introduced for all vessels especially those without observers. ECO welcomes action to install cameras in the inshore fishery[7] but that coverage is not intended to be completed until June 2024. ECO urges action to include cameras on all commercial fishing vessels.

10.Environmental Principles

The environmental principles, which must be taken into account when considering sustainability measures for East Coast Tarakihi are:

> *(a) Associated or dependent species should be maintained above a level that ensures their long-term viability (in particular marine mammals, seabirds, fish and invertebrate bycatch).*
> *(b) Biological diversity of the aquatic environment should be maintained (in particular the benthic impacts from fishing); and*
> *(c) Habitats of particular significance for fisheries management should be protected.*

This is broader that habitats of significance. This includes consideration of the maintenance of biological diversity.

11.Marine mammals and Seabirds

ECO notes that there needs to be broader consideration of the impacts of trawling on Maui and Hector's dolphin. We note that there are dolphins regularly seen on the East Coast of the North island which are not considered in the current threat management plan.

Further the Management of seabird interactions with New Zealand's commercial fisheries is guided by the National Plan of Action– Seabirds 2020 (NPOA-Seabirds). Th

ECO supports moves to better implement the current National Plan of Action on Seabirds and measures to reduce and eliminate seabird bycatch in New Zealand fisheries and by New Zealand and other vessels on the high seas. ECO looks forward to consultation on the revised NPOA in the coming year.

Measures taken in the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR) waters to eliminate seabird bycatch and keep the focus on measures and implementation are an important benchmark for other fisheries.

The Vision of the NPOA on Seabirds is "New Zealanders work towards zero fishing-related seabird mortalities."

12.Bottom trawling

As stated in the discussion document "Tarakihi are principally caught by bottom trawl, which can directly impact on the biological diversity of the benthic environment."

[7] On-board cameras for commercial fishing vessels. Ministry for Primary Industries

ECO notes there has been no consideration of the impact of bottom trawling on the benthic environment in the inshore.

13.Habitats of Particular Significance to Fisheries Management

There is still no comprehensive identification of *"habitat of particular significance for fisheries management [that] should be protected"* (section 9 (c)) by MPI. This is a major flaw in implementing the requirements of the 1996 Fisheries Act, over 20 years after it came into force.

ECO welcomes MPI starting to consider the issue but it must be central to the decisions made under the Fisheries Act.

ECO welcomes a growing recognition of the need to identify these habitats. The current consultation document re-interprets the legislation and ignore the reference to "fisheries management" which is broader than a single stock and quota species consideration.

MPI has reinterpreted the provision to only apply to "supporting the productivity of fisheries resources". This is a narrow re-interpretation of the Act's provisions. It would, for example, exclude habitat areas with high seabird by-catch or benthic (seabed) diversity. MPI needs to consider these habitats in this context of broader than just tarakihi (eg spawning, connectivity with spawning areas, juvenile nursery areas, biogenic habitat etc) and considering the wider ecosystem which is relevant to fisheries management.

The proposals in Table 8 do not consider whether these areas have been identified and whether they are protected. This includes the impact on bottom trawling on these areas.

Voluntary closure are not an adequate consideration as they are voluntary and if not adhered to there is no method of enforcement to protect these areas. ECO notes the number of vessels prosecuted in recent year for fishing in closed areas, including marine reserves.

14.Other legislation

The boundaries of the Hauraki Gulf Marine Park also intersect with TAR 1, however, there is some commercial fishing for tarakihi within the park area. We agree that rebuilding the stock will be consistent with the Hauraki Gulf legislation but the impact of bottom trawling is being considered further.

The discussion document has little information of the provisions in regional coastal plans that are relevant to this fishery. Further review is needed of the provisions in coastal plans.

15.International Obligations

Decision makers need to consider relevant international obligations. Section 5 of the Fisheries Act requires decision makers to act in a manner consistent with *"New Zealand's international obligations relating to fishing"*.

Relevant International obligations clearly include those in the Law of the Sea (UNCLOS) as well as the Convention on Biodiversity, and UN General Assembly Commitments.

International agreements and measures have further articulated the precautionary approach. Amongst these obligations is the United Nations Food and Agriculture Organisation (FAO) Code of Conduct on Responsible Fisheries (1995) which states that:

> *"6.5 States and sub-regional and regional fisheries management organizations should apply a precautionary approach widely to conservation, management and exploitation of living aquatic resources in order to protect them and preserve the aquatic environment, taking account of the best scientific evidence available. The absence of adequate scientific information should not be used as a reason for postponing or failing to take measures to conserve target species, associated or dependent species and non-target species and their environment."*

Article 7.5 of the Code of Conduct further set out what constitutes precautionary management in fisheries.

> **7.5 Precautionary approach**
> 7.5.1 States should apply the precautionary approach widely to conservation, management and exploitation of living aquatic resources in order to protect them and preserve the aquatic environment. The absence of adequate scientific information should not be used as a reason for postponing or failing to take conservation and management measures.

The United Nations Implementing Agreement on High Seas Fisheries and Straddling Stocks includes a standard on *"coastal States and States fishing on the high seas [to] apply the precautionary approach in accordance with article 6."* Article 6 includes requirements for:

> *"1. States shall apply the precautionary approach widely to conservation, management and exploitation of straddling fishstocks and highly migratory fishstocks in order to protect the living marine resources and preserve the marine environment.*
> *2. States shall be more cautious when information is uncertain, unreliable or inadequate. The absence of adequate scientific information shall not be used as a reason for postponing or failing to take conservation and management measures."*

While tarakihi is not a straddling stock, article 6 set out international best practice for applying the precautionary approach to fishing.

The general approach is where information is uncertain or unknown about the state of a stock or biological information, the decision should favour lower catch limits or more environmentally stringent regulations.

States have a general and unqualified duty to protect and preserve the marine environment and rare or fragile ecosystems and habitats (Law of the Sea Articles 192 and 194(5), Article 14 of the Noumea Convention).

> *Article 192: General Obligation: States have the obligation to protect and preserve the marine environment.*
> And

194(5) The measures taken in accordance with this Part shall include those necessary to protect and preserve rare or fragile ecosystems as well as the habitat of depleted, threatened or endangered species and other forms of marine life.

These are relevant considerations.

16.Effects of Climate change and ocean acidification

The effects of climate change on fisheries and the emissions of greenhouse gases from the fishing industry needs to be included in the considerations of the Ministry.

A recent FAO review concluded that: *"Though precise consequences cannot yet be forecast, climate change is likely to affect fisheries and aquaculture, their dependent communities and related economic activities along three main pathways:*

1. *indirect wider socio-economic effects (e.g. fresh water use conflicts affect all food production systems, adaptation and mitigation strategies in other sectors impact aquatic systems in general or fisheries and aquaculture directly);*
2. *biological and ecological responses to physical changes (e.g. productivity, species abundance, ecosystem stability, stock locations, pathogen levels and impacts); and*
3. *direct physical effects (e.g. sea level change, flooding, storm impacts)."*

When setting catches or implementing other measures the Minister should consider the effect of climate change and ocean acidification on long-term sustainability.

The effect of ocean acidification is also relevant. As noted in Cummings et al (2020) "Increasing ocean acidification could negatively impact the mollusc and echinoderm prey of tarakihi."[8]

Larger stock sizes have been recommended for resilience to climate change, increased "blue" carbon sequestration, and reducing the carbon footprint of the fishing industry. Catch rates will be higher and effort lower with high stock sizes and reduce the carbon emissions in catching fish.

17.Economic and associated Considerations

ECO is concerned that the discussion on economic consideration (eg para 205) only looks at the impact on fishers and not on the wider ecosystem. One approach is considering the total economic value of a fish stock, including customary and recreational values.

Economists use the "Total Economic Value" concept to capture both market and non-market values (Pearce and Turner 1990). The value of fish and seafood that is sold on the market is

[8] Cummings, V.J.; Lundquist, C.J.; Dunn, M.R; Francis, M.; Horn, P.; Law, C.; Pinkerton, M.H.; Sutton, P.; Tracey, D.; Hansen, L.; Mielbrecht, E. (2021). Assessment of potential effects of climate-related changes in coastal and offshore waters on New Zealand's seafood sector. *New Zealand Aquatic Environment and Biodiversity Report No. 261.* 153 p.

only one small part of the value that people attach to fish. Non-market economic values include:

- the values of ecosystem functions and non-extractive uses and values (e.g. for observation or scientific inquiry) of fish;
- the values of retaining the marine environment and fish stocks and ecosystems intact for their own sake (existence value)
- the value put on handing the resource and environment to the future in good shape (bequest value) and
- the value of retaining options for all uses in the future (option value).

"Total Economic Value" does not include, but may reflect aspects of cultural values. In public policy, ethical concerns, such as the sense of the obligation to not cause extinctions and to retain ecosystems intact may set limits to extraction or after other uses or abuses of the environment. Efficiency then becomes an optimisation problem – often subject to constraints such as not causing ethically unacceptable harms.

This approach includes a consideration of the impacts on recreational and customary fishing values.

Full internalization of costs. Principles of economic efficiency (and equity) also require that full costs are faced by those who cause environmental harm, and that there is full internalisation of management and scarcity (i.e. resource rental) costs.

Overfishing and reducing a stock below a long-term goal or management target should face the costs of that environmental harm.

One approach would be to consider how much biomass has been lost and value it based on market and non-market values. This would give MPI an estimate of economic loss to the stock of overfishing.

If MPI approached the consideration of economic losses and benefits this would include an assessment of overfishing which should be included into the overall assessment of economic impacts of any decision.

The recent IPBES report (2022)[9] on values includes a commentary on the need to include non-market values in considerations.

18.Conclusion

ECO supports the reduction of catch limits, allowances and deemed values for the East Coast tarakihi stocks (TAR 2, TAR 3 and the east portions of TAR 1 and TAR 7) for the 1 October 2022 fishing year to rebuild the tarakihi stock.

Of the three options put forward we prefer Option 1 but there are two problems:

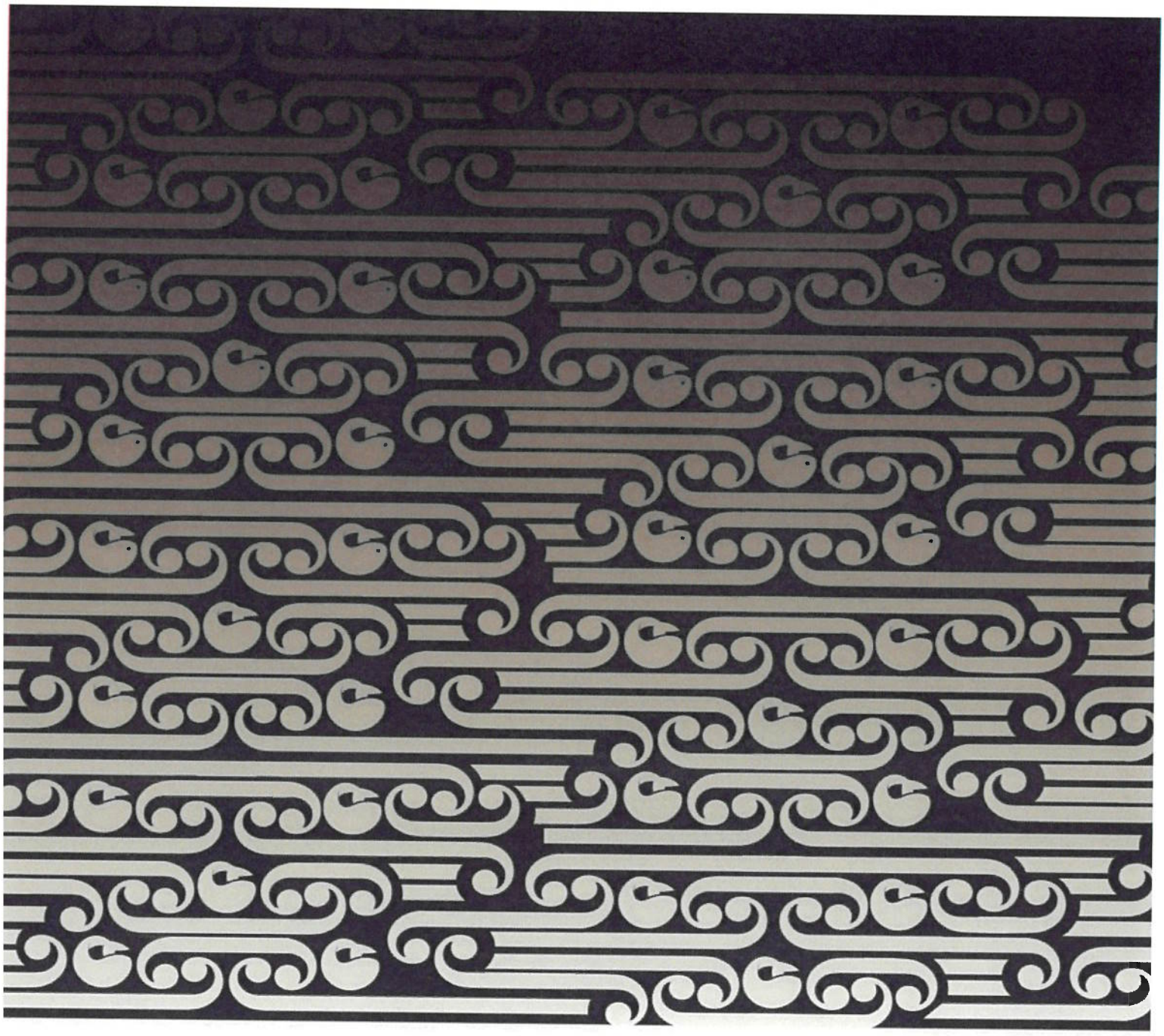
[9] IPBES (2022) Summary for policymakers of the methodological assessment regarding the diverse conceptualization of multiple values of nature and its benefits, including biodiversity and ecosystem functions and services (assessment of the diverse values and valuation of nature). 37p.

- The baseline should have been calculated from 2018 given the High Court decision on the Forest and Bird judicial review:
- Uncertainty over the information in the consultation document on the forward projections on which it is based given the more recent information MPI has sent ECO.

Therefore ECO supports a rebuild of 10 years (Tmin*2) from 2018.

Yours sincerely,

Barry Weeber
ECO Co-Chairperson



Te Ohu Kaimoana's Response to the Review of Sustainability Measures for East Coast Tarakihi 2022/23

Te Ohu Kaimoana

This is our response to this year's sustainability review for East Coast Tarakihi

1. E te Minita, tēnei te mihi ki a koe i tēnei ahuatanga o te wā. This document provides Te Ohu Kaimoana's advice for your review of the sustainability measures East Coast Tarakihi for October 2022/23. We invite Fisheries New Zealand kaimahi to discuss the contents of this response with us, kanohi ki te kanohi.

2. Our role in this review process arises from our role promoting and protecting the rights and interests of Iwi/Māori under Te Tiriti o Waitangi and[1]the Fisheries Deed of Settlement in a manner consistent with Te Hā o Tangaroa kia ora ai tāua. Te Hā o Tangaroa kia ora ai tāua translates to the 'breath of Tangaroa sustains us'. It is an expression of the unique and lasting connection Māori have with the environment. It contains the principles we use to analyse and develop modern fisheries policy.

3. We do not intend for our response to conflict with or override any response provided independently by iwi, through their Mandated Iwi Organisations (MIOs) or Asset Holding Companies (AHCs).

Our response is based on Te Ao Māori

4. The health of Tangaroa and the relationships our people have with the taiao is our priority. So, when considering the review of sustainability measures for fish stocks, we use a framework shaped by tikanga and mātauranga Māori. This framework guides our analysis to ensure our response empowers iwi, hapū and whānau while protecting and advancing the Māori fishing interests and rights.

5. Our framework includes the following elements:
    a. Te hā o Tangaroa kia ora ai tāua;
    b. Te Tiriti o Waitangi and the Deed of Settlement sourced principles; and
    c. Mātauranga Māori.
    d. Our history and previous advice and input relating to the sustainable management of this fishstock.

6. We address each element in further detail below.

[1] Māori Fisheries Deed of Settlement 1992. The Deed is, in part, given effect to by the Treaty of Waitangi (Fisheries Claims) Settlement Act 1992 and the Māori Fisheries Act 2004.

Te hā o Tangaroa kia ora ai tāua guides our advice

7. Te hā o Tangaroa kia ora ai tāua is an expression of the of the special relationship that iwi, hapū and whānau have with aquatic environment. This statement means "the breath of Tangaroa sustains us" and refers to the importance of humanity's interdependent relationship with Tangaroa to ensure our health and well-being.

8. Māori rights in fisheries can be expressed as a share of the productive potential of all aquatic life in New Zealand waters. They are not just a right to harvest but also to use the resource in a way that provides for social, cultural, and economic well-being.

9. Te Hā o Tangaroa kia ora ai tāua does not mean that Māori have a right to use fisheries resources to the detriment of other children of Tangaroa: rights are an extension of responsibility. It speaks to striking an appropriate balance between people and those we share the environment with.

Principles sourced from the Deed of Settlement and Te Tiriti o Waitangi

The Deed of Settlement

10. An inherent part of the Deed of Settlement is protecting the reciprocal relationship with Tangaroa – it is an essential and relevant part of modern fisheries management for Aotearoa. By entering into the Deed of Settlement, the Crown recognised that fisheries are vital to Māori. In addition, the Crown's treaty duty is to develop policies to recognise Māori use and management practices and enable Māori to exercise rangatiratanga over traditional fisheries (both commercial and non-commercial). We also acknowledge that the Fisheries Act has design features that enable Māori to exercise rangatiratanga and kaitiakitanga.

11. So, for Te Ohu Kaimoana, our key priority for the review of sustainability measures for fish stocks is that the settings continue to support an ongoing relationship with Tangaroa and ensure the Deed of Settlement endures.

Te Tiriti Principles

12. Te Tiriti o Waitangi guaranteed Māori tino rangatiratanga over their taonga, including fisheries. Tino rangatiratanga is the authority upon which Māori draw on in exercising independence over their interests and affairs. It is practiced through living according to tikanga and mātauranga Māori and striving wherever possible to ensure that the land and resources (including fisheries) guaranteed to Māori under Te Tiriti o Waitangi are protected for the use and enjoyment of future generations. This view endures today and is embodied within our framework Te hā o Tangaroa kia ora ai tāua.

13. The following principles of Te Tiriti and Te Tiriti jurisprudence offer a framework to guide Te Ohu Kaimoana, as it should also be used to guide government officials and other stakeholders so that equally we can ensure our decisions align with the partnership that was promised when Te Tiriti was signed.

Whai wāhi (participation)

14. The Treaty principle of whai wāhi is also referred to as the principle of participation. This is closely linked with tino rangatiratanga, as a key element of autonomy is having a participatory role in decision-making.

15. In applying the principle of participation (whai wāhi), Te Ohu Kaimoana expects a commitment from the government to ensure that Māori are actively involved in all aspects of the fisheries management system, including the review of sustainability measures. Meaningful consultation and collaboration with Māori is imperative.

Tiakitanga (protection)

16. To Tiaki is to care for our tupuna so that Tangaroa may continue to care and provide for us. Caring for Tangaroa, and being a kaitiaki, underpins the right and obligation for Māori to hauhake (cultivate). Ultimately the right to enjoy the benefits (the kai) from our living relationship with Tangaroa depends upon our ability to Tiaki Tangaroa in a meaningful way. The way kaitiakitanga is practised dynamic and location-specific, depending on the relationships between iwi, hapū, and whānau within that location.

Waka hourua (partnership)

17. The principle of Waka hourua speaks to the promise of partnership made between the Crown and Māori. Since the Deed of Settlement, this has evolved into a partnership between Te Ohu Kaimoana and the Crown.

18. This means that both the Crown and Te Ohu Kaimoana will act reasonably, honourably and in good faith towards each other within the spirit of Treaty partnership and Te Ohu Kaimoana's statutory role to:
    - Assist the Crown to meet its Treaty obligations; and
    - To protect and promote the Fisheries Settlements.

Pito mata (development)

19. This is also referred to as the principle of potential. When we consider the review of sustainability measures, we are analysing how the new settings will impact, including advance, the future growth of Iwi and MIO in te Taiao and sustainable fisheries management.

20. For Te Ohu Kaimoana, we must see the government continue to develop a robust understanding of the vital relationship shared between Tangaroa and Māori. Te hā o Tangaroa underpins our purpose and leads our vision, and we expect this ethos to thrive in future policy considerations regarding te Taiao.

Mātauranga Māori and Tikanga

Mātauranga Māori

21. For almost 800 years, fishing has been an essential aspect of Māori culture, both practically and spiritually. Traditions, stories, knowledge, and abilities related to Māori fishing have been passed down through generations, contributing to and developing mātauranga Māori.

22. Mātauranga Māori has been described as "a body of knowledge that seeks to explain phenomena by drawing on concepts handed down from one generation of Māori to another. ... mātauranga Māori has no beginning and is without end. It is constantly being enhanced and refined. Each passing generation of Māori makes their own contribution to mātauranga Māori"[2]. In the context of the natural environment, it is also regarded as " the pursuit of knowledge and comprehension of Te Taiao – the natural environment – following a systematic methodology based on evidence, and incorporating culture, values, and world view"[3].

Tikanga

23. Tikanga is how Māori care for their fisheries, underpinned by the Māori philosophical concepts such as taonga tuku iho (future generations), kaitiakitanga, manaakitanga (a duty to look after others), and kotahitanga (unity). The aim of tikanga Māori is balance. The interaction of these concepts to preserve intergenerational and intragenerational equity is consistent with the concept of "sustainable management".

24. Since Māori, particularly iwi, were rightfully granted rights to their fisheries through Te Tiriti o Waitangi and the Deed of Settlement and guaranteed through whakapapa, they must make special considerations based on their kaitiakitanga responsibilities on managing these taonga sustainably. These include future and cultural considerations underpinned by Tikanga Māori. In light of this, Māori need to be supported to take the lead in the management of their fisheries.

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[2] Mead (2003), p 234

[3] Hikuroa (2017), p 5

East Coast tarakihi – (TAR1 east, TAR2, TAR3 & TAR7 east)

Our view

- Our position pertains to the combined East Coast tarakihi Total Allowable Catch and Total Allowable Commercial Catch (TAC/TACC)
- We do not support Option One
- We support Option Two
- We do not oppose Option Three
- We acknowledge the increased impacts on socio-economic and cultural factors since the last review.

Proposed Options

	Option 1	Option 2	Option 3
Target biomass	40% SB_0 by 2032	40% SB_0 by 2037	40% SB_0 by 2042
Rebuild timeframe (years)	10 years or $2*T_{min}$	15 years or $3*T_{min}$	19.7 years or T_{min} plus one generation time
Rebuild way and rate	40 percent catch reductions in TAR 2 and TAR 3, and the eastern portions of TAR 1 and TAR 7 implemented in 2022/23. In practice, this amounts to a 27 and 29 percent reduction in the combined TAC and TACC respectively, implemented in 2022/23.	15 percent catch reductions in TAR 2 and TAR 3, and the eastern portions of TAR 1 and TAR 7 implemented in 2022/23. In practice, this amounts to a 12 and 13 percent reduction in the combined TAC and TACC respectively, implemented in 2022/23.	5 percent catch reductions in TAR 2 and TAR 3, and the eastern portions of TAR 1 and TAR 7 implemented in 2022/23. In practice, this amounts to a 7 percent reduction in the combined TAC and TACC respectively, implemented in 2022/23.
Probability of achieving target within rebuild timeframe	55%	53%	56%

Our approach

We support maintaining the current customary allowance

25. The customary non-commercial catch of East Coast tarakihi is managed by kaitiaki. We support the authority of kaitiaki to determine the appropriate catch levels during the rebuild.

We do not support Option One

26. Option One provides the fastest way and rate of rebuild within the period deemed appropriate for the stock. However, this option is set at the lowest end of the period (ten years), prior to accounting for socio-economic

and cultural factors. We consider that this option is not appropriate as it would set a rebuild way and rate that discounts socio-economic and cultural factors from your decision.

We support Option Two

27. Option Two is the option most consistent with our previous responses to review sustainability measures for East Coast tarakihi. Since 2018, we have supported the East Coast Rebuild Plan (Rebuild Plan)[4] as the appropriate way to support this tarakihi stock and the people who rely on its abundance.[5] Alongside the Rebuild Plan, we committed and, remain committed to a rebuild of East Coast tarakihi to 40% B_0 by 2038. Option Two enables the commitments to be met. We consider this option is optimal as it is within the period appropriate to the stock and takes into account socio-economic and cultural factors.

We do not oppose Option Three

28. Option Three allows a greater time for the stock to rebuild within the appropriate period and therefore lessens the socio-economic impacts of the TACC reduction. We acknowledge the significant change in fisheries operational costs as a result of fuel price increases. The increase of costs is by no means superficial and have very real consequences for Māori owned fishing companies – the impact is greatest on the smaller operators. We leave it to the fishing companies to provide specific information on the socio-economic impacts being experienced.

29. These changes were not forecast when developing the commitments set out in the Rebuild Plan. However, the need to sustain the fishing community and its associated local economy as well as applying an adaptive learning approach are main principles of the Rebuild Plan. Therefore, in this review, we do not oppose more weight being given to the current socio-economic environment as is your discretion.

We do not provide a position on the apportioning of TAC/TACC reduction between Quota Management Areas (QMAs)

30. Our position relates to the combined TAC and TACC for East Coast tarakihi. We acknowledge that the projected rebuild of the combined stock is not affected by which QMAs the reductions come from (as long as the reductions occur on the East Coast portions of TAR1 and TAR7). We are aware that the apportioning of the TACC decrease across QMAs may affect the ability for operators to continue to implement the East/West catch splitting arrangement. We consider that the operators and their representatives are best placed to comment on these operational matters.

We remain open to discuss our views with you and your kaimahi

31. Our historic engagement with the rebuild of this fishery has been one of collaboration and transparency. We look forward to discussing our position with you and your kaimahi.

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[4] Initially named The East Coast Management Strategy in 2018

[5] Please refer to our responses to previous reviews for our detailed position on the East Coast Tarakihi Rebuild Plan

Fisheries New Zealand
Tini a Tangaroa

Submission Form

Review of sustainability measures for 1 October 2022

Once you have completed this form

Email to: FMsubmissions@mpi.govt.nz

While we prefer email, you can also post your submission to:

2022 Sustainability Review, Fisheries Management, Fisheries New Zealand, PO Box 2526, Wellington 6140, New Zealand.

Submissions must be received no later than 5pm on Friday 22 July 2022.

Anyone may make a submission, either as an individual or on behalf of an organisation. Please ensure all sections of this form are completed. You may either use this form or prepare your own but if preparing your own please use the same headings as used in this form.

Submitter details:

Name of submitter Agnes Walker Project Manager on behalf of the Nga Hapu o Ngati Porou Management Arrangements.

- Pōtikirua ki Whangaokena Takutai kaitiaki trust
- Whangaokena ki Onepoto Takutai kaitiaki trust
- Te Papatipu o Uepohatu me te Papatipu o te Ngaere trust
- Te Aowera & te whanau a Hinekehu Takutai kaitiaki trust
- Nga hapu o Waipiro Takutai kaitiaki trust
- Ngati Wakarara and Ngati Hau Takutai kaitiaki trust

- These six trusts represent 46 hapu in the area shown below as schedule 3 in the Ngā Rohe Moana o Ngā Hapū o Ngāti Porou Act 2019. The customary fishing area of nhonp means:
  - (i) the area of nga rohe moana o nhonp.
  - (ii) the extension of that area to the outer limit of the exclusive economic zone.
  - (iii) New Zealand fisheries waters in the Ngati Porou area of interest.

Ngati Porou area of interest means the area set out in the following map and bounded to its coastal side by the line that follows the landward edge of the common marine and coastal area:

The purpose of this submission is to ensure that the Ministry is aware of the right of Nga Hapu o Ngati Porou to exercise influence over persons carrying out activities within, or impacting upon, nga rohe moana o Ngati Porou.

On the 29th May the Nga rohe moana o Nga Hapu o Ngati Porou Act 2019 was enacted, the purpose of this Act is to contribute to the legal expression, protection, and recognition of the continued exercise of mana by nga hapu o Ngati Porou in relation to nga rohe moana o Nga Hapu o Ngati Porou. The Act gives effect to the deed of agreement between Nga Hapu o Ngati Porou and the Crown.

Schedule 3

Map of ngā rohe moana o ngā hapū o Ngāti Porou

s 11(2)

Organisation (if applicable):	Nga hapu o nga rohe moana o Ngati Porou
Email:	
Fishstock(s) this submission refers to:	Review of sustainability measures for East Coast Tarakihi 2022/2023
Your preferred option as detailed in the discussion paper (write "other" if you do not agree with any of the options presented):	Support Option 2 and do not oppose option 3

Fisheries New Zealand
Tini a Tangaroa

Official Information Act 1982

Note, that your submission is public information. Submissions may be the subject of requests for information under the Official Information Act 1982 (OIA). The OIA specifies that information is to be made available to requesters unless there are sufficient grounds for withholding it, as set out in the OIA. Submitters may wish to indicate grounds for withholding specific information contained in their submission, such as the information is commercially sensitive, or they wish personal information to be withheld. Any decision to withhold information requested under the OIA is reviewable by the Ombudsman.

Submission:[1]

Details supporting your views:

Nga Hapu o Ngati Porou support the position outlined below by Te Ohu Kaimoana.

Option Two is the option most consistent with our previous responses to review sustainability measures for East Coast tarakihi. Since 2018, we have supported the East Coast Rebuild Plan (Rebuild Plan)[2] as the appropriate way to support this tarakihi stock and the people who rely on its abundance.[3] Alongside the Rebuild Plan, we committed and, remain committed to a rebuild of East Coast tarakihi to 40% B_0 by 2038. Option Two enables the commitments to be met. We consider this option is optimal as it is within the period appropriate to the stock and takes into account socio-economic and cultural factors

Please continue on a separate sheet if required.

[1] Further information can be appended to your submission. If you are sending this submission electronically we accept the following formats – Microsoft Word, Text, PDF and JPG.

[2] Initially named The East Coast Management Strategy in 2018

[3] Please refer to our responses to previous reviews for our detailed position on the East Coast Tarakihi Rebuild Plan

15 July 2022

IWI COLLECTIVE
PARTNERSHIP

2021 Sustainability Review
Fisheries Management
Fisheries New Zealand
P O Box 2526
Wellington 6140

By email only: FMSubmissions@mpi.govt.nz

Tēnā koe,

REVIEW OF SUSTAINABILITY MEASURES FOR EAST COAST TARAKIHI - 1 OCTOBER 2022

The Iwi Collective Partnership (ICP) continues to support the Tarakihi Rebuild Strategy for East Coast Tarakihi. We believe that the fishery can be rebuilt in a way and at a rate that does not destroy culture and livelihoods. Especially in today's challenging economy. So long as the evidence confirms that the fishery is rebuilding, we will continue to support the Strategy.

In relation to the combined East Coast Tarakihi Total Allowable Catch and Total Allowable Commercial Catch (TAC/TACC) we do not support Option 1 as this option takes little account of culture and livelihoods. We support both Options 2 and 3 but note that Option 2 is more consistent with the rebuild timeframe identified in the Strategy. For that reason we support Option 2 but do not oppose Option 3. Quota owners should be commended for the action they have taken over the past few years noting that the biomass has increased by 3,165 mt to 19.3%B0, compared to 15.9% in 2017.

In terms of how catch reductions should be allocated across the various QMAs, we are not in a position to confirm a preferred model. The allocation task has proven extremely complex given the differing impacts on quota owners across the QMAs and a lack of appreciation for how the East Coast Tarakihi actually works in practice, noting that the concept is a fairly recent development. The growing cost of fuel, inflationary and other costs has also reduced the ability for the sector to easily absorb the transitionary catch reductions committed to under the Strategy. Therefore, we would welcome the opportunity to discuss the allocation complexities with the Minister and officials in order to help to find a fair and equitable solution for all, including the biomass rebuild.

Ngā mihi,

Maru Samuels
CEO
Mob
DDI:
Em:

SOUTHERN INSHORE FISHERIES MANAGEMENT COMPANY LIMITED

FISHERIES INSHORE NEW ZEALAND

15 July 2022

Hon David Parker,
Minister for Oceans and Fisheries
Parliament Buildings
WELLINGTON

Tēnā koe David,

RESPONSE TO THE PROPOSED TAC & TACC CHANGES FOR THE EAST COAST TARAKIHI FISHERY (TAR1E, TAR2, TAR3, TAR7E) FOR 2022/23

1. This submission is in response to the Fisheries New Zealand Discussion Paper No 2022/04 Review of Sustainability Measures for East Coast Tarakihi for 2022/23 proposing changes to the east coast tarakihi (TAR) TACs and TACCs (the 2022/23 Review).
2. Our response reaffirms our commitment to rebuilding the East coast tarakihi stock by 2038 and provides our position on the 2022/23 Review accounting for the need to recognise the holistic context of east coast TAR.

1 Our position

1.1 Reflecting the positive change in the fishery

3. The fishery biomass trajectory demonstrates positive changes in the fishery. The management action taken to date is working. All projections demonstrate that the fishery continues to rebuild and will continue to rebuild at the current catch levels despite lower recruitment estimated for 2017 and 2018. The consultation revolves around what the catch limits should be to ensure the fishery will rebuild within an "acceptable period" and the most appropriate way and rate to achieve the rebuild.
4. Since 2018 the east coast TAR biomass has increased by 3,165t in 4 years (from 13,844t SB2018[1] to 17,009t SB2021[2]).
5. The stock is now 19.3% B_0 ($SB2021/SB_0$)[3] and has increased from 15.9% in 2017[4]. This is an increase of 3.4% within 4 years. This means the fishstock is now near the soft limit and near the levels that have existed since 1975.
6. Industry has worked diligently on its Rebuild Plan alongside with Ministers and officials to implement a 32% decrease in commercial east coast catch since 1 October 2018 (a 1380t reduction).[5]
7. The considerable reduction in fishing mortality rates through TACC reductions and proactive industry shelving in 2021/22 and industry selectivity measures (move-on rules, voluntary closed areas and gear innovation) has resulted in the increased stock biomass.

[1] Table 2 of Langley, A.D. (2019). An update of the assessment of the eastern stock of tarakihi for 2019. New Zealand Fisheries Assessment Report 2019/41. 29 p
[2] Table 7 of Langley, A.D. 1 (2022). A stock assessment of eastern tarakihi for 2021. New Zealand Fisheries Assessment Report 2022/07. 68 p.
[3] Table 12 of the TARAKIHI (TAR) – DRAFT FINAL CHAPTER FOR THE MAY 2022 PLENARY & Table 7 of FAR-2022-07
[4] Table 12 of the TARAKIHI (TAR) – DRAFT FINAL CHAPTER FOR THE MAY 2022 PLENARY & Table 7 of FAR-2022-07
[5] Equivalent to a 24% decrease in TACCs since 1 October 2018

1.2 Our recommendation

8. Our commitment to the east coast TAR fishery remains strong and we continue to focus on meeting the objective of the Rebuild Plan: "*Our actions will implement a combination of management measures that are monitored for effectiveness and adjusted as needed throughout entire rebuild timeframe and beyond*".
9. The Rebuild Plan has evolved over time to incorporate different measures and has established enhanced public accountability through the publication of regular progress reports.[6] We remain committed to adjusting the measures we take along with any regulatory measures to achieve that outcome.
10. You have publicly recognised our commitment to a 20 year rebuild and in your 2019 decision letter where you stated: '*The Plan also commits to a maximum rebuild timeframe of 20 years.*'[7] We wrote to you in December 2020 re-affirming this commitment.[8]
11. To this end we recommend you:

    a. continue the 20-year east coast TAR rebuild – noting that industry committed to a rebuild by 2038, with the rebuild starting on 1 October 2018 with the first TAC reductions

    b. support a further 20% reduction to 2020-21 east coast TAR catch limits noting that this reduction is the critical requirement to rebuild the fishery within the timeframe set out in (a).[9]

    c. continue to support the east/west split implemented by industry

    d. continue to support industry regional monitoring and management plans such as move on rules and voluntary closed areas

    e. recognise the significant role that the Industry's Rebuild Plan has taken to assist in starting and maintaining the rebuild of the fishery and industry's continued commitment to the long-term Rebuild Plan

    f. support a process to formalise a S11A Fisheries Plan for east coast TAR and as part of that recognise the need for shared responsibility to apply adaptive management and support further measures to rebuild the fishery

    g. support the establishment of a multi-stakeholder working group, as part of the S11A Fisheries Plan process, to develop a research plan to establish future monitoring and management plans to address recognised risks to the effectiveness of the ongoing monitoring of the stock (see Section 6).

6 https://www.mpi.govt.nz/fishing-aquaculture/sustainable-fisheries/east-coast-tarakihi-rebuilding-numbers/
7 Minister's decision letter on the review of sustainability measures 1 for October page 7
8 Letter to Hon David Parker dated 21 December 2020
9 Equivalent to an overall 13% TACC reduction

1.2.1 We support Option 2's rebuild timeframe but with an amended implementation and apportionment approach

12. We support the rebuild timeframe of 15 years as proposed in Option 2. This is consistent with industry's commitment to rebuild the fishery to achieve 40% B_0 by 2038.
13. Our support of Option 2 demonstrates our continuing efforts to deliver our commitments to rebuild the fishery.
14. To support the success of Option 2 we propose an alternative methodology and allocation of catch limits to the four sub-areas of east coast TAR that would maintain and build on the existing management measures being implemented through the Rebuild Plan.
15. Importantly we note that the rebuild rate is determined by the overall catch on the east coast and that altering the amounts taken in each of the four sub-areas will not affect the rebuild.
16. The 2022/23 east coast catch limits proposed by Fisheries Inshore on behalf of its members is shown in Table 1.

Table 1. New 2022 – 23 east coast catch limits proposed by Fisheries Inshore

	TAR1E	TAR2	TAR3	TAR7E	TOTAL
2021/22 east coast catch limits	466	1350	936	161	2913
New 2022/23 east coast catch limits	422	1048	727	131	2328

2 Recommended implementation and apportionment of the catch reduction

17. The overall catch limit is based on the calculated catch level required to achieve the rebuild timeframe under Option 2 in the discussion paper.
18. As you are aware the apportionment of catch across the four areas of the east coast TAR fishery has always been set by the industry acting collectively. We propose the same approach here.
19. The modified apportionment between QMAs of the overall catch limit demonstrates our continued leadership and collaboration to rebuild the fishery. This provides an equitable and pragmatic solution that recognises the commitments all areas have made to the Rebuild Plan and ensures the continued management of the fishery and specifically continuing the East / West split.
20. Our proposal of the 20% catch limit reduction from 2021/22 is provided with the ongoing commitment to implement the East / West split for this option. The 2022/23 Review notes that catch-splitting arrangements have been operated successfully in other fisheries and provide a responsive mechanism for sub-QMA management.[10]
21. Our recommended implementation and apportionment of the catch reduction is:
    - A 20% east coast catch limit reduction to the required 2328t to achieve a rebuild by 2037 based on the latest projections used for Option 2.
    - To achieve an east coast catch of 2328t we propose a reduction of catch by 585t through a combination of:
        - taking a TACC cut of a further 310t; and
        - implementing shelving of 275t
22. Table 2 provides our proposed apportionment of the east coast catch limits.

[10] Paragraph 84 of Fisheries NZ Discussion Paper No: 2022/04

Table 2 Fisheries Inshore's recommended east coast catch limits for tarakihi stocks (t): TAR1E, TAR2, TAR3 and TAR7E, from 1 October 2022.

		TAR 1E	TAR 2	TAR 3	TAR 7E	TOTAL
2021/22 East coast catch limits		466	1350	936	161	2913
Current 2021/22 catch limit reflecting the current east/west management		422	1219	845	146	2632
Current proportions of combined eastern catch limit (%)		16%	46%	32%	6%	100%
Step 1 – 2021/22 east coast catch limits reduced down to Option 3 levels	New 2022/23 east coast catch limits	422	1202	833	146	2603
	% cuts from 2021/22 east coast catch limits	9%	11%	11%	9%	11%
	Tonnage reduction proposed	44	148	103	15	310
	% share of reduction from 2021/22 east coast catch limits	14%	48%	33%	5%	100%
Step 2 – Shelving commitment to take the east coast catch limits down from Option 3 levels to Option 2	New 2022/23 east coast catch limits with shelving and the additional TACC cuts	422	1048	727	131	2328
	% cuts from Step 1	0%	13%	13%	10%	11%
	Tonnage reduction proposed	0	154	106	15	275
	% share of reduction of Step 2	0%	56%	39%	5%	100%
Total reduction from 2021/22 east coast catch limits		9%	22%	22%	19%	20%

23. We consider that our work on this fishery has demonstrated that industry can be trusted to implement the measures it proposes.
24. Our recommend implementation and apportionment of the catch reduction is proposed because of three material factors that will affect the rebuild of the fishery. The first is that the set of management measures have been calculated using projected catches that overstate the amount caught in 2020/21 and 2021-2022 and this results in a greater reduction than is required. Secondly the speed of rebuild will be strongly affected by the recruitment level. A further survey has been undertaken and this should be considered before setting catch levels for the next 5 years. Third with fuel costs doubling and the application over the next two years of a number of other policies it is expected that there will be further reductions in vessels and fishing. For these reasons we propose that the reductions be achieved by two inter-related measures. If these were combined the notional TACCs for each area would be as set out in Table 3.

Table 3 Fisheries Inshore's recommended notional TACCs for tarakihi stocks (t): TAR1, TAR2, TAR3 and TAR7, from 1 October 2022.

		TAR 1	TAR 2	TAR 3	TAR 7	TOTAL
2021/22 TACCs		1045	1350	936	1024	4355
Current 2021/22 TACCs reflecting the current shelving		1001	1219	845	1009	4074
Step 1 –2021/22 TACC reduced down to Option 3 levels	New 2022/23 TACC	1001	1202	833	1009	4045
	% cuts from 2021/22 TACC	4%	11%	11%	1%	7%
	Tonnage reduction proposed	44	148	103	15	310
	% share of reduction from 2021/22 TACC	14%	48%	33%	5%	100%
Step 2 – Shelving commitment to take the TACC down from Option 3 levels to Option 2	New 2022/23 notional TACCs with shelving and the additional TACC cuts	1001	1048	727	994	3770
	% cuts from Step 1	0%	13%	13%	1%	7%
	Tonnage reduction proposed	0	154	106	15	275
	% share of reduction of Step 2	0%	56%	39%	5%	100%
Total reduction from 2021/22 TACCs		4%	22%	22%	3%	13%

2.1.1 Continued commitment to Rebuild Plan

25. Industry is committed to adaptive management and view management as a process, not a point-in-time decision. It remains our absolute priority to progressively rebuild the fishery and we will monitor and report on the progress of our actions towards our objective and either amend or seek amendments to the strategy as appropriate.
26. We consider the Rebuild Plan provides the best combination of management measures that will ensure both a timely rebuild of the TAR fishery and a productive inshore fishing sector. With east coast TAR being such an important component of the inshore fishing sector, this programme of work also has the potential to offer significant improvements in other fisheries.
27. Along with our proposed apportioning of catch reductions under Option 2 industry commits to:

    1. **continue TAR1 and TAR7 E/W splits based on the catch levels we have set out**
       Wider changes in operational costs and the impact of the 1 October 2021 SNA8 sustainable utilisation decision have increased the pressure on fishers and operators implementing the East / West split. The East/West split arrangements will be reviewed to determine where improvements can be made to support the rebuild and acknowledge the ongoing concerns of fishers and companies.
    2. **continue with move-on rules and closed areas as per the regional and monitoring plans** with appropriate targets for each
    3. **a continuation** of the progress report process as appropriate, with KPIs and regional and monitoring plans to ensure they continue to provide appropriate and effective best available information

28. Some management and research initiatives initially explicitly started under the east coast TAR Rebuild Plan will be continued but under a broader context to reflect the substantial fishery reforms that have been announced and implemented since the last review of east coast TAR. These include:

    - continuing the Sustainable Food and Fibre Futures research project developing processes to automate the identification and measurement of legally released fish. This project recognises the landings / returns review as part of the Fisheries Amendment Bill has shifted the focus of this project away from having an exclusively sub-MLS TAR focus.
    - continuing work on gear selectivity measures started for east coast TAR but under broader industry-wide programmes as part of industry's continued innovation to improve selectivity.

2.2 Legal context of our position

29. We provide our response based on the 2022/23 Review and in the context of the Gwyn J judgment in the Royal Forest and Bird Protection Society of New Zealand Incorporated v Minister for Oceans and Fisheries proceedings[11] and the subsequent Court of Appeal proceedings.[12]
30. It is apparent that the Court of Appeal decision is not expected until after submissions are due. We have little practical alternative other than to make this submission based on the High Court judgement ruling. This submission is therefore necessarily made without prejudice to the primary position of Fisheries Inshore in the Appeal Court proceedings that the judgment does not correctly reflect the legal requirements of the Fisheries Act (the Act), and that the Minister's 2019 decision was valid.
31. This submission is necessarily made without prejudice to the primary position of Fisheries Inshore that the judgment does not correctly reflect the legal requirements of the Act, that the Minister's 2019 decision was valid.

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11 NZHC 1427 2021 CIV-2019-485-752
12 CA 426/2021

3 Correcting the chronology of the East coast management

32. The description and chronology in paragraphs 3 and 4 of the 2022/23 Review is inaccurate and misrepresents the fact that industry acted as soon as the stock assessment results in 2017 became apparent.
33. Industry agreed from late 2017 to rebuild the fishery. Additional analysis was immediately undertaken to inform options and industry's submission on the 1 October 2018 sustainability round outlines the TAR Management Strategy. Significantly the TAR Management Strategy was referenced in the consultation document.
34. Following the 1 October 2018 sustainability round, the TAR Management Strategy was further developed and this became the TAR Rebuild Plan. In the lead up to the 2019 October Sustainability round review Industry and Te Ohu Kaimoana developed the Eastern Tarakihi Management Strategy and Rebuild Plan (the Rebuild Plan). The Rebuild Plan as agreed with the Minister and FINZ in 2019 included further detail and measures.

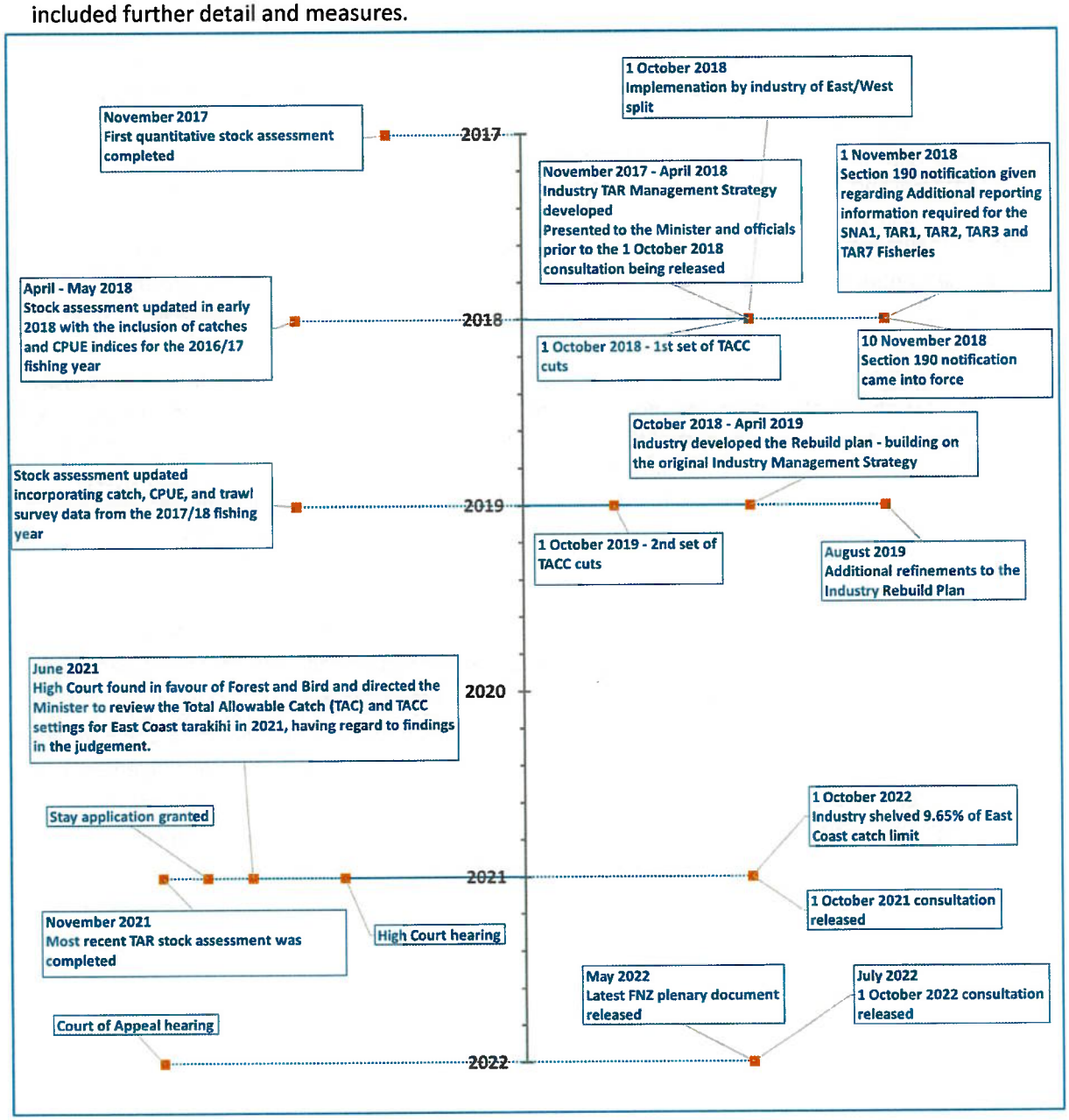

Figure 1 **Corrected chronology for the development of East coast TAR management**

4 Rebuild Plan considerations

4.1 The Minister needs to be provided with the best available information regarding stock status

35. As per Section 10 of the Act we would expect you are provided with the most recent data when available. We are concerned that the consultation paper is not providing the public or you with the latest information in order to meet your statutory obligations to make decisions.
36. It is important you receive balanced fully-informed advice as it is apparent that there are fundamental pertinent facts that are not covered in the consultation paper. Answering fundamental questions below should be a core part of the consultation paper in order for stakeholders to determine what they consider to be a suitable way and rate to rebuild the stock having regard to the relevant socio-economic and cultural factors.

- **When was the last time the East coast tarakihi stock at 40%B_0?**
    - This was raised by the New Zealand Sports Fishing Council in their 2021 submission and is a fundamental consideration when deciding on the way and rate within the appropriate period.
    - As can be seen in Figure 2 (on the next page) the two stock assessments conclude that east coast Tarakihi fishery was last at 40% B_0 more than 60 years ago (around the late 1950s/1960) and has been around 20% for 20 years - yet some stakeholders are advocating to rebuild it to that 40% B_0 target within 10 years, disregarding the history of the stock biomass.

- **What is the history of the stock biomass?**
    - Paragraph 24 of the 2021/22 Review is not a measured reflection of the stock status to ignore this significant point. It is an important factor when deciding what way and rate is fair and equitable for the rebuild.
    - The spawning biomass was estimated to have been reduced to 22% SB_0 by the mid-1970s,[13] and has been around or below 20% since early 2000s.
    - The very pertinent fact is that the stock has never been above 27% since 1975.
    - When the fishery was at a higher stock status (e.g. 40%B_0) it was likely to be experiencing very different environmental conditions, with very different fleets involved in the fishery compared to the inshore vessels used today and different levels of fishing activity. This raises the question as to whether attempting to return to a virgin biomass related target is rational. In your role as the Minister of the Environment you have noted the scale of change in New Zealand including the climate change impacts and terrestrial impacts on the marine environment. It raises the question whether New Zealand should start transitioning to a management model that reflects these environmental changes.
        i. Is it more important what the stock was in 1935 or 1960 or is it more important to set management settings relevant to $B_{current}$ / B_{now}?

[13] FAR 2022-07 at page 3

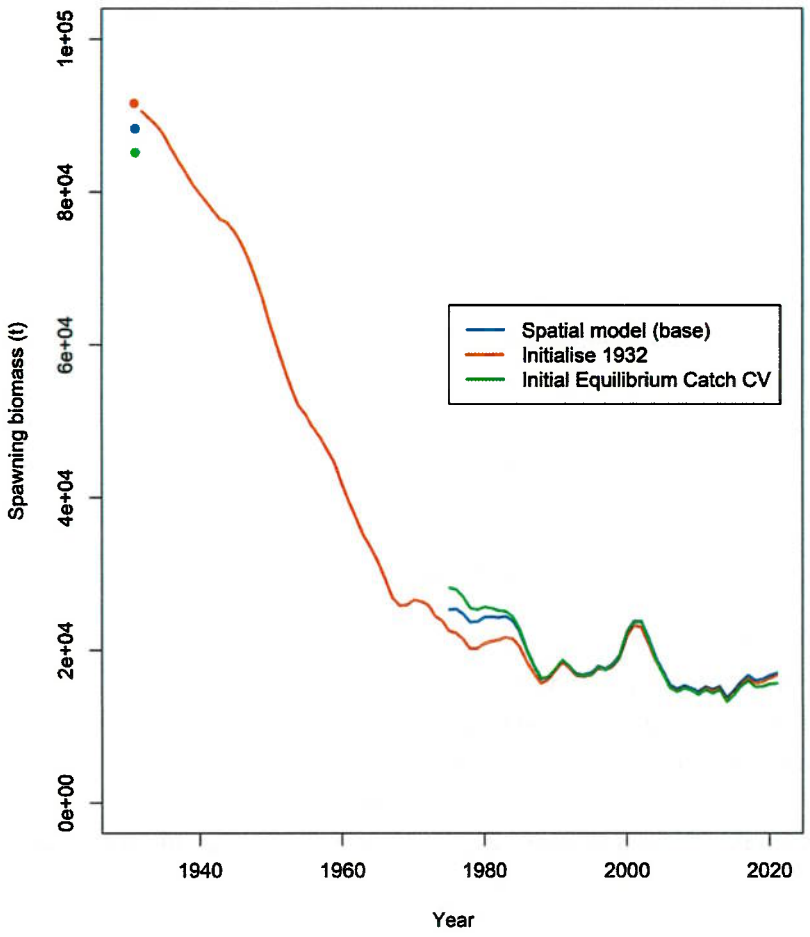

Figure 2. Spawning biomass trajectories from three model options for the three-region spatial model evaluating initial conditions (median of MCMCs). The points represent the estimates of virgin spawning biomass (SB_0) from each model.

- A related concern is that the stock status diagram used in the 2022/23 Review (Figure 2: Spawning Biomass Levels) is outdated and is a cut and paste from the 1 October sustainability 2019 consultation rather than being the updated figure from the November 2021 stock assessment. The latest stock status graph and projections should be used in the consultation, not an inaccurate outdated one. It is important that the best available information is used to support your decision-making and inform wider stakeholders before they make submissions on the appropriate measures. We show below the context of the fishery that could have and should have been provided to you and the public.
- The bottom panel of Figure 3 shows the reality of the rebuild and should have been provided with projections added to it. When it is compared with the figure used in the 2022/23 Review it shows stock status is:
  i. higher and nearly at 20%B_0
  ii. increasing and not stable
- These factors and their adequate representation in the consultation paper could be expected to change the context of the discussion and nature of public submissions.
- The stock assessment was completed in November 2021 (that is over 8 months ago) – there was adequate time for your officials to do their due diligence to provide you with the required information to inform your decision making.

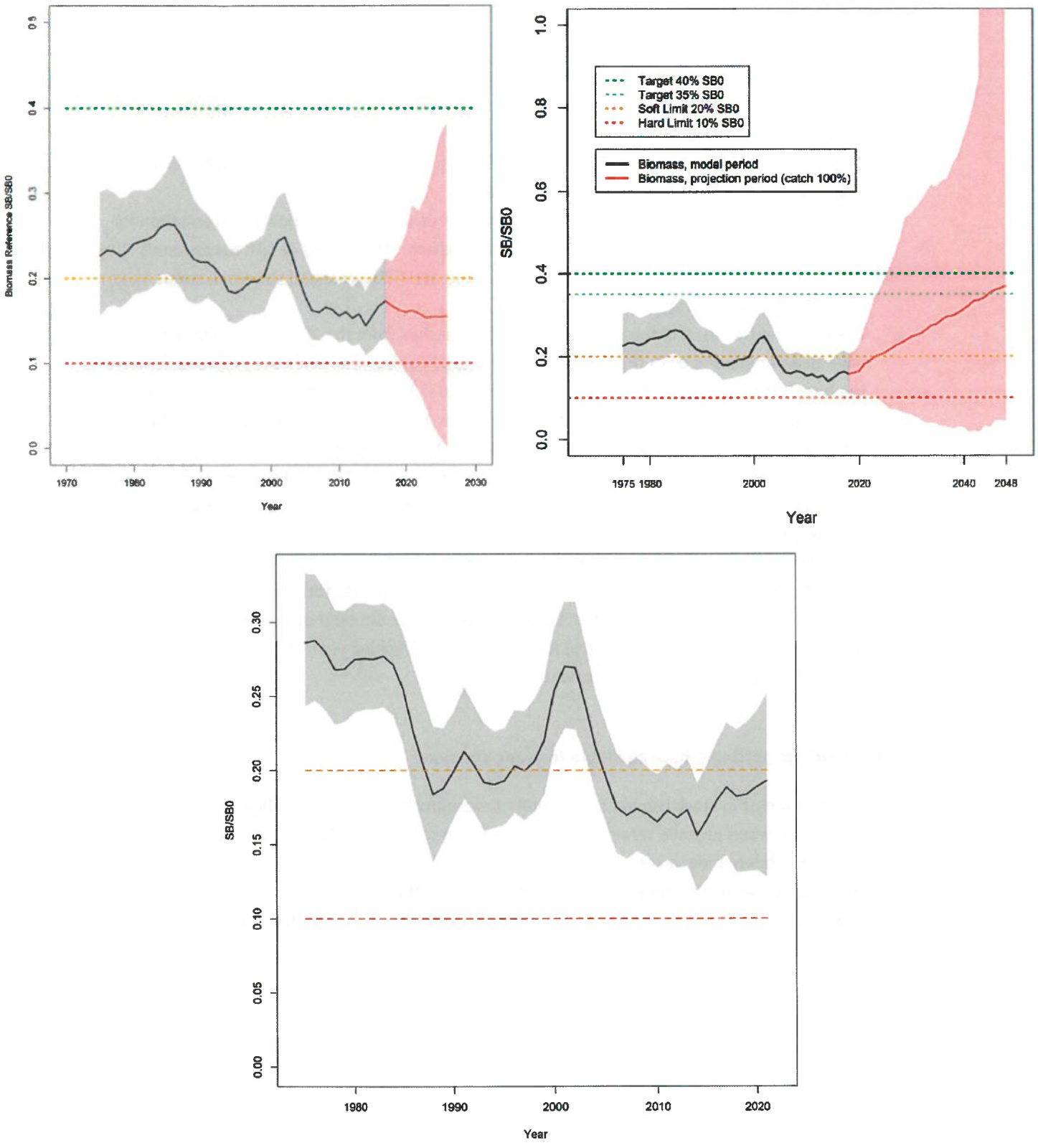

Figure 3 Comparison of the annual trend in spawning biomass relative to 40% SB0 target biomass level (green dashed line), the 20% SB0 soft limit (orange dashed line), and the 10% SB0 hard limit (red dashed line). The uncertainty in the projections from 2017 forward (pink line) are due to uncertainties in recruitment. The top left panel is the diagram used in the 1 October 2018 sustainability round consultation paper, the top right panel is from the 1 October sustainability 2019 round and the bottom panel is from the 2021 model

- **What is the latest stock projection?**
    - The projections to inform the management options are based on the latest stock assessment which was accepted in November 2021. That stock assessment used fishery specific annual catches 1932–2020 (2020 = 2019–20 fishing year)[14].
    - The projections do not use the 2020-21 catch which would update the stock status and projections (that could have easily been applied).
    - The history of the TAR assessments has shown that using the latest updated information for consultations does impact the context of the discussion. The history of TAR assessments shows that an updated model using another year of catch and CPUE changed the stock status from 17% SB2016/SB_0 to 17.3% SB_0.
    - The catch figures used in the projections are the catches from the 2019/20 fishing year. These have been applied to both the 2019/20 and 2020/21 fishing year and then projected forward as the base catch. The projections do not use the actual 2020-21 catch which was available and should have been used as the projected base catch. Recognising this fact, the stock status and associated projections could have and should have been updated to include this latest available data. Catches in the 2020/2021 year were less than for the 2019/2020 year meaning more stock was left in the water than the projections allowed for – while this could be seen as minor for one year, it is the cumulative catch over years along with recruitment that gives the rebuild. It is therefore important to accurately reflect what's known.
    - In addition to the 2020/21 catch level , as you know industry has formally voluntarily shelved 281 tonnes of east coast Tarakihi ACE into a separate account held by FishServe (meaning this ACE cannot be accessed by industry) for the 2021/2022 fishing year. This additional reduction should also be factored into the forward projections.

- **Is there further pertinent data available for your decision?**
    - A critical factor in stock rebuild is the level of recruitment. Notwithstanding concerns about the overlap between juvenile tarakihi and the sampling range of the NIWA vessel, another trawl survey has been undertaken.
    - The latest trawl survey data providing information on the latest trawl survey information should now be available. The data from that should also inform the future rebuild projections.

[14] TARAKIHI (TAR) – DRAFT FINAL CHAPTER FOR THE MAY 2022 PLENARY

37. It is imperative that when you receive advice it adequately differentiates between Maximum Sustainable Yield (MSY) and a management target. You can set a management target at or above MSY but are unable to change MSY as has been suggested by previous submitters. The distinction is important as management targets are based on a Minister's discretion and his consideration of the purpose of the Act. For clarity:

- **MSY** – As defined in the Act MSY is 'the greatest yield that can be achieved over time while maintaining the stock's productive capacity'. You cannot artificially increase MSY based on a social aspiration to provide precaution. We identify the New Zealand Sports Fishing Council 2021 submission misunderstanding of MSY and their request for a 50% MSY.
- **Management setting** – s13 identifies the legal management target is to be at or above a level of stock that can produce MSY. You should note that any setting of a target above MSY will lead to a decrease in the level of overall long-term extractions but the increased abundance will make the fish easier to catch. Like other organisms, the fishstock will strive to achieve its equilibrium population size, which occurs when the number of individuals matches the resources available to the population. While it might seem rational that a bigger population will breed more recruits, in reality as the population approaches its equilibrium population size, its productivity rate will decrease, reducing the net gain in numbers and thus reducing the permissible level of extractions to maintain that population size. Conversely, a population that falls too far below MSY will have its population growth limited by the maximum reproduction rate. Extraction levels will be limited by the need to retain the recruits to boost the population to MSY levels.

4.2 Appropriate period

4.2.1 Appropriate period is a range

38. Paragraph 142 of the consultation paper is significant as it highlights that there is a range of appropriate periods for any given fish stock based on biological characteristics and environmental conditions. It states that *"FNZ considers that any time period in the range of 10-19.7 years would be appropriate for rebuilding the East coast tarakihi stock."*[15]

39. As identified in paragraph 106 of the High Court ruling :
'Section 13 requires more than that the stock be moved towards the target over any timeframe – it requires the identification of a period "appropriate to the stock", having regard to the biological characteristics of the stock and any environmental conditions.'

40. The fact that there is a range of appropriate periods that can be chosen from is important and reflects the High Court case where the Crown stated that
'an assessment of the biological characteristics and environmental conditions may determine a range of appropriate "timeframes" and, within that range, he may adopt a timeframe for rebuild that gives more or less weight to social, cultural and economic considerations' [64]

[15] Paragraph 58 of Fisheries NZ Discussion Paper No: 2022/04

4.2.2 Use of generation time

41. Generation time is not a new concept. It is also not a new concept in regard to the Harvest Strategy Standard (HSS) and the HSS Operational Guidelines that refer to generation time but do not explicitly use it for providing guidance on rebuilding timeframes. It is also widely used internationally as evidenced by the 2022/23 Review.
42. FNZ's recognition of generation time shows that New Zealand's best available information based on a 2008 policy document that needs to be reviewed to effectively update it to reflect practices being used internationally.
43. We consider all of the options have been determined based on biological characteristics and environmental conditions through the use of generation time and Tmin and are consistent with the High Court ruling.

4.2.3 Consideration of the HSS

44. We acknowledge the High Court judgment found the HSS to be a mandatory relevant consideration. The emphasis here being it is a consideration and not binding.
45. There is an important distinction between a mandatory consideration and the discretion you have to decide the extent to which you apply that consideration in this decision. The High Court ruling did not state the HSS had to be followed but merely that it is a mandatory consideration. The High Court ruling identified this stating

    Where there is a mandatory obligation to "have regard" to something the matter must be considered, but it does not necessarily determine or influence the decision.

    and supports this point in paragraph 166 where it is stated

    While to "have regard to" is not the same as to "give effect to", the phrase is generally understood to require a decision-maker to give the matter "genuine attention and thought".

46. This is contrary to the 2021 consultation round submissions from the Environmental Defence Society (EDS) and the New Zealand Sports Fishing Council who raised concerns that the appropriate period differs from HSS. The submissions of these stakeholders have historically asserted that you must apply blind adherence to an outdated policy document.
47. This ignores and diminishes the need to improve our fisheries management approaches through incorporating wider environmental factors, inter-species dynamics and the active roles that humans play in conservation and resource management. This approach leans more towards an ecosystem approach to fisheries management and if developed alongside Treaty Partners has the potential to be consistent with Te Ao Māori. As noted earlier, in doing so we need to be cognisant that, with both indirect terrestrial and climate change impacts on the marine environment, we need to be managing for the expected carrying capacity of the current (changing) environment – not an earlier less pressured situation that cannot be returned to.
48. The 2022/23 Review document highlights the need for a review of the HSS by highlighting errors within the HSS (paragraph 43 of the 2021/22 Review) and outlining how fisheries management may need to deviate from the prescriptive approach of the HSS that does not

reflect either species specific situations or indeed mixed fishery considerations. It is notable that presentations by eNGOs at the recent Select Committee on the Fisheries Amendment Bill identified the need to review the HSS.

4.2.4 Probability

49. We support the use of a 50% probability when considering the rebuild of East coast tarakihi and FNZ's position to deviate from the HSS regarding having a rebuild probability of 50% is described in depth in paragraph 63 of the 2022/23 Review.
50. The High Court ruling on the 'Second cause of action: error of law – probability of achievement' found in favour of the Minister and noted that *'it was not an error of law to adopt a TACC that had modelled a 50 per* cent probability of achieving the target.'
51. Different probabilities are stated within the HSS which results in an unclear and inconsistent use of probability. A review of these shows as highlighted by FNZ that:

- The use of a probability level of 70% for achieving the target instead of 50% is intended to provide some assurance that rebuilding plans are not ended too soon. It may, in addition, allow time for demographic characteristics like an age structure truncated by fishing pressure to resolve (MF 2008).'[16]
- The 50% is considered reasonable and is consistent with other areas of work referenced in the HSS that use 50% and other countries also refer to 50% in places. Reflecting on this it is reasonable and appropriate to use a 50% probability due to the following reasons:
- s13 (2) specifies MSY and does not require age composition to be addressed but only the biomass that meets MSY. The HSS use of 70% probability conflates this and goes beyond the Act.
- The reference to 70% in the HSS is a generalisation and does not reflect the specifics of any fishery. It is based on the following rationale:
  "The reason for requiring a probability level greater than 50% is that a stock that has been severely depleted is likely to have a distorted age structure (an over-reliance on juvenile fish, with relatively few large, highly fecund fish). In such instances it is necessary to rebuild both the biomass and the age composition." However, the target is based on a biomass level so has no specific relation to age structure.
- Internationally 50% is used as a probability in terms of rebuilding as per paragraph 49 of the 2021/22 Review
- Probabilities used for limits are based on 50% - for example the determination of a stock requiring a formal rebuild timeframe is based on a 50% threshold that the stock is below the soft limit.
- With regard to east coast TAR, there has been no information provided to indicate that there is a distorted age structure and given that this is the primary reason for 70%, there can be no rationale to support its use.

[16] https://publications.gc.ca/collections/collection_2021/mpo-dfo/fs70-5/Fs70-5-2021-051-eng.pdf

4.3 Way and rate

52. The High Court ruling states the way and rate can take account of social, cultural and economic factors can be taken into account within the period appropriate to the stock.

    Social, cultural and economic factors come into play only after the Minister has decided on "the period appropriate to the stock", when he or she comes to determine the way in which and the rate at which a stock is moved towards a level that can produce MSY. [17]

53. When considering your way and rate decisions consideration should be given to the steps of a rebuild:

    - **STEP 1 -** The first aim of any rebuild is to ensure that the stock has stopped declining and is moving towards MSY.

      This has been achieved. Since the first TAC/ TACC reduction on 1 October 2018 the stock has started moving back towards MSY.

    - **STEP 2 -** The second aim is then to ensure that the stock is above the soft limit – this reduces the risk of any recruitment impairment.

      Whilst not yet achieved, the stock is currently at 19.3% B_0. This step has nearly been achieved and based on current projections is expected to be achieved by 2025.

    - **STEP 3 –** The third aim is to then return the stock back to a management target (default 40% B_0 for East coast tarakihi).

54. It is within your discretion as to the way and rate associated with the rebuild. When considering the way and rate in which a fishery rebuilds, the Minister shall have regard to social, economic and cultural considerations.
55. Given the appropriate rebuild is a range then Option 1 with a rebuild of 10 years represents the bottom of the range of the period appropriate to the stock. The 10-year period is determined largely without reference to socio-economic and cultural factors and certainly does not take account of the particular role that the east coast TAR plays in the catch plan of small fisherman throughout the entire east coast seaboard or the current circumstance.

[17] [93] of High Court case

5 Recognition of the socio-economic realities of your decision making

56. On the 8 June 2022 your speech on 'Navigating a sustainable future for our oceans fisheries recognised;

> *We've got some things we can be pretty proud of. Our management system has been more successful than most at addressing simple, sector-specific issues but has difficulty managing the complexity of interacting pressures and conflicting uses.*

57. We acknowledge this and in recognition of this provide analysis of the impact of management decisions.

5.1 Mental health and wellness

58. We have and will continue to support management setting reviews commensurate with the sustainability risk to the fishery to ensure the fisheries long-term health and viability for current and future generations.
59. It will be the regional fishers that will bear the brunt of TACC reductions. We request that you use your discretion to recognise both the ongoing commitment of industry to rebuild this fishery and the current cost of living crisis that fishers are experiencing arising from COVID but exacerbated by the fuel cost rises resulting from the war in Ukraine. It is worth recognising that with current fuel costs, using the analysis that FNZ undertook when considering the installation and operation of cameras on the inshore finfish fleet, no inshore trawlers are financially viable - all are operating at a net loss currently when all costs are included (see paragraph 73 below).
60. Noting the impacts of COVID-19 and the broader significant changes announced by the Minister there are expected mental health and wellness implications to be expected given those exiting the fishery will be unable to provide for their families and service debt – or successfully sell their vessels. Given this government's focus on wellbeing and the establishment of First Mate (an initiative the FNZ recognised the need for considering all the pressures on industry participants), it would be concerning if unnecessary harm and suffering was imposed in a situation where alternative management options are available to offset these socio-economic impacts. Unnecessary conservatism will have very serious economic and social consequences, some irreversible.
61. For some operators, the loss of income will negate their ability to service debt and could lead to calling in of loans and inability to pay mortgages. The inability to service debt can lead to the need to close business or bankruptcy. These economic impacts will impact on investor confidence in the industry and influence the cost of capital of remaining participants.

5.1.1 Fleet rationalisation and regional impacts

63. New Zealand's inshore fisheries have a proud history of coastal fishing communities and fishers domiciled throughout the country. These are the fishers that provide fish to local business and direct to customers through wharf sales. However, the presence of these fishers is increasingly under pressure and your decision on east coast TAR has the potential to add increased pressure to these fishers, their families and children and their crew. Fish is another important protein source that otherwise would not be available to the 80% of us that eat fish every month (compared to the 9% that recreationally fish once a year) were it not for the commercial fishers. Tarakihi is sold domestically throughout the country with only a small percent (5-10%) exported.
64. While ensuring that we rebuild the fishery within the appropriate period selected within the range, we consider that the way and rate decision also carefully consider the real world realities for fishers, their families and the companies that support them. The socio-economic realities of the FNZ options are that it will be regional family-owned businesses and labour that are most severely impacted. The reality of the management changes proposed are that:

    - the viability of inshore vessels will be impacted, and it will result in a reduction of the fleet. The effect of these changes along with other fore-shadowed policy changes will also mean that there are no buyers for vessels
    - it is expected that this will be the smaller family-owned local operators that are lost first
    - the people impacted will be those working in the regions
    - job losses, primarily in the regions and associated impacts on local businesses and indirect impacts on local economies such as a lack of fish supply to local companies. These impacts will not just be on the jobs to fishers but extend well beyond this to everyday people – working to feed their whanau and communities.
    - for some operators, the loss of income will negate their ability to service debt and could lead to calling in of loans and inability to pay mortgages. The inability to service debt can lead to the need to close business or bankruptcy. These economic impacts will impact on investor confidence in the industry and influence the cost of capital of remaining participants. While larger firms may be in a position to re-invest at a later time when the fishery has reached its target, that option will not be available to small regional businesses that have had their economic and financial base removed.

65. These concerns are apparent within FNZ's own analysis that shows there has been a rationalisation of the fleet (Table 4). Based on FNZ's figures there has been a total drop of 30 vessels in 4 years, representing a 20% reduction in the fleet. This is a significant decrease in a fleet and is expected to continue as current operational pressures are expected to result in more vessels withdrawing from the fleet and potentially tying up completely.
66. We consider this is an under-estimate as the analysis allows FNZ to include a vessel in their analysis that has targeted TAR once in the whole fishing year. It also doesn't show that for those vessels remaining there have been increased constraints on their catch plans and the need to reduce the number of fishing trips to make sure that TAR ACE is spread out across the fishing year to meet year-round local consumer demand (TAR is not a seasonal fishery and is eaten all year round).

67. This is an indication of the fleet rationalisation seen to date and further analysis should be sought from FNZ to provide you with analysis of the actual number of vessels that have targeted TAR more than 20 times in the fishing year from 1 October 2017 to present.

Table 4 A review of the vessel numbers indicated by FNZ consultation documents on East coast TAR. Note – only those fishing years where FNZ have provided vessel numbers for a fishing year within a consultation paper have been used

Fishing year	TAR1E	TAR2	TAR3	TAR7E	TOTAL
16/17	44	24	23	-	91
19-20	24	20	28	12	84
20-21	20	22	23	8	73
# overall reduction	-24	-2	0	-4	-30
% reduction	55%	8%	0%	-	20%

5.1.2 Financial stress

68. FNZ acknowledge in paragraphs 205 and 206 in the 2022/23 Review that the economic analysis only reflects short term losses and is a 'very basic analysis'. These decisions are proposed to apply for the duration of the rebuild and the impact should be appropriately portrayed for this period. Considering the potential impact on the livelihoods we consider it concerning that a more thorough economic analysis is not presented to inform the consultation.
69. For the 2019 Sustainability round decision a detailed economic analysis was conducted to determine the longer-term economic impacts of proposed changes and to reflect the regional impact of the different options. No rationale is provided as to why a similar more detailed analysis has not been conducted. FNZ had committed to undertaking this review since the release of the High Court ruling and as such had ample time to arrange this work.
70. We have previously outlined our concerns with the simplistic and binary approach to economic analysis and the lack of complexity include in the work to both understand the investment and economics of fishing or indeed the complexity of this fishery. Any economic analysis must factor in:

    - The financial stress operators and companies are under as a result of previous east coast catch limit reductions (cumulatively 32%). Especially operators that have been implemented the east / west split for three years but as a result of ACE constraints associated with increasing SNA8 abundance have been unable to utilise their TAR1W catch limit.
    - The financial impact of COVID-19 on companies that will be accentuated by significant changes in the TACC
    - Increased operating costs particularly fuel costs
    - The inability of fishers to target other stocks as a substitute for not being able to target tarakihi.

71. Table 9 provided in the 2022/23 Review provides a misleading view of the impacts of the FNZ options. Economic losses must account for lost future earnings - economic losses do not apply in a single year. The impacts of these decisions are not just for a moment in time. There is a

legacy to these decisions. Based on FNZ's calculations Option 1 has a rebuild time of 10 years meaning a total loss over this period of ~$41M for Option 1 while Option 2 which is a 15 year rebuild equates to ~ $28M.

72. In addition to the stress that could be imposed by these measures, fishers in general are under severe financial pressure from the recent escalation in fuel prices. Diesel prices have doubled in the last year and are now at $3.10 per litre. For the consultation on the "The Wider Roll-Out of On-Board Cameras" the Ministry commissioned a financial analysis of the inshore sector from Market Economics [18]. The recent movement in fuel prices when applied to the Market Economics analysis indicates that fishers are today operating on negative profit margins with no drawings and many facing significant losses for 2021/22 and the near future. A small fisher operating in the South Island east coast tarakihi trawl fishery has informed us that he is effectively living on his pension rather than drawings from fishing and is continuing to fish to provide his crew member with a living. A large operator in that area has indicated that with his fuel bill doubling this year, his financial position will have turned from a small profit last year to a loss of over $500,000 this year. He continues to fish on the largesse of his banker. The ability of fishers to sustain revenue cuts as a result of any tarakihi TACC reduction will add further woes to the industry.

5.2 Environmental interactions associated with bycatch species

73. The section on fish bycatch demonstrates a misunderstanding of the status of the stock for the species composition associated with east coast TAR.
74. Paragraph 181 of the 2022/23 Review states there may be a shift in effort by fishers to other stocks. This shows a lack of understanding of the status and management settings for the associated stocks identified in the 2022/23 Review that are currently restraining effort.
75. For TAR2, two of the key stocks are SNA2 and TRE2. Suggesting a transfer of effort to these stocks ignores the fact that the best available data shows SNA2 has been fully caught for at least the last 5 years (Figure 4) and fishers are paying significant deemed values each year. A similar situation applies to TRE2. In both cases fishers must avoid these fishstocks because of the deemed values that would apply if more was caught. Ironically in both cases abundance is continuing to increase, with SNA2S being above the management target (Figure 5 and 6) and the latest stock status for TRE2 shows that it is linked with TRE1 which is considered above the management target (Figure 7). These stocks are above the management targets but have not had their TAC/TACCs reviewed and as such are choke species restricting sustainable utilisation.
76. For TAR1, SNA1 was given an overly simplistic characterisation of the fishery. The latest pre-recruit surveys showing increases of 139% and 87% (Figure 8).[19] We recognise that the stock assessment is still proceeding and is spatially complex and that the 2022/23 Review does not provide you with the best available information about this situation to support your decision-making .
77. Figures 9 and 10 show that best available information on gemfish abundance as these fisheries overlap with East coast TAR (TAR1, TAR2, TAR3 and TAR7). The gemfish abundance indicators

[18] Financial analysis of inshore fisheries: Profitability and cost incidence of the wider rollout of the On-board Cameras Programme (mpi.govt.nz)
[19] https://www.mpi.govt.nz/dmsdocument/44368-FAR-202108-Trawl-surveys-of-the-Hauraki-Gulf-and-Bay-of-Plenty-in-2019-and-2020-to-estimate-the-abundance-of-juvenile-snapper

show abundance is increasing and management settings are constraining and restricting sustainable utilisation.

78. Paragraphs 74 – 78 above and the associated figures on the following pages show that due to constraining management settings for a range of species the more likely outcome is a change in behaviour with increasing avoidance behaviour, which depending on the scale has the potential to undermine the future monitoring of the stock. Management decisions need to be made to ensure sustainable utilisation. However, when doing so, it is important to understand the fisheries in question and the species complexes to ensure long-term future monitoring and management is considered.

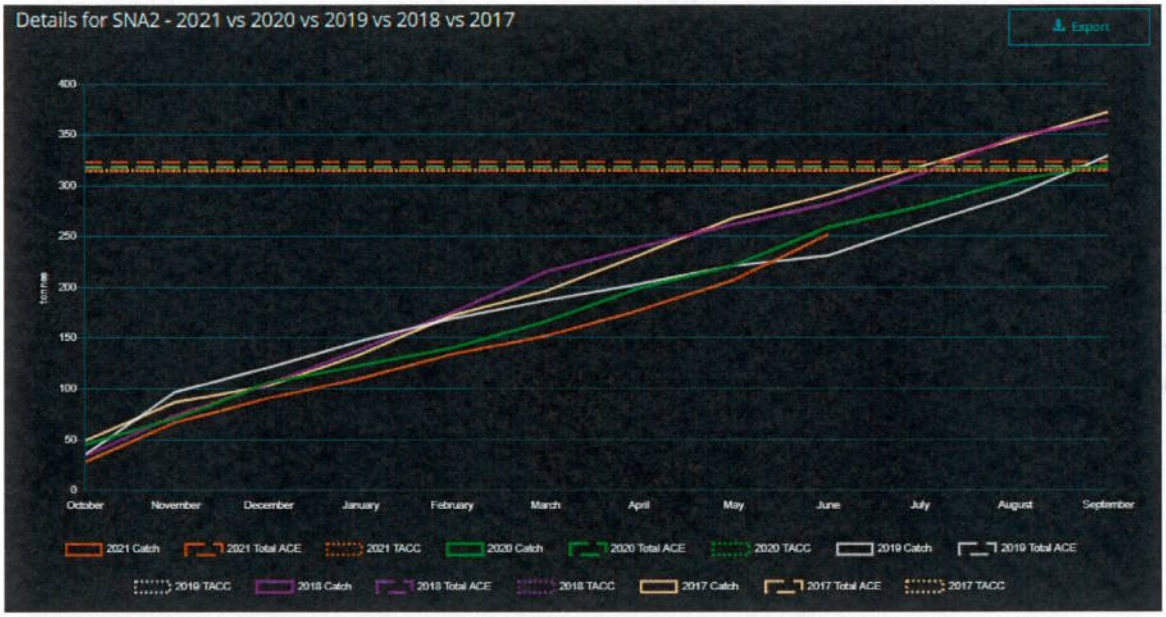

Figure 4 SNA2 Catch trends from 2017 – 2021

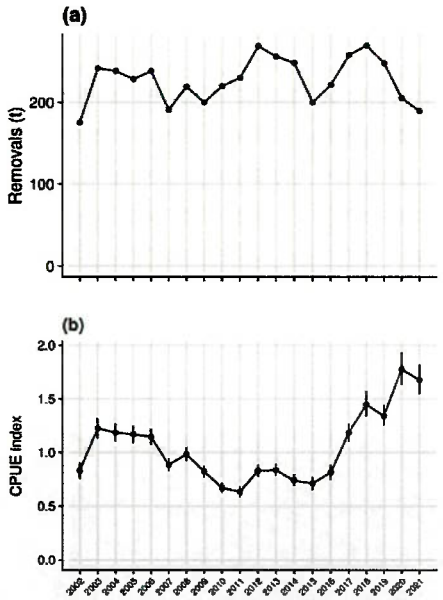

Figure 5 Historical Stock Status Trajectory and Current Status for SNA2N (a) Annual commercial removals for SNA 2N; (b) the standardised catch per unit effort (CPUE) index for SNA 2N from trawling targeting gurnard, snapper, tarakihi and trevally. (Source: May 2022 Plenary - https://www.mpi.govt.nz/dmsdocument/51739-Fisheries-Assessment-Plenary-May-2022-Stock-Assessments-and-Stock-Status-Volume-3-Red-Gurnard-to-Yellow-eyed-Mullet)

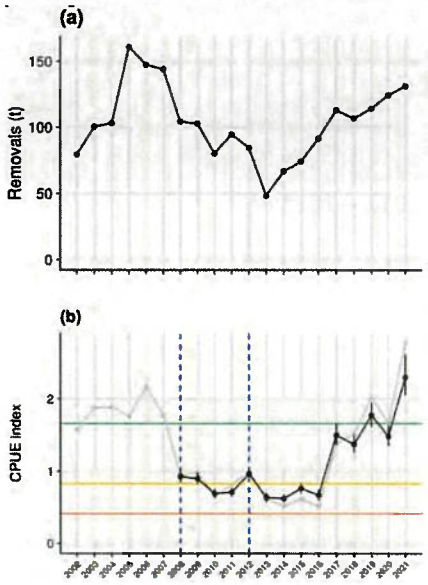

Figure 6 Historical Stock Status Trajectory and Current Status for SNA2S. (a) Annual commercial removals for SNA 2S; (b) the standardised event resolution catch per unit effort (CPUE) index (black line), relative to the agreed reference points, for SNA 2S from trawling targeting gurnard, snapper, tarakihi and trevally. Reference period by blue vertical dashed lines. Longer daily resolution standardised CPUE index shown in grey. (Source: May 2022 Plenary - https://www.mpi.govt.nz/dmsdocument/51739-Fisheries-Assessment-Plenary-May-2022-Stock-Assessments-and-Stock-Status-Volume-3-Red-Gurnard-to-Yellow-eyed-Mullet)

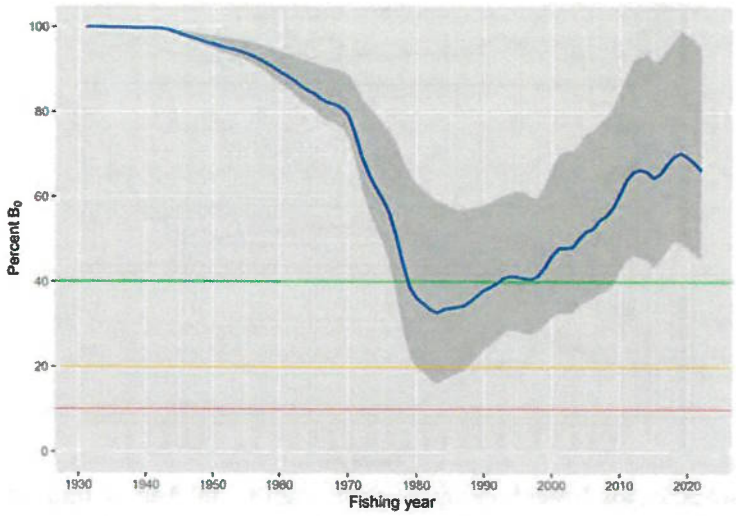

Figure 7 Historical Stock Status Trajectory and Current Status for TRE1. Spawning stock biomass from the MCMC for the base model, with 95% credible interval. Horizontal lines are the 40% target (green), soft limit (orange), and hard limit (red). (Note - There is no accepted stock assessment for TRE 2. Trevally in TRE 2 are thought to be part of the biological stock located in the Bay of Plenty (TRE 1); therefore, future assessments for TRE 2 will be undertaken in conjunction with TRE 1. (Source: May 2022 Plenary - https://www.mpi.govt.nz/dmsdocument/51739-Fisheries-Assessment-Plenary-May-2022-Stock-Assessments-and-Stock-Status-Volume-3-Red-Gurnard-to-Yellow-eyed-Mullet)

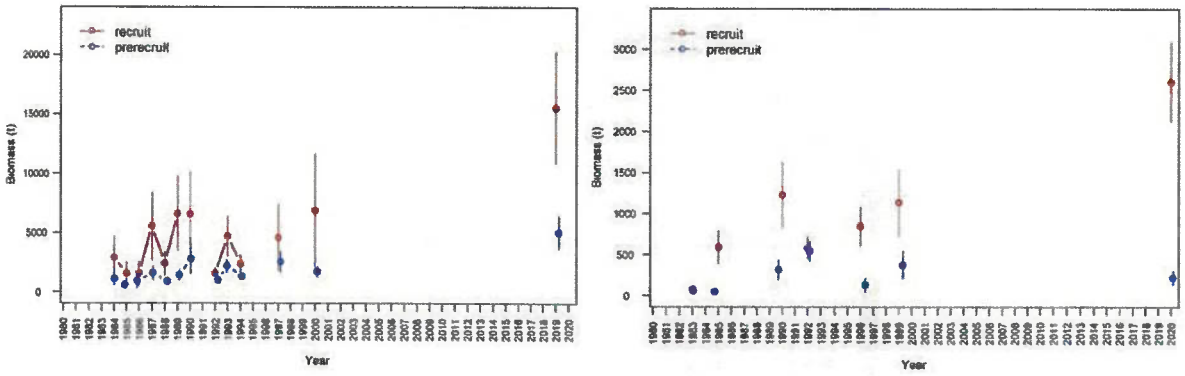

Figure 8 Latest SNA 1 trawl survey results. Left hand side - SNA 1 Hauraki Gulf biomass trends with 95% confidence intervals for pre-recruit (dashed blue line) and recruited (solid red line) fish for the most common QMS species (all sexes combined). Right hand side - SNA 1 Bay of Plenty biomass trends with 95% confidence intervals for pre-recruit (dashed blue line) and recruited (solid red line) fish for the most common QMS species (all sexes combined).

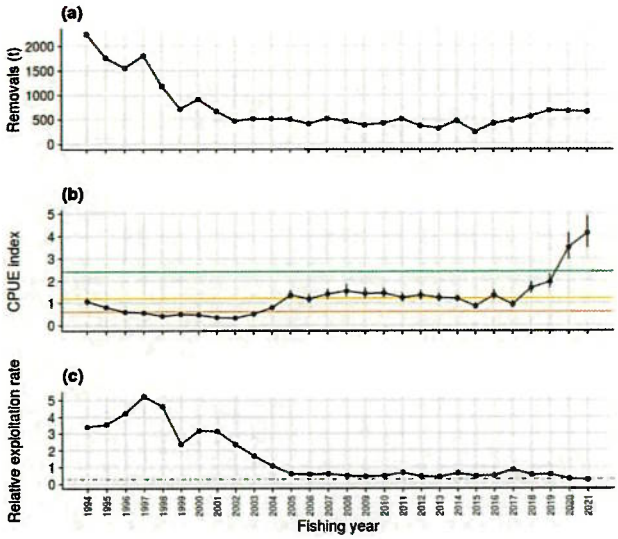

Figure 9 Historical Stock Status Trajectory and Current Status . (a) Annual removals for SKI 1 and SKI 2; (b) the standardised catch per unit effort (CPUE) index, relative to the agreed reference points, for SKI 1 and SKI 2 from trawling targeting hoki and gemfish; (c) annual relative exploitation rate (catch/CPUE) for gemfish in SKI 1 and SKI 2. The green, orange, and red solid lines in (b) represent the interim target, soft limit and hard limit respectively. The green dashed line in (c) represents the overfishing threshold. (source: May 2022 Plenary - https://www.mpi.govt.nz/dmsdocument/51730-Fisheries-Assessment-Plenary-May-2022-Stock-Assessments-and-Stock-Status-Volume-1-Introductory-sections-and-Alfonsino-to-Hoki)

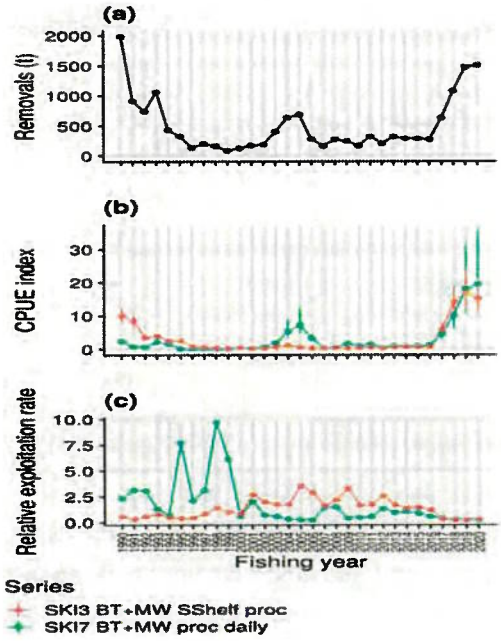

Figure 10 Historical Stock Status Trajectory and Current Status . (a) annual removals for SKI 3 and SKI 7; (b) the standardised catch per unit effort (CPUE) indices for SKI 3 and SKI 7 from daily processing records; (c) annual relative exploitation rate (catch/CPUE) for gemfish in SKI 3 and SKI 7 implied by the two CPUE indices. (source: May 2022 Plenary - https://www.mpi.govt.nz/dmsdocument/51730-Fisheries-Assessment-Plenary-May-2022-Stock-Assessments-and-Stock-Status-Volume-1-Introductory-sections-and-Alfonsino-to-Hoki)

6 Assessment of the FNZ proposed options

6.1 We support Option 2 – with an amended approach to implement it

79. We support the rebuild timeframe of 15 years as proposed by Option 2 in the 2022/23 Review. This is consistent with industry's commitment to rebuild the fishery to achieve 40% B_0 by 2038.
80. Our support of Option 2 demonstrates our continuing efforts to deliver our commitments to rebuild the fishery.

6.1.1 We propose a different allocation pathway to achieve the reduction in catch

81. Option 2 in the 2022/23 Review (FNZ Option) provides for a pragmatic reasonable approach to providing for sustainable utilisation. We consider this option balances the dual limbs in the purpose of the Act and enables you to make a risk-based decision reflecting the current trajectory of the fishery and its historical stock status.
82. As detailed in Table 2 we propose an apportionment of the catch reduction in terms of the east coast catch limits and in Table 3 the notional TACCs. The pathway proposed to achieve the catch reduction required to rebuild the stock within 15 years as per FNZ's projections is:

- **Step 1** –TACC cuts to all areas to reduce the total catch down to the catch level as proposed by Option 3 in the 2022/23 Review (FNZ Option).

  Step 1 aims to achieve a proportionate reduction in the TACC as possible to reflect both the complexities of the east / west split and the ongoing commitments from all areas involved in the Rebuild Plan (TAR1, TAR2, TAR3 and TAR7).

- **Step 2** - Apply further catch reductions via shelving to reduce the catch levels down to the overall reductions equal to FNZ's Option 2

  We propose shelving that will achieve the required catch levels as per Option 2 to rebuild the stock in 15 years. The second step is allocated only to TAR2 and TAR3 in order to recognise the management constraints associated with TAR1E and TAR7E.

6.2 We reject Option 1

83. Fisheries Inshore recommends that you reject Option 1.
84. Any of the FNZ options provided in the 2021/22 Review will have significant socio-economic consequences. Impacts of this degree will seriously jeopardise the ability for industry to invest in and continue to implement the full range of measures in the Rebuild Plan. We cannot support Option 1 because as noted in Section 4.3 Option 1 would be dismissing the real social, economic and cultural considerations for the east coast tarakihi fishery.

85. We question whether it is conscionable to place additional costs and stress on fishers at the level suggested by Option 1. Option 1 does NOT provide a proportionate reasonable management decision that is commensurate with the sustainability of the stock considering the history of the fishery especially when:

    a. the stock status is improving
    b. fishing mortality is declining
    c. under all projections the stock will continue to rebuild
    d. the stock is now at approximately the level it has been for the last 45 years. A 10 year rebuild timeframe does not reflect the history of the fishery and the last time the stock was at 40%B_0
    e. the rebuild period of 10 years (permissible but at the lowest end of the range included) takes very limited account of socio-economic and cultural effects as recognised in the Harvest Strategy Standard (HSS) whereas it is known that this fishstock is the core ingredient of inshore fishers' annual catch-plans across the country
    f. we have and will continue to support management setting reviews commensurate with the sustainability risk

86. Since 1 October 2018 industry has absorbed over $13.5 million lost revenue. These losses are based on the quantum of TACC reductions multiplied by port price each year between 2018-19 to 2021-22.
87. Port price estimates of the losses to date are considered an underestimate of the real term losses during this timeframe.
88. These losses have been accepted as part of our efforts to rebuild this fishery but have been exacerbated by the COVID pandemic, the cost-of-living crisis, economic uncertainty.

6.3 We acknowledge the discretion of the Minister to choose Option 3

89. The industry is facing unprecedented costs at the moment, with fuel, general inflation, and the raised cost of the minimum wage. We would support Option 3 as it reflects the holistic approach to fisheries management and the current economic hardship and uncertainty faced by fishers. If you used your discretion to choose Option 3, we would support this as it demonstrates that you acknowledge the financial, mental and cultural impacts that larger TACC cuts would have to the regional inshore fleet compared to the other options.

7 Development of a S11A Fisheries Plan

90. We consider that a fishery as important to New Zealand as east coast TAR deserves an active and informed Rebuild Plan that uses the most effective combination of measures in order to sustain the biological, social, economic and cultural factors associated with it. Ultimately, we aspire to sustainable fisheries and a future of abundance for tarakihi and all the inshore species we rely on and value along with the ecosystems they are a part of.
91. It is imperative that short-term management decisions enhance the monitoring tools to determine stock status in order to support evidence-based decision making.
92. The Rebuild Plan is a commitment to adaptive management with a 'Reduce – Research – Reassess' approach. In recognition of new information from the latest stock assessment and changing environmental conditions we recommend that a S11A Fisheries Plan be developed and as part of this a multi-stakeholder working group develop a research plan to address future monitoring and management plans is required.

7.1 Establishment of a multi-stakeholder group

93. The consultation paper does not provide any additional information to better inform the management of the stock. The paper identifies no additional research services to improve knowledge of the stock structure or management initiatives to address complex fishery management issues.
94. A multi-stakeholder working group to develop a research plan to address future monitoring and management plans is required. This is needed to address existing scientific uncertainties in the model and address risk areas to the continued monitoring of the stock as identified in the latest stock assessment.

7.1.1 Review of the current CPUE monitoring tools

95. With regard to fish bycatch, in the absence of changes in sustainable catch limits for these fishstocks, the more likely outcome is a change in behaviour with increasing avoidance behaviour that, depending on the scale, has the potential to undermine the future monitoring of the stock. We are not suggesting that management decisions should be made that do not ensure sustainable utilisation of those bycatch stocks.
96. It is important to understand the fisheries in question and the species complexes to ensure long-term future monitoring and management is considered. An example of unintended consequences can be seen in SNA8 where an absence of management decisions has now undermined the recent years of CPUE data leading to CPUE underestimating abundance.[20] BNS is another example where TAC decisions without considering long term monitoring resulted in a paucity of data to underpin stock assessments.[21]

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20 Paragraph 67 of Fisheries NZ Discussion Paper No: 2021/09
21 There were both fishery specific and general concerns about using CPUE to monitor biomass. Revised CPUE analyses were conducted, and confirmed some issues identified by members of the fishing industry. In particular, the recent imposition of a restrictive TACC appeared to cause substantial changes in fishing effort and behaviour, making a CPUE index that crossed that time period (as used in the assessment) difficult to justify. (https://www.mpi.govt.nz/dmsdocument/42715-FAR-202034-Developing-a-stock-assessment-for-New-Zealand-bluenose)

97. The impacts of fisher behaviour on the reliability of CPUE as a monitoring tool must be considered. In our 1 October 2018 submission this concern was raised[22] and is supported by FAR 2022-07 which notes 'the Plenary selected the three-region spatial model as the preferred model option ('base case'), principally due to the substantial improvement in the fit to the CPUE indices relative to the single-region model.' This emphasizes the importance of the CPUE series and it is imperative that these are understood and that TACC changes recognise / plan to understand what impacts it will have on the CPUE series and not undermine their utility for ongoing monitoring of the stock.
98. FAR 2022-07 recognises this and states 'The uncertainty in the recent trends in the CPUE indices has highlighted the need to improve the monitoring of the abundance of tarakihi in the main areas of the fishery.'[23]
99. Industry proposes that the efficacy of abundance monitoring tools (surveys and CPUE) should be reviewed in order to reflect fishery dynamics in response to changing environmental conditions. This would continue to support, improve or establish surveys where appropriate to provide reliable abundance indicators to meet the current and future needs of east coast fisheries including tarakihi.
100. Industry will support expanded catch sampling to ensure comprehensive sampling in all appropriate areas and the collection of all important data to improve our knowledge for future stock assessments.

7.1.2 Other sources of fishing related mortality (OSFRM)

101. While industry has previously requested OSFRM to be reduced from the current default of 10%, paragraph 112 of the 2022/23 Review rationalizes why FNZ consider that 10% is appropriate at this time.
102. FNZ state that data obtained from the camera rollout will provide the avenue to review this setting. The logical conclusion from this statement, given cameras are looking to verify catches, and reference to observer coverage in paragraph 111 of the 2022/23 Review means that FNZ consider illegal discarding to be the main source of OSFRM regardless of the description provided in paragraph 109 of the 2022/23 Review.
103. Given the low level of sub-MLS (less than 1% as set out in the quarterly reports (and for the period 1 July to 30 September 2021 it was 0.11%))[24] there is an ability now to adjust the level of the OSFRM to 5% as a precautionary level and then adjust that using verification of catch coming through the future camera programme subsequently. Industry therefore proposes a reassessment of the validity of setting 'other sources of fishing related mortality' at 10% of reported catch and proposes that 5% be used instead.

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22 [104] Engagement with industry highlighted to both scientists and managers that there is a disconnect between the CPUE analysis used in the stock assessment and the nature of the fishery. There have been some subtle changes in the fishery that need to be better understood. To achieve this, a research project is required for scientists to engage with fishers and identify the data fields that are currently not collected that would better inform CPUE analysis. For those fields already collected, it will provide assurances that the correct information is being collected and analysed. This work will ensure that the CPUE used in the upcoming TAR assessment (2020/21) has accounted for the uncertainties outlined Section 3 of this paper.
23 FAR 2022-07 at page 53
[24] https://www.mpi.govt.nz/dmsdocument/51874-The-Eastern-Tarakihi-Management-Strategy-and-Rebuild-Plan-Progress-Report-Quarterly-Report-1-July-30-September-2021

7.1.3 Review of the ECSI inshore trawl survey and a reintroduction of the ECNI inshore trawl survey

104. FAR 2022-07 states 'The reinstatement of the ECNI inshore trawl survey would provide contrast with the abundance indices from the early-mid 1990s and provide ongoing monitoring of the component of the eastern stock that accounts for the largest proportion (~40%) of the catch.'[25]
105. Though repeatedly requested by industry the FNZ 2022/23 research round did not include a ECNI Survey again. This indicates FNZ are not adequately prioritising the ECNI survey and the long-term importance of protecting and ensuring there is an accurate long term abundance indicator for TAR2 and other ECNI fish stocks.
106. Associated with this is the increased concern regarding the ECSI surveys and their ability to monitor TAR abundance, recognising the level of variability within the results and the potential changes in the distribution and movement of the fishery. It would be important that officials analyse the trends in the Tangaroa survey and determine whether there is any TAR catch that should also be noted as being offshore to that caught in the ECSI survey.

7.1.4 Recreational fishing

107. The technical detail provided paragraph 103 of the 2022/23 Review needs to be updated to reflect the recent management changes to the daily bag limits. Has an assessment been done to indicate whether this bag change will reduce recreational fishing catch?
108. Recreational catch is shown to increase in relation to abundance and as such focus for recreational catches should be on the equity of catch allocations and actual resulting catch as the stock rebuilds. We consider that each sector should be managed with the limits set by the Minister for the rebuild. Regardless the Ministry must ensure that any increased recreational catch does not jeopardise the rebuild.
109. Paragraph 219 of the 2022/23 Review identifies that a review is being considered at a later date. However, the concern here is that there is a perverse incentive for recreational fishers to catch more and report more as part of the 2022/2023 panel survey.
110. Industry recommendations are to:

- Increase the frequency of national panel survey
- Support the review of recreational catches after the National Panel Survey of Marine Recreational Fishers for the 2022/2023 fishing year
- Review the position of Amateur Charter Vessels (ACVs) as recreational vessels and review the level of reporting and scientific data collected onboard these vessels.

7.1.5 Stock structure and movement

111. The relationship between TAR 5 (Southland) and the east coast tarakihi stock is unclear. The limited age composition data available from the TAR 5 fishery are consistent with the corresponding data from TAR3-BT fishery. However, the increasing trend in CPUE from TAR5-BT is not consistent with recent trends in TAR3-BT CPUE indices and ECSI trawl survey biomass

[25] FAR 2022-07 at page 53

indices. Further sampling of the TAR 5 fishery is required to elucidate the relationships between TAR 5 and the eastern and western tarakihi stocks.[26]

112. Movement rates are estimated to have fluctuated between 5 and 10% per annum. The model estimated a decline in movement rates over the last 4 years, resulting in a higher proportion of older fish being retained within the southern region.[27] The impact of this on the management and monitoring of the stock needs to be understood.
113. We are concerned that there is no indication from FNZ that the required management discussions and deliberations, aligned with a management priority driven research plan, to assess how broader environmental impacts such as warming waters and terrestrial factors, will impact the productivity of stocks and their distribution (e.g. range expansion).

[26] FAR 2022-07 at page 53
[27] FAR 2022-07 at page 53

SOUTHERN INSHORE FISHERIES
MANAGEMENT COMPANY LIMITED

Sustainability Review October 2022
Fisheries Management, Fisheries New Zealand
Email: FMsubmissions@mpi.govt.nz

22 July 2022

Review of Sustainability Measures for East Coast Tarakihi (TAR2, TAR3 and eastern portions of TAR1 and TAR7) for 1 October 2022/23

1. Thank you for this opportunity to comment on the review of sustainability measures for East Coast Tarakihi, where Southern Inshore represent TAR3 and the eastern portion of TAR7 on behalf of our shareholders.

2. Southern Inshore Fisheries Management Co. (Southern Inshore) represents 104 inshore fishstocks throughout the Fisheries Management Areas 3,5,7 & 8. In addition to representation and advocacy for shareholders the Company also invests in annual research projects, for additional monitoring of key stocks, over and above the cost recovery process.

3. Southern Inshore is a member of Fisheries Inshore New Zealand (FINZ) which is our sector representative entity (SRE) to Seafood New Zealand (SNZ).

4. FINZ and Southern Inshore have provided a comprehensive submission on the whole of the East Coast Tarakihi consultation which we fully support. This submission is provided to reiterate the Southern Inshore position and commitment to the TAR rebuild.

5. The contact for this submission is Carol Scott.

Continuation of TAR East Coast rebuild

6. Southern Inshore recognise the requirement for the ongoing rebuild of the TAR East Coast stock and the management plans that provide additional management provisions over and above reductions to the catch and shelving arrangements.

7. Further, the commercial sector is committed to the duration of the rebuild timeframe and are prepared to go beyond those provisions where necessary to facilitate the rebuild. Our commitment to a 20 year rebuild is publicly recognised and documented through numerous science analyses and regular quarterly reports.

Use of most recent data

8. The FNZ consultation document does not fully represent the most recent data analyses plot for SB_0 to allow the respondents to fully understand the increasing trend and rebuild in the TAR East Coast stock. See figure 1 from the 2021 assessment, whereas the consultation paper uses a plot from 2019 sustainability review round. The comparison between plots shows that the fishery is continuing to rebuild on the projected level.

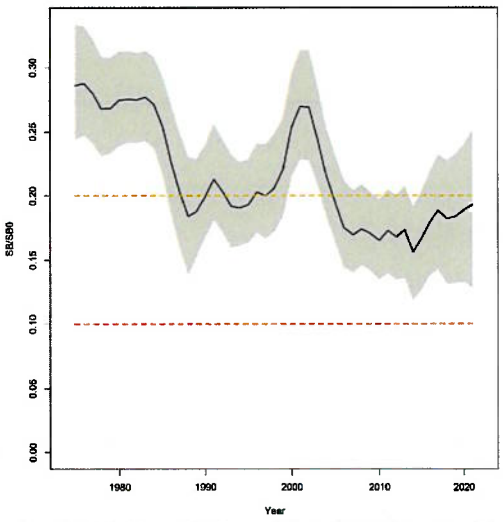

Figure 1. Annual spawning biomass relative to SB_0 estimated from the three-region assessment model. The black line represents the median of the MCMCs and the shaded region represents the 95% confidence intervals. The orange and red dashed lines represent the soft limit and hard limit reference points, respectively.

9. Figure 1 is taken out of the Fisheries Assessment Report 2022/07 – A stock assessment of eastern tarakihi for 2021, A.D. Langley, March 2022. This paper is publicly available and includes the assessment that was presented to the FNZ working group in 2021. There is no reason why FNZ staff drafting the consultation document could not have used the most recent data and plots.

Summary of Southern Inshore Position

10. Southern Inshore agree to Option 2 but observe the additional amendments provided in the FINZ submission for Option 2.

We also agree to the continuation of the TAR7E/W split and the shelving for the TAR 7E portion.

Whilst TAR5 is adjacent and closely related to TAR3 there is not enough evidence to assume that this QMA be included in any East Coast TAR assessment. It was noted that catch comparisons do not show a movement between TAR5 and TAR3.

It is identified that further discussions are required on how to get additional information in the 7E and lower TAR3 QMA area that are not covered by the ECSI trawl survey. Southern Inshore will discuss those options with FNZ and NIWA science providers. The main limitation will be the cost involved with adding additional strata to the survey or dedicated at-sea sampling.

Bob Gutsell
President
NZ Sport Fishing Council
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12 July 2022

Submission to the review of sustainability measures for East Coast Tarakihi (TAR 1E, 2, 3 and 7E) for 2022–23

Recommendations

The Minister -

1. **Sets a combined Total Allowable Catch to rebuild the eastern tarakihi in a time appropriate to the stock** by reducing the combined Total Allowable Commercial Catch for east coast tarakihi and achieving the following combined outcomes –
    a. A 27% reduction of the Total Allowable Catch (TAC) in TAR 1, 2, 3 and 7 (FNZ option 1);
    b. A 40% reduction of the Total Allowable Commercial Catch (TACC) in eastern tarakihi areas of TAR 1, 2, 3, and 7 (FNZ option 1);
    c. Ignores attempts to reset the rebuild start clock and accepts that 2018 was the first year of the rebuilding plan; and
    d. Rebuilds the eastern tarakihi stock to 40% of estimated unfished biomass by 2032.
2. **Divides TAR 1** at North Cape to create two separate Quota Management Areas, one spanning the east coast down to Cape Runaway, the other from North Cape to Tirua Point, south Waikato.
3. **Designates** the two main eastern spawning areas as 'habitats of particular significance for fisheries management' which must be protected in accordance with the environmental principles of the Fisheries Act 1996, and they must be closed to fishing methods that can both disrupt spawning behaviour and significantly reduce the number of fish spawning.
4. **Acknowledges** the need to use both the best available science and the current Fisheries New Zealand policy on rebuilding stocks that are below the soft limit.

5. **Acknowledges** our objection to the commercial fishing industry's sponsored management proposal which has not, and will not, deliver a time bound rebuild of the eastern tarakihi stock.

6. **Acknowledges** our support for the Government's Ocean Vision and the need for the Government to take action to ensure more ecosystem-based research, monitoring and effective management. This will help New Zealand align with international best practice that promotes management targets of 50% of the unfished biomass to help achieve more resilient ecosystems.

The submitters

7. The New Zealand Sport Fishing Council (NZSFC) appreciates the opportunity to submit on the proposals for the future management of east coast Tarakihi 1, 2, 3, & 7. Fisheries New Zealand (FNZ) advice of consultation was received on 7 June 2022, with submissions due by 12 July 2022.

8. The NZ Sport Fishing Council is a recognised national sports organisation of 55 affiliated clubs with around 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.

9. The New Zealand Angling & 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.

10. The New Zealand Underwater Association is comprised of 43 clubs nationally who represent a cohort of approximately 160,000 participants in underwater activities in New Zealand. These activities include diving, snorkelling, freediving, fin swimming, underwater hockey, spearfishing, underwater photography, underwater rugby, ghost diving marine clean up and Experiencing Marine Reserves. Through our membership we are acutely aware that the depletion of inshore fish stocks has impacted on the marine environment and our members' wellbeing.

11. 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].

12. 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,

Background

13. Tarakihi has long been an important component of catch for customary Māori, commercial and recreational fishers. Tarakihi are distributed around New Zealand preferring cooler, deeper waters in the north and 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.

14. When tarakihi were 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. In 2017-18 the combined TACC for the four Quota Management Areas 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.

15. 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 had declined to 15.9% of the unfished biomass in 2018. The most recent assessment is the eastern tarakihi stock is at 19.3% of unfished biomass.

16. 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% and the Minister has confirmed that the current management target is 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. The submitters developed a comprehensive submission in 2018 emphasising the need for an effective rebuild given the excess exploitation of the eastern stock over decades.

17. Minister Nash's directives for the rebuild of this fishery in his 2018 decision letter included:

    - A biomass target of 40% SB_0 (40% of unfished spawning stock biomass) 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.

18. 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".

19. In 2019, the Minister implemented the second stage of the plan, which included a further 10% reduction to the TACC. During the 2019 review, the Minister also agreed to the implementation of the Eastern Tarakihi Management Strategy & Rebuild Plan 2019 (the Industry Rebuild Plan). The Industry Rebuild Plan consisted of a series of voluntary measures aimed at reducing the rebuild timeframe, and committed to a shorter rebuild period of 20 years with an interim target of 35% SB_0.

20. In December 2019, Forest and Bird filed proceedings seeking a judicial review of the Minister's 2019 decision, arguing that the catch limit reductions were not sufficient to allow East Coast tarakihi to rebuild within a "period appropriate to the stock".

21. In June 2021, the High Court found in favour of Forest and Bird and directed the Minister to review the Total Allowable Catch (TAC) and TACC settings for East Coast tarakihi in 2021, having regard to findings in the judgment.

22. In light of the planned November 2021 stock assessment, the High Court granted a stay of its decision until 1 October 2022 to enable the Minister to consider this assessment for the October 2022 review.

23. Following the High Court decision, Fisheries Inshore New Zealand (an organisation representing the inshore commercial fishing industry) filed an appeal of the June 2021 High Court decision. This appeal was heard in March 2022 by the Court of Appeal, which is yet to issue its decision.

Proposals to rebuild the eastern tarakihi stock

24. The ruling from the High Court in June 2021 found that a "period appropriate to the stock" should be assessed before deciding the way and rate a fish stock is rebuilt to its management target. FNZ has undertaken a review of tarakihi biology and international approached to setting rebuild periods, which concluded that any time period in the range of 10 –19.7 years would be appropriate for rebuilding the East Coast tarakihi stock. This does not match with the current Harvest Strategy Standard which is a mandatory consideration according to the High Court.

25. The submitters are resolute that the best available science and international standards support rebuilding to target should be no longer than twice T_{min} ($2*T_{min}$) in cases where T_{min} can be estimated from a quantitative stock assessment. (T_{min} is the minimum time to achieve rebuild to target in the absence of all fishing related mortality.)

26. Most fish stocks are able to rebuild quickly, even from an overfished state, when conditions are right. We have seen that in SNA 7 and SNA 8. With eastern TAR, recent recruitment has been low and future average recruitment is a major uncertainty affecting model projections.

27. The submitters note that the eastern TAR population has been slow to respond to the 20% reduction in TACC in 2018, plus the 10% reduction in the TACC and the industry rebuild plan in 2019. National Panel Survey estimates show recreational harvest declined between 2012 and 2018. In 2018 the combined allowance for recreational fishing interests in eastern TAR was reduced from 652 t to 221 t (-66%).

28. The most recent assessment is the eastern tarakihi stock is at 19.3% of unfished biomass. Given the slow rebuild since 2018, the high exploitation rate, and the ongoing targeting of spawning aggregations, it is clear that reaching the current management target will take longer than 2 times T_{min}.

29. As we advocated in our 2018 submission, had more decisive action been taken at the completion of the 2017 stock assessment the rebuild would be well under way by now. Instead, **the stock assessment projections have eastern TAR declining for the next two years,** falling below where it was in 2017 and finally reaching 20.6% of unfished biomass by 2026 (Figure 1).

30. Considering the projections in Figure 1 it is a warning to all concerned that the target spawning stock biomass of 40% ($SB/SB_0 = 0.40$) is off the chart, and the projected median value in 2032 is 27% of the unfished biomass. **Management tinkering is not working.**

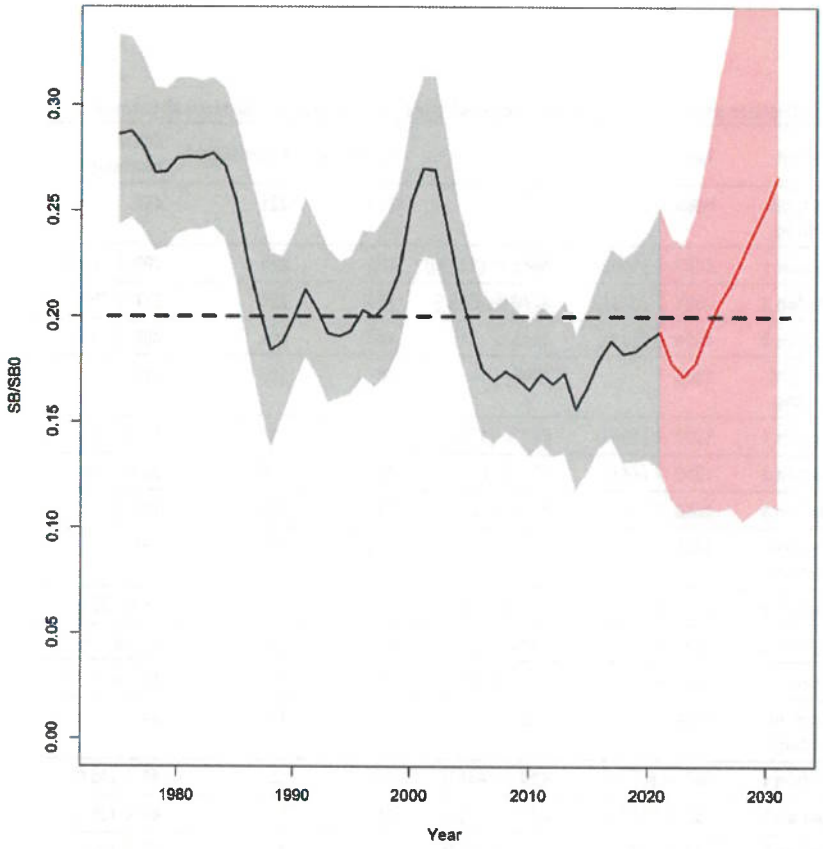


Figure 1: Annual trend in eastern tarakihi spawning biomass since 1975 relative to the 20% soft limit reference level (dashed line) with projections from 2022 at current catch levels (red line) and model uncertainty (grey and pink areas). (Source: 2021 stock assessment, November TAR plenary FNZ).

31. The pink area in Figure 1 (above) demonstrates the high level of uncertainty related to the eastern tarakihi spawning biomass. The projections after five years are scary to contemplate.

32. Given the widely uncertain biomass projections it is incumbent on the Minister to invoke sections 8, 9 and 10 of the Fisheries Act (1996) and take a precautionary approach when next setting the TAC and TACCs for eastern tarakihi.

33. Fisheries New Zealand has presented three options to set the Total Allowable Catch (TAC) and Total Allowable Commercial Catch (TACC). The allowances for Māori customary fishing and recreational fishing were reviewed in 2018 and no changes are proposed this year. The most recent stock assessment model was used to predict the rebuild times for each proposal.

Table 1: Summary of options proposed for East Coast tarakihi from 1 October 2022. Numbers are all in tonnes.

Stock	Option	TAC	TACC	Customary	Recreational	Other mortality
East Coast TAR Combined	Current setting	5205	4355	193	221	436
	Option 1	3803 ↓ (1402 t)	3081 ↓ (1274 t)	193	221	308 ↓ (128 t)
	Option 2	4561 ↓ (644 t)	3770 ↓ (585 t)	193	221	377 ↓ (59 t)
	Option 3	4864 ↓ (341 t)	4045 ↓ (310 t)	193	221	405 ↓ (31 t)
TAR 1*	Current setting	1333	1045	73	110	105
	Option 1	1137 ↓ (196 t)	867 ↓ (178 t)	73	110	87 ↓ (18 t)
	Option 2	1259 ↓ (74 t)	978 ↓ (67 t)	73	110	98 ↓ (7 t)
	Option 3	1308 ↓ (25 t)	1023 ↓ (22 t)	73	110	102 ↓ (3 t)
TAR 2	Current setting	1658	1350	100	73	135
	Option 1	1030 ↓ (628 t)	779 ↓ (571 t)	100	73	78 ↓ (57 t)
	Option 2	1387 ↓ (271 t)	1104 ↓ (246 t)	100	73	110 ↓ (25 t)
	Option 3	1529 ↓ (129 t)	1233 ↓ (117 t)	100	73	123 ↓ (12 t)
TAR 3	Current setting	1060	936	15	15	94
	Option 1	569 ↓ (491 t)	490 ↓ (446 t)	15	15	49 ↓ (45 t)
	Option 2	793 ↓ (267 t)	694 ↓ (242 t)	15	15	69 ↓ (25 t)
	Option 3	883 ↓ (177 t)	775 ↓ (161 t)	15	15	78 ↓ (16 t)
TAR 7*	Current setting	1154	1024	5	23	102
	Option 1	1068 ↓ (86 t)	945 ↓ (79 t)	5	23	95 ↓ (7 t)
	Option 2	1121 ↓ (33 t)	994 ↓ (30 t)	5	23	99 ↓ (3 t)
	Option 3	1143 ↓ (11 t)	1014 ↓ (10 t)	5	23	101 ↓ (1 t)

** Catch limit reductions are proposed to come exclusively from the eastern portions of the TAR 1 and TAR 7 stocks, the proposed reductions for these areas are outlined in below*

Stock	Option	TAC	TACC	QMA Split^	
				East	West
TAR 1	Current setting	1333	1045	466	579
	Option 1	1137 ↓ (196 t)	867 ↓ (178 t)	288 ↓ (178 t)	579
	Option 2	1259 ↓ (74 t)	978 ↓ (67 t)	399 ↓ (67 t)	579
	Option 3	1308 ↓ (25 t)	1023 ↓ (22 t)	444 ↓ (22 t)	579
TAR 7	Current setting	1154	1024	161	863
	Option 1	1068 ↓ (86 t)	945 ↓ (79 t)	82 ↓ (79t)	863
	Option 2	1121 ↓ (33 t)	994 ↓ (30 t)	131 ↓ (30 t)	863
	Option 3	1143 ↓ (11 t)	1014 ↓ (10 t)	151 ↓ (10 t)	863

^ *The proportions by which the east and west zones are split have been calculated based on historical catch.*

Source: Fisheries NZ Discussion Paper No: 2022/04

Discussion

34. **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.** There has been significant investment by the Crown and commercial fishers collecting new catch-at-age data from trawl catch from all eastern TAR Areas in 2019 and 2020. This provided valuable data on recruitment, year class strength and total mortality for use in the stock assessment and model projections.

35. The only representation of existing and future trends for the eastern TAR stock in the Discussion Document (page 6) is out dated and provides a misleading impression of what the stock rebuild rate would be based on 2018–19 catch levels. The 2021 stock assessment provides the best available information on current status of the stocks and projections (Figure 1). The Minister, Treaty partners and stakeholders deserve to have the best available information clearly presented in figures and tables that help define the current situation, and rebuild trajectories over the time period appropriate for the stock.

36. The submitters are concerned the revision of the rebuild time appropriate for the eastern TAR stock weakens the Harvest Strategy Standard and could be applied to any other stocks (such as orange roughy) that has long regeneration times. It appears to have been adopted to justify the management approach to eastern TAR following the High Court case and not based on first principles.

37. In the past, submitters have been able to propose alternate management options based on the information in the plenary report and discussion document. The lack of any usable tables of projections provided is concerning.

    a. **Is the intention of Fisheries New Zealand to withhold that data and to limit the analysis and options available to the Minister?**

38. Another extremely concerning aspect of the current discussion document is the shifting baseline of the year that the rebuilds of eastern TAR starts from. Clearly Minister Nash and FNZ at the time intended the time-constrained rebuild plan to start in 2018. **This must not be changed.** Our evaluation of available options are based on the 2018 start date (Table 2).

39. Tarakihi is a low productivity stock and a move from below the soft limit to target will require significant catch reductions. The temptation to extend the rebuild time to mitigate the effects on fishers simply extends the misery. The Fisheries Act 1996 is clear (s13), "The Minister shall set a TAC that – Maintains the stock at or above the level that can produce the maximum sustainable yield, having regard to the interdependence of stocks". That is the target. Nothing less.

40. The eastern tarakihi stock has been below the soft limit for 20 years, during that time commercial fishers have continued to remove and sell tarakihi, maintaining the stock below a level that now requires serious intervention – a state of sustainable depletion.

41. **The submitters support option 1 for the eastern tarakihi stock noting the corrected start of the time-constrained rebuild is 2018** (65% from the 2017 TACC) to rebuild the stock to 40% of unfished biomass in 10 years.

Impact on commercial fishers

42. The submitters are not oblivious to the impacts of rebuilding the eastern tarakihi stock. We have sympathy for the inshore commercial ACE 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 for investors to aggregate quota means fishers shift to using least-cost fishing techniques. This has stifled innovation in fishing methods and marketing for many years. The industry's 2019 Rebuild Plan has not helped.

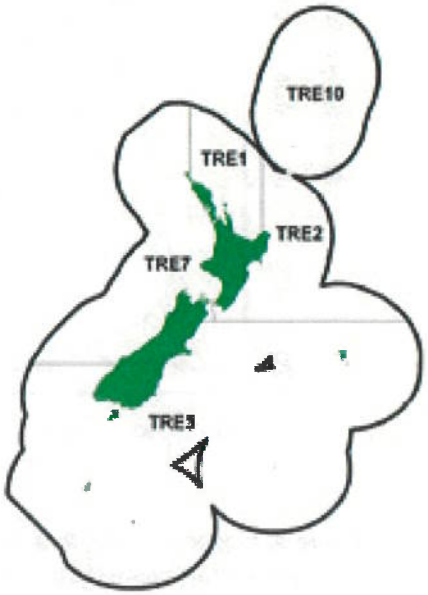
43. Currently, change is driven by a few dedicated innovators and is long overdue. However, high value, higher quality tarakihi catch using more selective fishing methods only becomes viable with biomass at higher levels. The transition from indiscriminate bulk harvesting methods, such as towing trawl nets for 4 hours or more will not be easy, but is necessary in a 21st century decarbonised fishing industry under New Zealand's Emissions Reduction Plan (2022). There are other significant changes coming for inshore commercial fishing that may be the last straw for some fishers, but opportunities for new entrants and innovators will arise.

Table 2: The tarakihi rebuild options proposed by Fisheries New Zealand adjusted by the submitters to conform to the Harvest Strategy Standard at the 2017 stock assessment that required the Minister to implement a time constrained rebuild plan in 2018.

	Option 1	Option 2	Option 3
Target	40% SSB_0 by 2032	40% SSB_0 by 2037	35% SSB_0 by 2042
Rebuild timeframe and rate from 2018	15 years 3 x T_{min}	20 years 4 x T_{min}	25 years 2 x T_{min} plus one generation time
Method of achieving target	A 40% reduction of the eastern TACC	A 15% reduction of the eastern TACC	A 5% reduction of the eastern TACC
Probability of achieving target	Possible	Remotely possible	Not foreseeable

44. Most tarakihi, by far, are caught by fishers who record TAR as their target species. The plots below were published in the New Zealand Fisheries Assessment Report 2017/44 in August 2017 in the lead up to the first eastern TAR stock assessment in 2017. They show that:

    - Most of the tarakihi trawl catch in TAR 1 was taken in the 130–220 m depth range by the target fishery (Figure 2). The tarakihi bycatch from the inshore trawl fisheries was taken in the 30–140 m depth range.
    - Most of the target tarakihi trawl catch in TAR 2 was taken in the 40–160 m depth range (Figure 3), while the relatively small proportion of the tarakihi catch taken by the red gurnard trawl fishery was predominantly taken in the 30–80 m depth range.
    - Most of the tarakihi trawl catch was taken in the 50–140 m depth range, predominantly from the target fishery (Figure 4). The red cod and barracouta trawl fisheries caught tarakihi over a similar depth range to the target trawl fishery.



45. While tarakihi have been an important species taken in the mixed inshore trawl fishery the data shows that most is taken when tarakihi is the target species and relatively little as bycatch when targeting other species. Fishing depth of over 120 m is where most tarakihi is caught in TAR 1, or over 60 metres in TAR 2 and TAR 3. Trawl fishers can avoid large catches of tarakihi though it may be harder in TAR 2.

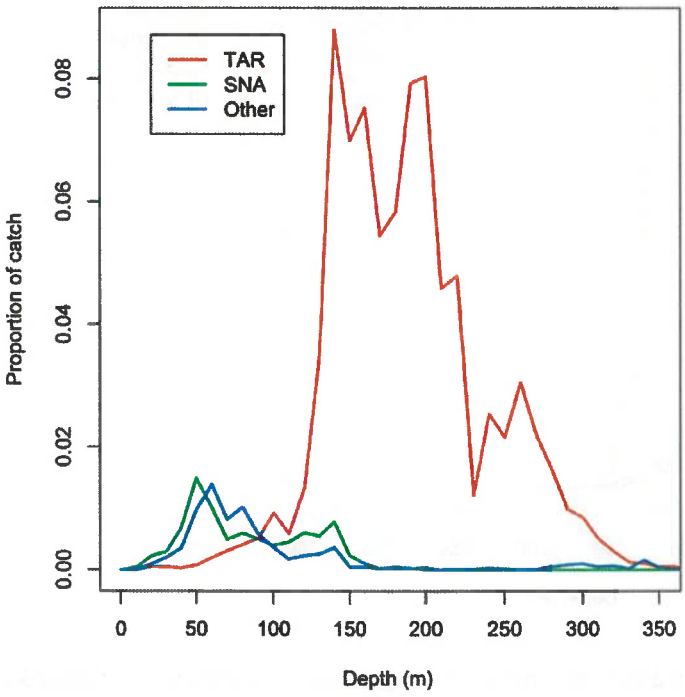


Figure 2: Proportional depth distribution of tarakihi single trawl catch from the Hauraki Gulf – East Northland fishery by bottom depth (10 metre depth intervals) and target species from 2007/08 to 2015/16 for the main bottom trawl target species. (Source: Fisheries NZ)

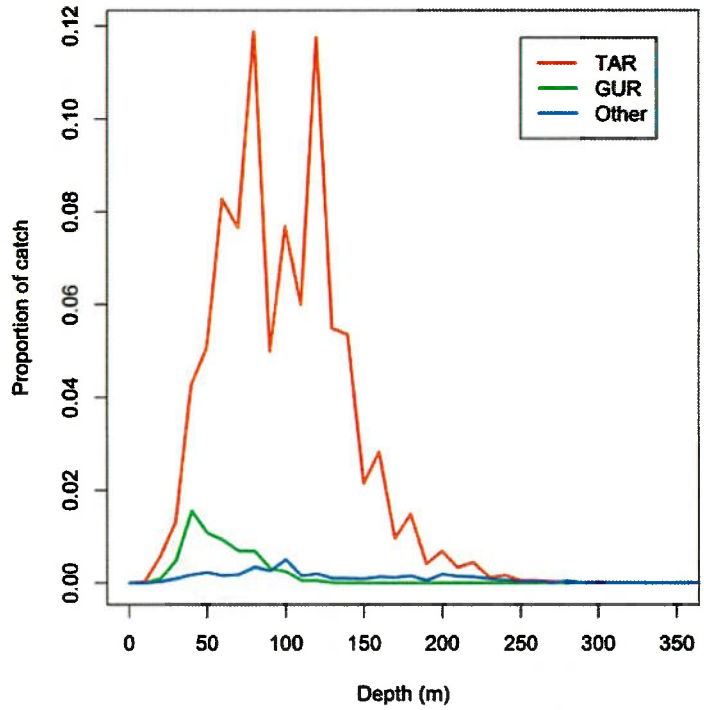
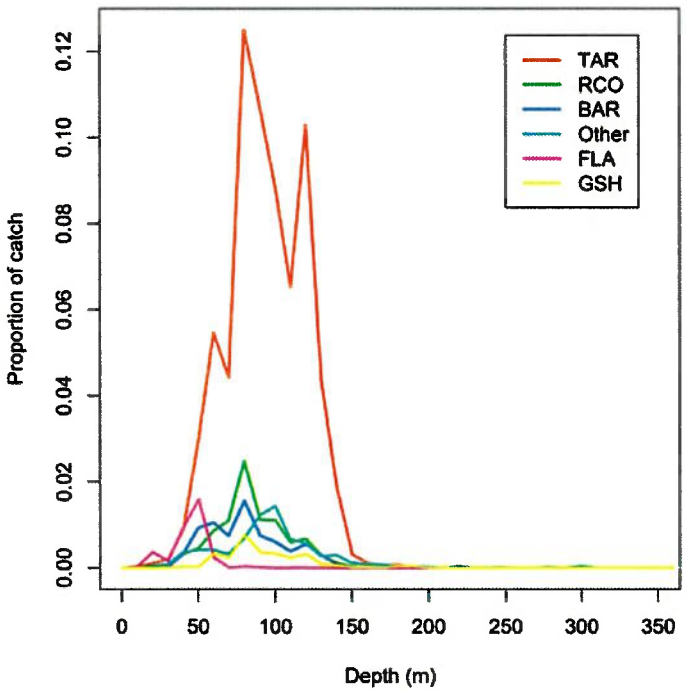


Figure 3: Proportional depth distribution of tarakihi single trawl catch from the central ECNI (TAR 2) fishery by bottom depth (10 metre depth intervals) and target species from 2007/08 to 2015/16 for the main bottom trawl target species. (Source: Fisheries NZ)



Target species
Tarakihi
Red cod
Barracouta
Flatfish
Ghost shark

Figure 4: Proportional depth distribution of tarakihi single trawl catch from the east coast South Island (TAR 3) fishery by bottom depth (10 metre depth intervals) and target species from 2007/08 to 2015/16 for the main bottom trawl target species. (Source: Fisheries NZ)

Precautionary management

46. **The exploitation rate of tarakihi is still too high.** The 2021 stock assessment estimates that fishing mortality is 61% over the level that would support Maximum Sustainable Yield (MSY). That will come down as the stock rebuilds but the predicted rebuild rate is far too slow at current catch levels. No projections of fishing mortality rates at other catch settings have been supplied by officials.

47. **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.**

48. The submitters support the Government's Ocean Vision's commitment to more Ecosystem Based Fisheries Management (EBFM) and to meet its international commitments, and recent policy goals but there are risks that this will become stalled by complexity.

49. 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.

50. Stock abundance targets of 40% unfished biomass are intended to manage risk while maximising yield. This target is promoted in the Harvest Strategy Standard developed by officials and published in 2008.

51. More recent literature supports higher targets. Australia is investing in rebuilding their stocks to 60% of the unfished biomass. The submitters are now promoting ecosystem based fisheries management based on setting stock abundance targets of 50% unfished biomass, and 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% B_0.

52. 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. Over time this approach will improve the catchability of fish, an important aspect given rising fuel prices.

53. Tarakihi recruitment is variable. The trend is that tarakihi more north as the age, the oldest fish are found off the northeast coast of the North Island. Precautionary management of the depleted eastern tarakihi stock requires the two (known) main spawning areas to be closed.

54. The known spawning grounds from Cape Runaway to East Cape (North Island), and the other from Cape Campbell to Pegasus Bay (South Island) have been heavily fished in the past (Figure 5). Trawling these aggregations can disrupt spawning behaviour and reduce the number of fish spawning. Given the depleted state of the stock it is important we protect spawning fish so the stock can rebuild.

55. The submitters request the Minister to designate the two main spawning areas on the east coast as 'habitats of significance for fisheries management' which means they must be protected in accordance with the environmental principles of the Fisheries Act 1996.

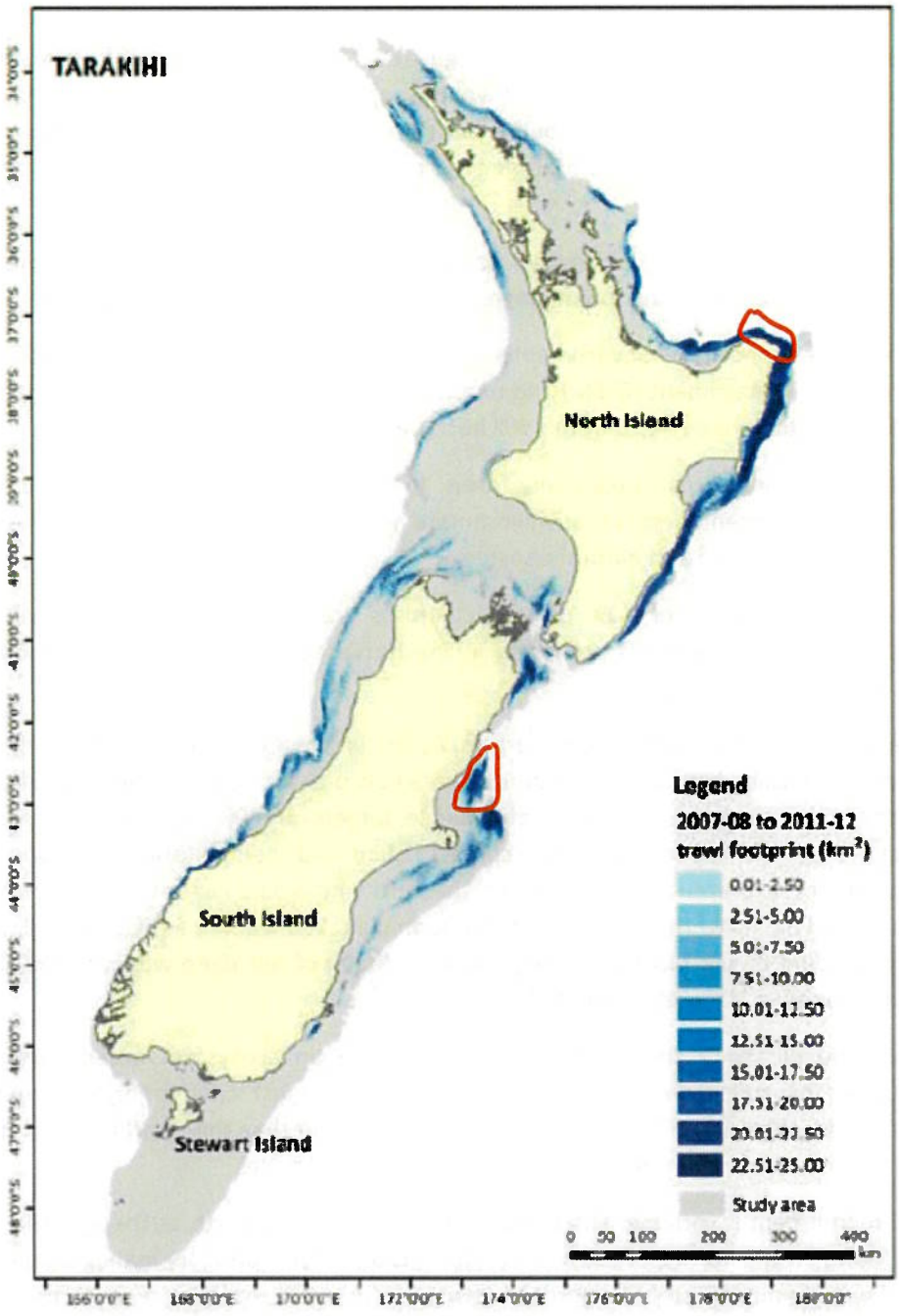


Figure 5: The trawl footprint for tarakihi targeting in the trawl fishery 2007–08 to 2011–12, spawning grounds highlighted in red.

Submission by the

Royal New Zealand Society for the

Prevention of Cruelty to Animals Inc.

On the Review of East Coast Tarakihi Sustainability Measures for 1 October 2022

12 July 2022

Executive Summary

- Fish are sentient beings, with the ability to feel pain and suffer as well as experience positive welfare states.
- In addition to our moral and legal responsibility to safeguard the welfare of aquatic animals, it is also in the interest of the long-term sustainability of the commercial fishing sector to minimise the suffering inflicted on aquatic animals.
- Animal welfare considerations are inextricably linked to ethical, environmental and social issues and still fisheries remain the last major food-producing sector that does not take animal welfare into consideration. Our organisation argues that the objectives of the East Coast tarakihi rebuild strategy cannot be fully realised without the consideration of animal welfare in policy and regulatory decision-making.
- In the absence of a species-specific target, SPCA agrees with the rebuild target biomass proposed in all options and encourages Fisheries NZ to set stock abundance targets of 50% unfished biomass to promote more resilient ecosystem. Our organisation is supportive of the rebuild timeframe of 10 years (or less) proposed in Option 1.
- We are concerned with the probabilities of achieving targets proposed in all options and urges the adoption of a 70% probability of achieving the target as an acceptable probability.
- SPCA supports a 'One Welfare' approach to fisheries management, which recognises the interconnectedness of animal welfare, human wellbeing and the environment.
- SPCA supports the development and use of fishing methods that increase the selectivity of target species, reduce negative impacts to welfare during capture, reduce by-catch of non-target species and reduce adverse impacts on the marine environment.
- Our organisation urges Fisheries NZ to look beyond the setting of TAC's and make bold decisions to protect aquatic animals and the environment by banning indiscriminate, bulk fishing methods such as bottom trawling.

Table of Contents

Introduction

The following submission is made on behalf of The Royal New Zealand Society for the Prevention of Cruelty to Animals (trading as SPCA).

SPCA is the preeminent animal welfare and advocacy organisation in New Zealand. The Society has been in existence for over 150 years with a supporter base representing many tens of thousands of New Zealanders across the nation.

The organisation includes 33 Animal Welfare Centres across New Zealand and approximately 60 inspectors appointed under the Animal Welfare Act 1999.

SPCA welcomes the opportunity to make a submission on the East Coast tarakihi sustainability measures for 1 October 2022.

Submission

Animal Welfare and Sustainable fisheries Management

Animal welfare considerations are inextricably linked to ethical, environmental and social issues (Aquatic Life Institute, 2021) and still wild-capture fisheries remain the last major food-producing sector that does not take animal welfare into consideration (Wasseem et al., 2022).

We argue that the objectives of the East Coast tarakihi rebuild strategy proposed in the consultation document cannot be fully realised without the consideration of animal welfare in policy and regulatory decision-making.

The current fisheries management system, the Quota Management System (QMS), has created disincentives for good fishing practice to reduce catch of unwanted fish, which has contributed to fish wastage, illegal activity, lost future economic opportunity and the unnecessary suffering of target and non-target species.

The process of capture in the majority of current fishing practices inflicts significant stress and suffering upon the captured individuals, which is a major animal welfare issue being completely overlooked by industry and government (Wasseem et al., 2022). Welfare issues include exhaustion from attempting to evade capture; injury and crushing due to overcrowding in nets; exposure to rapid changes in body temperature and atmospheric pressure, which result in thermal shock and barometric trauma; increased handling while sorting and inhumane-slaughter practices (Waley et al., 2021; Wasseem et al., 2022).

SPCA advocates for the protection of the welfare of aquatic wild animals and their ecosystems, including both the species targeted for fishing and other animals unintended, but directly affected by fishing activities, such as the incidental catch of fish, sharks and marine birds and mammals and those entangled in abandoned fishing gear.

SPCA believes that animal welfare is a distinct component of the societal, economic and environmental sustainability of fisheries, and advocates that the welfare of wild-caught fish be explicitly included into fisheries management and addressed in the Animal Welfare Act (1999), as currently consideration of their welfare is excluded. SPCA supports a 'One Welfare' approach to fisheries management which recognises the interconnectedness of animal welfare, human wellbeing and the environment (Pinillos, 2018; Pinillos et al., 2016).

East Coast Tarakihi Rebuild Strategy

Tarakihi are an important species for customary Māori, commercial fishers, recreational fishers and coastal ecosystems. They prefer cool, deep waters, predate on marine invertebrates and are prey species for a wide range of finfish species. They are a long-lived and relatively slow growing species. Most importantly in this context, they are a low productivity species, making them less resilient to high levels of fishing pressure.

SPCA finds it disturbing that recent stock assessments have estimated the abundance of East Coast tarakihi at 19.3% SB_0, which is below the soft limit of 20% SB_0, and indicated that abundance has been below the soft limit since the early 2000s. The "soft" limit is a biomass limit that triggers a requirement

for a formal, time-constrained rebuilding plan. However, it is important to note that continual management action needs to be applied to rebuild stocks that have fallen below targets, not just when they decline to the level of the soft limit.

Essential elements of the rebuild plan include the rebuild target, the period appropriate to the stock and the probability of achieving the target.

1. Rebuild Target

Fisheries NZ has set a biomass target of 40% SB_0 in all options proposed. Fisheries NZ's Harvest Strategy Standard (HSS) is a policy statement of best practice in relation to the setting of fishery and stock targets and limits for fish stocks in New Zealand's QMS. The HSS recommends a default maximum sustainable yield (MSY) biomass target of 40% of the unfished biomass (40% SB_0) for long-lived species such as tarakihi, in the absence of a peer-reviewed alternative.

In the absence of a species-specific target, SPCA agrees that this is an appropriate minimum biomass target and encourages Fisheries NZ to set stock abundance targets of 50% unfished biomass to promote more resilient ecosystem, as proposed in the Rescue Fish Policy (LegaSea, 2020). SPCA supports further research into the identification of a species-specific target for East Coast tarakihi.

2. Rebuild Period

SPCA supports the rebuild of East Coast tarakihi stocks within 10 years or less and therefore, we do not support the rebuild timeframes proposed in options 2 and 3. The HSS recommend that stocks that have fallen below the soft limit, such as East Coast tarakihi, should be rebuilt back to at least the target level in a time frame between *Tmin* (minimum time to achieve target in the absence of all fishing related mortality) and 2**Tmin* (twice the minimum time). Fisheries NZ advises that applying this default approach of the HSS would suggest a rebuild period of between 5- 10 years.

3. Probability of Achieving the Target

SPCA is concerned with the probability levels proposed in all options (i.e. 55%, 53% and 56%). The setting of the probability is an integral part of setting the Total Allowable Catch (TAC). The operational guidelines for the HSS state that the minimum standard for a rebuilding plan is that 70% of projected

trajectories will achieve the target and the ultimate goal of soft limits is to ensure full rebuilding of the stock to the biomass target with an acceptable probability (70%). The reason for requiring a probability level greater than 50% is that stock that have been depleted below the soft limit (such as East Coast tarakihi) is likely to have a distorted age structure. Therefore, there is a need to rebuild both the biomass and age composition, which many not be achieved by using a probability as low as 50%. The HSS further explains that use of a probability level greater than 50% ensures that rebuilding plans are not abandoned too soon.

The June 2021 High Court found, while reviewing the Minister's 2019 decision on tarakihi, that it was not an error of law for the Minister to adopt a Total Allowable Commercial Catch (TACC) that had modelled a 50% probability of achieving the target. However, the High Court also found that the guidance on probability in the HSS and the HSS Operational Guidelines was a mandatory relevant consideration, which the Minister disregarded when making the decision.

SPCA submits that the justification for departing from the HSS guidance as to probability levels is not clear. Particularly considering the consultation document refers to the HSS defaults for other aspects of the rebuild strategy. The East Coast tarakihi stock should not be declared to be rebuilt until it can be determined that there is a least a 70 % probability that the target has been achieved.

4. Additional Considerations

SPCA urges Fisheries NZ to look beyond the setting of TAC's and make bold decisions to protect aquatic animals and the environment by improving the selectivity of fishing methods and enforcing selectivity measures. Improved selectivity of commercial fishing gear can significantly increase the rate of rebuild.

Currently, 91% of all commercial tarakihi landings is attributed to bottom trawling. From a welfare perspective, bottom trawling is arguably the lowest welfare capture method. In addition to exhaustion, crushing, injury and stress fish experience with this capture method, bottom trawling is associated with high levels of by-catch and mortality (Victorero et al., 2018). Bottom trawling is also associated with damage to benthic habitats. SPCA acknowledges industries efforts to improve selectivity of nets and recognises the voluntary selectivity measures included in the industry's Tarakihi

Management Strategy. However, if New Zealand wishes to safeguard the future of our marine ecosystems and the welfare of aquatic animals we must ban bottom trawling.

SPCA advocates for proactive steps to improve animal welfare in commercial fisheries by banning indiscriminate, destructive, bulk fishing methods such as bottom trawling. Trawling has been successfully banned in Hong Kong, Indonesia, and Kenya (Bailey, 1997; Munga et al., 2012; Tao et al., 2018). Increasing the number and size of protected areas where trawl fishing is banned in New Zealand is a positive step, however it is not enough, as it may simply result in concentrated fishing efforts in the remaining available trawl areas.

The type of gear used can reduce carbon emissions, ocean plastics, overfishing and animal suffering (Aquatic Life Institute, 2021). Refining the methods used to capture and handle fish is a key intervention that has the potential to dramatically reduce the suffering of aquatic animals in commercial fisheries. Fishing gear and methods should be designed and used with the goal of minimising stress and injury to fish and reducing or eliminating by-catch. Reducing the duration of capture can minimise exhaustion and physical injuries can be avoided through smaller catch sizes and more welfare-orientated training on gear and handling (Waley et al., 2021).

While trawling continues in New Zealand, SPCA supports efforts to improve the selectivity of trawl gear and minimise unnecessary harm to animals and their habitats during the capture process. For example, ongoing investment in modular harvest systems and precision seafood harvesting, which can safely release fish and protected species underwater. Modular harvesting systems provide a low-velocity in-trawl environment allowing fish to swim freely, which minimises their contact with the net and other fish and there are escape holes that allow undersized fish to escape (Wilson et al., 2019). This system reduces the risk of crushing and injury and increases the likelihood of survival for any fish returned to sea.

SPCA calls on Fisheries NZ to include in regulations measures to improve animal welfare during capture, such as reducing towing speed and duration, setting a limit on catch sizes to prevent crowding and minimising ascent rates to limit decompression injuries (Mood, 2010; Waley et al., 2021).

On-board Cameras and Transparent Reporting

SPCA has long been concerned with the under-reporting issues distorting fish catch statistics, as first identified in the report by Simmons et al., 2016. It is essential for fisheries management and sustainability that we improve the transparency and reliability of fisheries data reporting of target and non-target animals (Simmons et al., 2016).

We strongly support the rollout of on-board cameras, which aims to improve the level of monitoring, compliance and verification of catch and thus quality of fishing data. SPCA agrees that on-board cameras will support the East Coast tarakihi rebuild and advocates for a more rapid rollout of on-board cameras and monitoring of 100% of commercial fishing effort in New Zealand.

Social license

Fish feel pain and are recognised as sentient under the Animal Welfare Act (1999), which requires their welfare to be considered and safeguarded (Brown, 2015; Sneddon et al., 2018). In addition to our moral and legal responsibility to safeguard the welfare of aquatic animals, it is also in the interest of the long-term sustainability of the commercial fishing sector to minimise the suffering inflicted on aquatic animals. Aquatic animal welfare must be considered in fisheries management if the sector wishes to respond to changing public expectations about how the marine ecosystem is managed and growing demand for ethically harvested seafood.

Fish welfare is increasingly acknowledged as an important societal issue. Conscious consumers want assurance that the seafood they purchase has been caught or raised sustainably, responsibly and with consideration for animal welfare (Eurogroup for Animals, 2018). This is reflected in the growing consideration of fish welfare by the aquaculture industry.

Commercial fisheries management stands to benefit from the extensive information gathered from aquaculture research on fish welfare and product quality, particularly regarding handling and slaughter (Breen et al., 2020). Furthermore, technologies developed for aquaculture, especially innovations in humane slaughter, may be applicable in commercial fisheries (Huntingford et al., 2009). A wider suite of tools is required to improve the state of our fish stocks and transparency and reliability

of fisheries data reporting. The One Welfare framework can facilitate cross-disciplinary collaboration, where stakeholders work towards a common goal for improving animal welfare, human wellbeing, biodiversity and environmental sustainability (Council, 2019; Pinillos, 2018; Squance et al., 2021).

SPCA will continue to advocate for fish welfare in commercial fisheries at every available opportunity.

Conclusion

SPCA is supportive of efforts to rebuild the East Coast tarakihi stock and advocates that in addition to setting TAC's, proactive measures such as setting clearer and tighter rules on permitted fishing gear and practice must be set. This will increase the selectivity of target species, reduce negative welfare impacts during capture, reduce by-catch of non-target species and reduce adverse impacts on the marine environment.

Our organisation advocates for a move towards a holistic approach to fisheries management, which identifies animal welfare as a distinct component of the societal, economic and environmental sustainability of fisheries.

SPCA appreciates the opportunity to contribute to the review of East Coast tarakihi sustainability measures and would welcome further engagement on this issue. If any further information is required, the Society is happy to discuss this matter further.

References

Animals, E. for. (2018). *Looking Beneath the Surface: Fish Welfare in European Aquaculture*. Retrieved from https://www.eurogroupforanimals.org/files/eurogroupforanimals/2020-02/Fish-Welfare-in-European-Aquaculture-2.pdf

Bailey, C. (1997). Lessons from Indonesia's 1980 trawler ban. *Marine Policy*, *21*(3), 225–235. https://doi.org/https://doi.org/10.1016/S0308-597X(97)00003-1

Breen, M., Anders, N., Humborstad, O., Nilsson, J., Tenningen, M., & Vold, A. (2020). Catch Welfare

in Commercial Fisheries. In *The Welfare of Fish* (pp. 401–437).

Brown, C. (2015). Fish intelligence, sentience and ethics. *Animal Cognition*, *18*(1), 1–17. https://doi.org/10.1007/s10071-014-0761-0

Council, N. F. A. H. and W. (2019). *Enhancing Canada's Agricultural Well-Being Through a One Welfare Approach.*

Huntingford, F. A., & Kadri, S. (2009). Taking account of fish welfare: Lessons from aquaculture. *Journal of Fish Biology*, *75*(10), 2862–2867. https://doi.org/10.1111/j.1095-8649.2009.02465.x

Institute, A. L. (2021). *Benefits of Aquatic Animal Welfare for Sustainability*. Retrieved from https://drive.google.com/file/d/1Tg_zqntpG98FTGK6YFWx_rNsMZIt9WFV/view

LegaSea. (2020). *Rescue Fish. Ika Rauora. A pathway to fish abundance and marine ecosystem recovery.* Retrieved from https://rescuefish.co.nz/wp-content/uploads/2020/05/Rescue-Fish-policy-May-2020.pdf

Mood, A. (2010). *Worse things happen at sea: the welfare of wild caught fish. Fishcount.* Retrieved from http://www.fishcount.org.uk/published/standard/fishcountfullrptSR.pdf

Munga, C., Ndegwa, S., Fulanda, B., Manyala, J., Kimani, E., Ohtomi, J., & Vanreusel, A. (2012). Bottom shrimp trawling impacts on species distribution and fishery dynamics; Ungwana Bay fishery Kenya before and after the 2006 trawl ban. *Fisheries Science*, *78*(2), 209–219. https://doi.org/10.1007/s12562-011-0458-0

Pinillos, R. G. (2018). *One Welfare A Framework to Improve Animal Welfare and Human Well-Being*. Wallingford, UK: C.A.B. International.

Pinillos, R. G., Appleby, M. C., Manteca, X., Scott-Park, F., Smith, C., & Velarde, A. (2016). One Welfare – a platform for improving human and animal welfare. *Veterinary Record*, *179*(16), 412–413.

Simmons, G., Bremner, G., Whittaker, H., Clarke, P., Teh, L., Zylich, K., ... Haworth, N. (2016). Institute for the Oceans and Fisheries The University of British Columbia Working Paper Series Reconstruction of marine fisheries catches for.

Sneddon, L. Y., Lopez-Luna, J., Wolfenden, D. C. C., Leach, Matthew, C., Valentim, A. M., Steenbergen, P. J., ... Brown, C. (2018). Fish sentience denial: Muddying the waters. *Animal Sentience*, *115*, 1–12.

Squance, H., MacDonald, C., Stewart, C., Prasanna, R., & Johnston, D. M. (2021). Strategies for Implementing a One Welfare Framework into Emergency Management. *Animals* . https://doi.org/10.3390/ani11113141

Tao, L. S. R., Lui, K. K. Y., Lau, E. T. C., Ho, K. K. Y., Mak, Y. K. Y., Sadovy de Mitcheson, Y., & Leung, K. M. Y. (2018). Trawl ban in a heavily exploited marine environment: Responses in population dynamics of four stomatopod species. *Scientific Reports*, *8*(1), 17876. https://doi.org/10.1038/s41598-018-35804-7

Victorero, L., Watling, L., Palomares, M. L. D., & Nouvian, C. (2018). Out of sight, but within reach: A global history of bottom-trawled deep-sea fisheries from > 400 m depth. *Frontiers in Marine Science*, *5*(APR), 1–17. https://doi.org/10.3389/fmars.2018.00098

Waley, D., Harris, M., Goudling, I., & Correira, M. (2021). *Catching up: Fish Welfare in Wild Capture Fisheries. Eurogroup for Animals*. https://doi.org/10.1002/(sici)1098-2353(1996)9:1<53::aid-ca11>3.0.co;2-9

Wasseem, E., & Xu, C. (2022). *Key Welfare Recommendations for Marine Capture Fisheries*. Retrieved from https://drive.google.com/file/d/15P6Mq7eflvZoxh6bQ_jNUo4-UExsgdLy/view

Wilson, G., Johansson, G., Woods, D., McIsaac, R., Penno, S., Palmer, J., ... Falconer, B. (2019). Transforming Bulk Seafood Harvesting by producing the Most Authentic Wild Fish. *Solutions*, *10*(2), 54–62.

Fisheries New Zealand
Tini a Tangaroa

Submission Form

Review of East Coast tarakihi for 1 October 2022

Once you have completed this form

Email to: FMsubmissions@mpi.govt.nz

While we prefer email, you can also post your submission to:

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Anyone may make a submission, either as an individual or on behalf of an organisation. Please ensure all sections of this form are completed. You may either use this form or prepare your own but if preparing your own please use the same headings as used in this form.

Submitter details:

Name of submitter or contact person:	**Pat Nepia,** [redacted]
Organisation (if applicable):	Te Parawhau ki Korokota
Email:	[redacted]
Fishstock(s) this submission refers to:	Tarakihi for East Coast
Your preferred option as detailed in the discussion paper (write "other" if you do not agree with any of the options presented):	Option 3

Official Information Act 1982

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Fisheries New Zealand
Tini a Tangaroa

Submission:[1]

Details supporting your views:

I support option 3 because of the reasons articulated on page 26, points 168 & 1698 in the discussion paper as follows;

Option 3 has the following benefits:

- Accounts for unpredictable fluctuations in recruitment and environmental conditions, while ensuring the stock is rebuilt to the target within an appropriate timeframe.
- Acceptable probability of stock increasing above the soft limit within an appropriate time frame.
- Further reductions in catch during the rebuild period are not anticipated.
- Provides the best opportunity for industry to manage the flow-on effects (social and financial) of reduced TACCs.

And FNZ considers that the way and rate proposed in Option 3 will result in lower social, cultural and economic impacts, while ensuring the sustainability of the stock within a period appropriate to the stock.

Nga mihinui

Pat Nepia
Kaumatua
Korokota Marae
Parawhau Hapu
Titoki
Whangarei

Please continue on a separate sheet if required.

[1] Further information can be appended to your submission. If you are sending this submission electronically we accept the following formats – Microsoft Word, Text, PDF and JPG.

Hauraki Gulf Forum
Tīkapa Moana
Te Moananui-ā-Toi

Fisheries New Zealand
By email: FMSubmissions@mpi.govt.nz

Re: Review of east coast tarakihi sustainability measures for 1 October 2022

He waka kōtuia kāhore e tukutukua ngā mimira.
A canoe that is interlaced will not become separated at the bow. In unity there is strength.

11 July 2022

Tēnā koe,

The Hauraki Gulf Forum **supports** Option 1, which would see the fastest rebuild of tarakihi: to 40% of original biomass by 2032 (vs 2037 or 2042 for the other options presented by Fisheries NZ).

Tarakihi is a key species and the latest assessment had it at just 19.3% of original biomass. It is important that we prioritise both the rebuild of the species and recognise its importance from an ecosystem perspective.

Option 1 presents the best path to help revitalise the mauri of the Hauraki Gulf, Tīkapa Moana, Te Moananui-ā-Toi.

Ngā mihi nui,

Nicola MacDonald
Co-Chair – Tangata Whenua

Pippa Coom
Co-Chair

Fisheries New Zealand
Tini a Tangaroa

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Submitter details:

Name of submitter Russ Hawkins or contact person:	
Organisation (if applicable):Fat Boy Charters Ltd	
Email:	
Fishstock(s) this submission refers to:	
Your preferred option as detailed in the discussion paper (write "other" if you do not agree with any of the options presented):	

Official Information Act 1982

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Fisheries New Zealand
Tini a Tangaroa

Submission:[1]

Details supporting your views:

[1] Further information can be appended to your submission. If you are sending this submission electronically we accept the following formats – Microsoft Word, Text, PDF and JPG.

I have lived in the Tauranga BOP area for the past fifty two years and in that time have fished and dived (over five thousand dives) and have also run my charter boat fishing business for the past 22 years covering just over 55000nmiles.

My observations over those 22 years and this can be proven from log book entries on catch and locations over that time.

My areas of concern are in particular the "inshore trawling" within 12 nautical miles of mainland.

There has been a noticeable decline of tarakihi in the areas between the coast and Motiti Island areas over the past five years or more and other charter boat and recreational fishers can attest to this evidence.

This has been the wish of fisher persons for many years that commercial trawling should be banned so as to make a "buffer zone" to all fish and benthic species (Sponges, and all of the benthos in those areas.

Sincerely

Russ Hawkins

Fat Boy Charters Ltd

Ngātiwai Trust Board

129 Port Road, Whangarei 0110
P O Box 1332, Whangarei 0140, New Zealand
Telephone: +64 9 430 0939 Fax: +64 9 438 0182
Email: ngatiwai@ngatiwai.iwi.nz Website: www.ngatiwai.iwi.nz

12 July 2022

Fisheries New Zealand
Fisheries Management Team
By email: fmsubmissions@mpi.govt.nz

East Coast Tarakihi Catch Limit Review for October 2022-23 Fishing Year

Tēnā koe,

Ngātiwai Holdings Limited (QRN 9791875) is a fully owned subsidiary of Ngātiwai Trust Board and fully committed to the sustainable management of its fisheries, ensuring their protection and continued productivity for future Ngātiwai generations to come.

The Ngātiwai Holdings Ltd (*NHL*) position in relation to the review of catch limits for east coast tarakihi is as follows:

(i) NHL continues to adopt a conservative approach to fisheries management with intergenerational sustainability at its foundation.

(ii) NHL acknowledges the east coast tarakihi stocks are significantly below the 40% virgin biomass target and requires further fisheries management measures to ensure a rebuild of the stocks.

(iii) NHL has assessed and considered each of the three options put forward by Fisheries New Zealand (*FNZ*). NHL notes the rebuild timeframe ranges from 10 years for Option 1 to nearly 20 years for Option 3 with all three options having a similar probability of achieving the 40% virgin biomass target within their estimated rebuild timeframe.

(iv) NHL considers measures that rebuild the east coast tarakihi stocks in a shorter period of time aligns with its fisheries management approach.

(v) Given the above, NHL supports the FNZ Option 1.

Nāku noa, nā,

For Ngātiwai Holdings Limited

Fisheries New Zealand
Tini a Tangaroa

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Submitter details:

Name of submitter or contact person:	**Andrew Kenton**
Organisation (if applicable):	Silverspray Fishing Limited
Email:	
Fishstock(s) this submission refers to:	TAR3
Your preferred option as detailed in the discussion paper (write "other" if you do not agree with any of the options presented):	Option 3 the minimum reduction in the TACC

Official Information Act 1982

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I am aware that the TAR3 Fishery is not doing so good in the southern areas of area 3.

I feel that the fishery in the north is still as good as it always has been over the last 20 years.

We seem to still catch between 30 and 50 M/T per year for the same amount of effort with the same trawler.

Please continue on a separate sheet if required.

Fisheries New Zealand
Tini a Tangaroa

Submission Form

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Once you have completed this form

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Submitter details:

Name of submitter or contact person:	**Andrew Kenton**
Organisation (if applicable):	SILVERSPRAY FISHING LIMITED
Email:	
Fishstock(s) this submission refers to:	TAR7E
Your preferred option as detailed in the discussion paper (write "other" if you do not agree with any of the options presented):	I agree with option 3 with the minimum cut to the TACC

Official Information Act 1982

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Fisheries New Zealand
Tini a Tangaroa

20 YEARS COMMERCIAL TRAWLING FISHING CAPE CAMBELL AREA OF 7E.
STILL SEEMS AS GOOD AS IT HAS EVERY OTHER YEAR.
We catch what we need in a few days easy enough.
My opinion is that the fishery is probably better than what 7W is by comparison to 20 years ago.
What else is worth saying?

Please continue on a separate sheet if required.

12th July 2022

SUBMISSION IN RESPONSE TO THE PROPOSED TAC AND TACC CHANGE FOR THE EAST COAST TARAKIHI FISHERY (TAR1E,TAR2, TAR3, TAR7E) FOR OCTOBER 2022

1. Gisborne Fisheries is a family-owned seafood company based on the East Coast of New Zealand in Gisborne. The company has been operating on the East Coast for more than 70 years and is involved in quota ownership, harvesting, processing, and wholesaling of quality seafood around New Zealand and internationally.

2. This submission is in response to the Fisheries New Zealand Discussion Paper No 2022/04 Review of Sustainability Measures for East Coast Tarakihi for 2022/23 proposing changes to the East Coast Tarakihi TACs and TACCs (the 2022/23 Review).

3. Gisborne Fisheries **supports** Fisheries Inshore New Zealand's submission on the proposed TAC & TACC changes for the East Coast Tarakihi Fishery.

4. Gisborne Fisheries **supports Option 2's rebuild timeframe but with an amended implementation and apportionment approach.**

5. To support the success of Option 2 we propose an alternative methodology and allocation to ensure the long-term viability and success of the Rebuild Plan reflecting the importance of maintaining the existing management measures being implemented through the Rebuild Plan.

6. The 2022/23 East Coast Catch limits proposed by Fisheries Inshore on behalf of its members is shown below in Table 1.

	TAR1E	TAR2	TAR3	TAR7E	TOTAL
2021/22 East Coast Catch limits	466	1350	936	161	2913
New 2022/23 East Coast Catch Limits	422	1048	727	131	2328

7. The East Coast Catch limits proposed are based on the calculated catch level required to achieve the rebuild timeframe under Option 2 in the discussion paper. Our recommendation reduces the catch limits to ensure rebuild within the target but has apportioned these catch limits between QMAs in a way that lessens these impacts and so still enables industry to continue to demonstrate leadership and collaboration to rebuild the fishery.

8. This provides an equitable solution that recognises the commitments all areas have made to the Rebuild Plan. It proposes a pragmatic compromise to ensure the continued management of the fishery and specifically continuing the East / West split

9. Industry is committed to adaptive management and view management as a process, not a point-in-time decision. It remains our absolute priority to progressively rebuild the fishery and we will monitor progress against that objective.

10. We consider the Rebuild Plan provides the best combination of management measures that will ensure both a timely rebuild of the TAR fishery and a productive inshore fishing sector. With Eastern TAR being such an important component of the inshore fishing sector, this programme of work also has the potential to offer significant improvements in other fisheries.

11. **We support Option 2** – with an amended approach to implement it.

12. We support the rebuild timeframe of 15 years as proposed in Option 2. This is consistent with industry's commitment to rebuild the fishery to achieve 40% B_0 by 2038.

13. Our support of Option 2 demonstrates our continuing efforts to deliver our commitments to rebuild the fishery.

14. **We reject Option 1.**
    a. Any of the FNZ options provided in the 2022/23 Review will have significant socio-economic consequences. Impacts of this degree will seriously jeopardise the ability for industry to invest in and continue to implement the full range of measures in the Rebuild Plan. We cannot support the FNZ options for these reasons:
    b. Since 1 October 2018 industry has absorbed millions of dollars' worth of losses. These losses are based on the quantum of TACC reductions multiplied by port price each year. This is therefore an underestimate of the real term losses during this timeframe
    c. Since 1 October 2018 Gisborne Fisheries quota reduction, of just over 100T, equates to more than $600,000 in loss of annual revenue and $3m in asset value.
    d. These losses have been exacerbated by the COVID pandemic, the cost-of-living crisis, economic uncertainty.
    e. We question whether it is conscionable to place additional costs and stress on fishers as suggested by Option 1 especially when:
        i) Stock status is improving
        ii) Under all projections the stock will continue to rebuild
        iii) We have and will continue to support management setting reviews commensurate with the sustainability risk

15. We are concerned that there is a real risk that Option 1 will result in increased undue pressure on the current east/west arrangements which are integral to the continued successful management of the fishery.

16. We acknowledge the discretion of the Minister to choose **Option 3**.

17. The industry is facing unprecedented costs at the moment, with fuel, general inflation, and the raised cost of the minimum wage. We would support Option 3 as it reflects the holistic approach to fisheries management and the current economic hardship and uncertainty faced by fishers. If you used your discretion to choose Option 3, we would support this as it demonstrates that you acknowledge the financial, mental and cultural impacts that larger TACC cuts would have to the regional inshore fleet compared to the other options.

Yours sincerely

Salvatore Zame
Gisborne Fisheries Ltd,
131 Peel St, P.O. Box 1228, Gisborne
Ph **64 6 868 1979, Mb *
www.gisbornefisheries.co.

Submission Form

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Submitter details:

Name of submitter or contact person: JOHN McGRATH

Organisation (if applicable): THE TAURANGA FISHING CO. LTD

Email:

Fishstock(s) this submission refers to: TAR. AREA ONE.

Your preferred option as detailed in the discussion paper
(write "other" if you do not agree with any of the options presented): PREFER OPTION 2, BUT NO AREA ONE EAST WEST SPLIT FOR TARAKIHI.

Official Information Act 1982

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Submission:[1]

Details supporting your views: AS A FORTH GENERATION COMMERCIAL FISHERMAN FISHING OUT OF TAURANGA, WITH THREE SONS ALSO COMMERCIAL FISHERMEN AND ALL ARE SKIPPERS, ALSO ONE GRANDSON COMMERCIAL FISHING, I AM CONCERNED ABOUT THE EAST WEST SPLIT PUT ONTO MY FAMILYS FISHING COMPANY.

FOR A START WE HAVE NEVER FISHED FOR TERAKIHI ON THE WEST COAST OF THE NORTH ISLAND, OUR TRADITIONAL FISHING WITH OUR COMPANY TRAWLER THE KAITI, HAS BEEN FROM OFF GREAT BARRIER ISLAND TO MAHIA PENINSULAR, FISHING AREAS ONE AND TWO FOR TERAKIHI

MY SONS HAVE FISHED THE WEST COAST FOR TERAKIHI RUNNING VARIOUS LARGE TRAWLERS FOR SANFORDS AT PRESENT AND IN THE PAST WE SUPPORT A REBUILD PROGRAM FOR TARAKIHI,

TALKING TO SKIPPERS WHO TRAWL THE WEST COAST, NORTH ISLAND FOR TARAKIHI, THEY COMMENT THE CATCH RATE IS LESS PER KILOS FOR PER HOUR TRAWLING THAN IT USED TO BE.

CATCHES GOING DOWN WITH EFFORT GOING UP, BECAUSE OF TO MUCH EFFORT IN A SMALLER AREA, COMPARED TO THE MUCH LARGER AREA TO CATCH TERAKIHI IN THE EAST.

WE DO NOT HAVE BYCATCH FOR AREAS 7, 8, 9.

WITH BEEN VALUES AND THE PRICE OF DIESEL IT HAS BECOME UNECONOMIC FOR OUR VESSEL, THE KAITI, TO FISH THE WEST COAST FOR TERAKIHI

I AM ALSO CONCERNED WITH OUR TRAWLER HAVING TO CROSS THE DANGEROUS MANUKAU BAR

HAVEING TAR QUOTA IN AREA ONE & TWO ALLOWS THE KAITI TO FISH THE EAST COAST OF THE NORTH ISLAND WITH ADVERSE WESTERLY WINDS AND FISH EASTERN BAY OF PLENTY WITH ADVERSE EASTERLY WINDS.

OPTION TWO. YES TO 15% CUT ON ALL FMA'S FOR TARAKIHI
NO TO EAST/WEST SPLIT FOR TERAKIHI
AREA ONE.

Please continue on a separate sheet if required.

[1] Further information can be appended to your submission. If you are sending this submission electronically we accept the following formats – Microsoft Word, Text, PDF and JPG.

Submission Form

Review of East Coast tarakihi for 1 October 2022

Once you have completed this form

Email to: FMsubmissions@mpi.govt.nz

While we prefer email, you can also post your submission to:

2022 Sustainability Review, Fisheries Management, Fisheries New Zealand, PO Box 2526, Wellington 6140, New Zealand.

Submissions must be received no later than 5pm on Tuesday 12 July 2022.

Anyone may make a submission, either as an individual or on behalf of an organisation. Please ensure all sections of this form are completed. You may either use this form or prepare your own but if preparing your own please use the same headings as used in this form.

Submitter details:

Name of submitter or contact person:
Jason McGrath

Organisation (if applicable):The Tauranga Fishing Co. Ltd

Email:

Fishstock(s) this submission refers to: TAR

Your preferred option as detailed in the discussion paper
(write "other" if you do not agree with any of the options presented): option 2 with NO EAST WEST AREA SPLIT

Official Information Act 1982

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Submission:[1]

Details supporting your views: I have been personally involved with the fishing industry for 40 years, we are a family based business with 5 generations of experience. Our business provides an income for 8 local families. I believe firmly that the TAR fishery definitely needs this rebuild program & we are committed to making this work, both fundamentally & financially. The best way forward without being financially crippling is with option 2, a further 15% cut on all FMA's, not just the east portions but as a whole area for both 1 & 7.

We, to support industry have been trying to work with the east/west split component of this rebuild, but it simply is not viable. The choice made by some in the industry to split the TAC into east/west was at best extremely short sighted. It has put roughly 60% of the effort onto the west coast which has put huge pressure on that portion of the fishery because of the fact that the workable ground for TAR is much smaller than on the east coast. Appendix 1 shows in green the areas TAR is caught on the west coast & in red on the east coast. (I know this from both personal experience (15 years proactively fishing on the west coast) & after having many conversations with fishers that are on the proverbial coalface), we have for three (covid interrupted one year) of the four years of this rebuild travelled considerable distances at great expense to try & help facilitate this rebuild, each year the catches have become less & less to the point that in 2022 there was very little financial gain at all! The pressure being forced on the west coast is crippling the fishery there, this fish stock has to be addressed as one stock, not east/west.
Appendix 2 & 3 shows the catch limits & actual catch of the west portion of the TACC. These clearly show a fishery in a bad way.

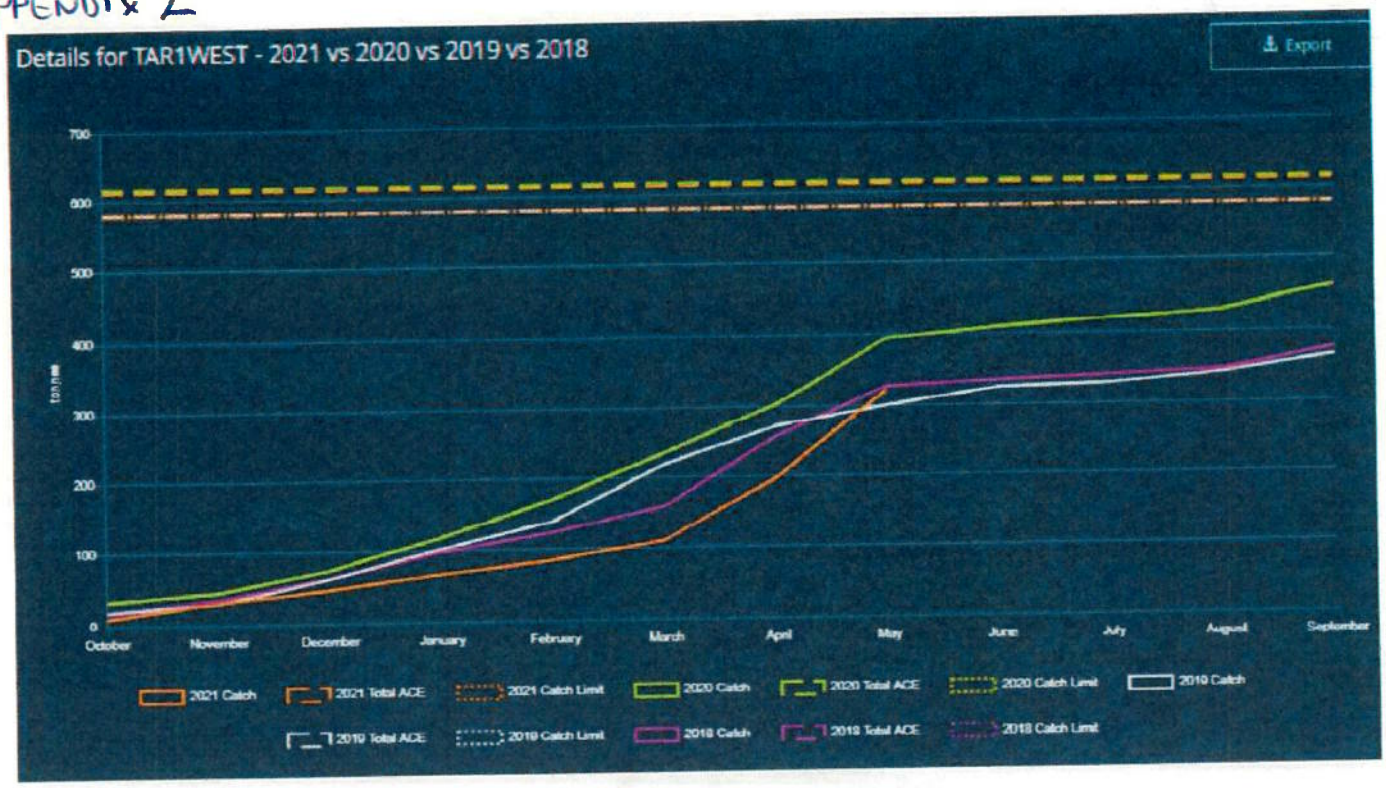
I believe that a 15% cut in all areas is the most sensible way forward, after looking at the science provided it will allow the stock to rebuild over time without having a dramatic financial impact on those involved. TAR alongside SNA is the backbone of the inshore NZ fishery & both these stocks need to be looked after intelligently.

The east/west split MUST cease & the stock has to be treated as a single stock 1: for the reasons outlined above & 2: for the fact that if this stock continues to treated as east/west there are a lot of quota owners that have traditionally only fished on the east coast & therefore have no access to any of the area 7, 8 & 9 species that are caught as by-catch with TAR. Being BAR 7, EMA 7, FRO 9, GSH 9, GSP 7, JMA 7, KAH 8, KIN 8, PAR 9, RBY 9, RSK 8, SNA 8, SPD 8, SPE 9, SSK 8, TRE 7, TRU 9, without access to ACE for these QMA stocks the deemed value is instantly at the 200% mark & is simply not economically viable.

APPENDIX 1


60% OF TACC OUT OF GREEN AREA
40% OF TACC OUT OF RED AREA
WHANGAREI
AUCKLAND
HAMILTON
TAURANGA
ROTORUA
NEW PLYMOUTH
NAPIER
HASTINGS
WANGANUI
PALMERSTON NORTH
WELLINGTON

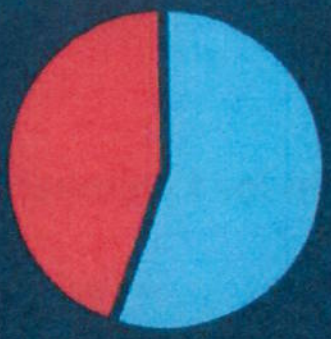
APPENDIX 2


Details for TAR1WEST - 2021 vs 2020 vs 2019 vs 2018
Export
700
600
500
400
300
200
100
0
tonne
October
November
December
January
February
March
April
May
June
July
August
September
2021 Catch
2021 Total ACE
2021 Catch Limit
2020 Catch
2020 Total ACE
2020 Catch Limit
2019 Catch
2019 Total ACE
2019 Catch Limit
2018 Catch
2018 Total ACE
2018 Catch Limit

APPENDIX 3

Catch percentage for TAR1WEST - 2021

Export



Total Caught : 322(t) (56%)
Uncaught : 257(t) (44%)
Catch Limit: 579(t)

Fishing year summary

Export

Fishing Year	Catch Limit	Total ACE	Total Catch	Balance
Oct 2021	579,000 kg	612,880 kg	324,059 kg	288,821 kg
Oct 2020	579,000 kg	616,448 kg	459,883 kg	156,565 kg
Oct 2019	579,000 kg	579,010 kg	364,926 kg	214,084 kg

Show less

Fisheries New Zealand
Tini a Tangaroa

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Submitter details:

Name of submitter or contact person:	Brett McGrath
Organisation (if applicable):	The Tauranga Fishing Company Ltd
Email:	
Fishstock(s) this submission refers to:	TAR
Your preferred option as detailed in the discussion paper (write "other" if you do not agree with any of the options presented):	Option 2 with NO EAST WEST SPLIT

Official Information Act 1982

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Fisheries New Zealand
Tini a Tangaroa

Submission:[1]

Details supporting your views:

I have been personally involved in the fishing industry for 35 years. We are a family based business with 5 generations of experience. Our business provides an income for 8 local families.
I firmly believe that the TAR fishery definitely needs this rebuild program and we are committed to making this work
The best way forward without being financially crippling is with option 2, a further 15% cut on all FMA's, not just the East portions but as a whole area for both 1 and 7 is the most healthy and sustainable option for the future.

We, to support the industry .And have been trying to work with the East/West split component of this rebuild, but it is simply not viable.

I have been and fished in AREA 1 WEST and have seen for myself the up and coming IMPACT this pressure of Area 1 West will cause on these fishing grounds.
I have fished on the west coast in the mid 1990s and again over the last 3 out of 4 years and have noticed a considerable drop in catch due to pressure on these grounds.

If the EAST/WEST Area splits continue It will Result in complete Annihilation of West coast TAR fishing off 90mile beach.
The Area 1 West is much smaller than Area 1 East
Therefore putting 100% pressure on this small Area is not sustainable for future generations.
Treating West coast TAR as one stock would insure a healthy rebuild for generations to come.

Please continue on a separate sheet if required.

[1] Further information can be appended to your submission. If you are sending this submission electronically we accept the following formats – Microsoft Word, Text, PDF and JPG.

Fisheries New Zealand
Tini a Tangaroa

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Submitter details:

Name of submitter Neil and Paula Gwillim or contact person:	
Organisation (if applicable):	Western Bay Fishing Ltd
Email:	
Fishstock(s) this submission refers to:	TAR
Your preferred option as detailed in the discussion paper (write "other" if you do not agree with any of the options presented):	"other" we support option 2 but with NO EAST/WEST AREA SPLIT

Official Information Act 1982

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Fisheries New Zealand
Tini a Tangaroa

Submission:[1]

Details supporting your views:
Please see attached

[1] Further information can be appended to your submission. If you are sending this submission electronically we accept the following formats – Microsoft Word, Text, PDF and JPG.

We support option 2 but without having the East/West split in place anymore, just doing a 15% cut over all of TAR1,2,3 and 7, and treating TAR1 and 7 as one stock again.

We are a 3rd generation fishing family that has been fishing in a commercial capacity for close to 60 years. Our family has been based in the Bay of Plenty and has only fished between Whangarei and Gisborne this whole time (we have never been to the West Coast). Our boat supports 5 families as well as the various industries that we get services from in the Bay of Plenty area. We understand that science indicates that the TAR fishery needs rebuilding and we have supported the rebuild since it started, even though it has been very hard for us working through the industry recommendation of splitting TAR1 into East/West allocations. As mentioned we have only ever fished on the East Coast, so all our fishing history is East Coast based, yet our TAR is now split into East and West portions. This impact has been huge; our fishing package for the past 4 years has been cut drastically due to having ACE in TAR1W but not being able to catch it (but still having to lease it in as part TAR1). There are various reasons for us not attempting to catch our allocated TAR1W:-

- We feel as we have always worked only on the East Coast why should we need to venture all the way to the West Coast to catch Tarakihi there when we have never done this before.
- We believe the West Coast is more a big boat fishery and why should our smaller vessel risk working on the West Coast, along with the distance and cost to travel to the grounds from our home port (especially given the current economic climate we are currently experiencing).
- We have no fishing history on the West Coast of where to catch Tarakihi so time will be spent "finding the fishing grounds".
- We go to the West Coast to catch our TAR1W but are unable to find ACE for the associated by catch, the potential deeming bill will be huge and have a major financial impact on our business.

When the East/West split was proposed by industry it was believed TAR East and West portions would easily get traded between the two areas to allow fishers who work the various areas the ability to get the ACE in the area they normally worked and everyone will carry on fishing. Unfortunately this has not been the case; ACE has not been easily available to trade or access and we now pay to lease in TAR1W (as part of TAR1) but we are unable to either catch, swap for TAR1E or on lease out our TAR1W portion to West Coast fishers.

We have also heard from fishers who normally work in the TAR1W area that Tarakihi on the West Coast is now under some pressure due to the small area that Tarakihi is normally caught on the West. Catches are down and this must now be putting some strain on the fishery there and its ability to be sustainable in the long term.

We do question why is there is a default focus on having to get Tarakihi up to a 40% biomass. When was Tarakihi last at this level? As we understand the stock has not been above 27% since 1975. If it has not been above 27% in over 40 years why try and get it back up to 40%, why not set the target at say 30%? We did a review of our catch history over the years and we have been pretty consistent in our catch levels and have not had any issues catching what ACE we have each year. If this fishery has been is such a dire shape for a long time surely we as fishers on the water would have noticed there not being the Tarakihi around that there used to be. We also fish recreationally and Tarakihi is one of the species we catch, we have not had any difficulty in catching Tarakihi whilst out recreational fishing either.

We believe the only way forward for the rebuild is option2 with a 15% cut and do away with the East/West split and to treat TAR1 and 7 as one stock. Fishers that have access to West Coast species will still fish the West Coast for their TAR and all the by catch that goes with it, we cannot see them transferring all their effort onto TAR1E, why would you when you have always fished on the West Coast and also have other West ACE to catch.

We hope when you consider all options and make your decision you look at the big picture, the industry wants to help with the rebuild but financially it needs to work as well, if you are making a decision please think of the small fisher and the implications it has on us, we still want to be in the industry long term but it needs to be viable for us to remain.

Fisheries New Zealand
Tini a Tangaroa

Submission Form

Review of East Coast tarakihi for 1 October 2022

Submitter details:

Name of submitter or contact person:	**Trent Mabbett**
Organisation (if applicable):	Private Consultant
Email:	
Fishstock(s) this submission refers to:	East Coast tarakihi
Your preferred option as detailed in the discussion paper (write "other" if you do not agree with any of the options presented):	**Option 1**

Official Information Act 1982

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Fisheries New Zealand
Tini a Tangaroa

Submission:[1]

Details supporting your views:

The consultation document related to this submission omitted to include medium and long-term economic and aquatic environment forecasts for the proposed options. Including such forecasts would likely result in a strong case for the benefits of option one over the other 2 options. It is concerning that negative short-term economic forecasts were included *(page 31 section 10)* without including medium and long-term economic and aquatic environment forecasts. To provide short-term economic data, with no corresponding um and long-term economic data could be seen to be duplicitous.

It has been past short-sighted prioritising of short-term economic gains over medium and long-term economic and aquatic environment gains that has allowed this fish stock to collapse in the first place.

While true that medium and longer term economic and aquatic environment gains are even harder to forecast than short-term losses, this doesn't excuse omitting such forecasts. Incorporating only the short-term economic loss is to focus on the economic negatives of the proposal without balancing these against the economic gains that are likely to accumulate over time, including:

- Increase in target fish species stocks and therefore potential economic yield.
- Increase in other fish species stocks and wider aquatic environment gains that will likely flow into improved potential economic yield.

"Where they have been estimated, the long-term net economic benefits of rebuilding appear to be generally positive." ... *"... failure to achieve needed reductions in fishing mortality rates have sometimes incurred substantial negative biological and economic consequences (e.g., too low stock biomasses, lost future yields)."* (Page 123 & 124 USA National Research Council (2014)).

This submission has been made with reference to the following documents:
20190826-FINAL-NZIER-Economic-impacts-of-tarakihi-Final-report-26.08.2019

51757-East-Coast-Tarakihi-consultation-document-October-2022-round

National Research Council (2014). Evaluating the Effectiveness of Fish Stock Rebuilding Plans in the United States. Washington, DC: The National Academies Press. https://doi.org/10.17226/18488.

Worm, B., Hilborn, R., Baum, J. et al. (2009). Rebuilding global fisheries. Science. 325: 578-585.

Please continue on a separate sheet if required.

[1] Further information can be appended to your submission. If you are sending this submission electronically we accept the following formats – Microsoft Word, Text, PDF and JPG.

From:	Ingrid Broekhals
To:	FMSubmissions
Subject:	Review of east coast tarakihi sustainability measures for 1 October 2022
Date:	Friday, 17 June 2022 11:30:00 am

I'm hoping size limits will be part of the final restrictions especially for commercial fishing as they are responsible for catching large quantities and there should be no quotas for NZ 'baby' fish which you see sold at the Sydney fish markets! Elimination of 1080 run-off and round-up run-off into our oceans (to name but 2 poisons) will make the ocean a healthier breeding ground for our fish.

Fisheries New Zealand
Tini a Tangaroa

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Submitter details:

Name of submitter or contact person:	Keith Douglas Hitchon (Doug)
Organisation (if applicable):	
Email:	
Fishstock(s) this submission refers to:	East Coast Tarakihi
Your preferred option as detailed in the discussion paper (write "other" if you do not agree with any of the options presented):	Other

Official Information Act 1982

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Fisheries New Zealand
Tini a Tangaroa

Submission:[1]

Details supporting your views:

The Fisheries Act fails to take account of biodiversity, climate change, bad behaviour of commercial fishers, poor quality science and poor quality mathematical formulas, prejudice within Fisheries NZ management, very bad economic justifications including the reality of minimal benefits to the bulk of New Zealand citizens, obfuscation about seafloor and other environmental damage by the commercial industry, the intense lobbying and other pressure by the commercial fishing industry to intimidate sensible critics and hide truths about the industry performance.

The reality, as evidenced by many instances from breach of regulations to deception in advertising and publicity, is clearly in need of major transformation of the industry behaviour.

Citizens informed about the truth of the commercial fishing industry in New Zealand would be staggered to see the damage and the unfathomable disregard for fairness, morality, and the welfare of the planet and the people who live there.

The reality, while being denied by the industry, is undeniable. Those who are sycophants to the commercial fishing industry, who are unable to be good and sensible people, should resign from advisory and select committee roles.

The Fisheries Act, requiring utilisation of the marine environment sustainably is useless. The purpose of the Fisheries Act should be the maintenance of a fully stocked healthy ocean environment that can sustain depletion of stock no more than can be replaced by breeding in any year. There should be measures taken and no ongoing depletion recorded for any stock below healthy abundance approximating unharvested levels. The Fisheries Act is a failure for the planet and for people except for a handful collecting the largest returns.

Please continue on a separate sheet if required.

[1] Further information can be appended to your submission. If you are sending this submission electronically we accept the following formats – Microsoft Word, Text, PDF and JPG.

From:	Richard Craig
To:	FMSubmissions
Subject:	East Coast Tarakihi
Date:	Tuesday, 12 July 2022 1:17:35 pm

To: FMsubmissions@mpi.govt.nz

Submission
Review of East Coast tarakihi for 1 October 2022

Submitter Details
Richard Craig
Recreational Fisher, resident in Kaikoura
Email;
Fishstock this submission refers to: TAR 3

My prefered option is **Option 1**

Details supporting my submission:
I endorse a speedy recovery of this fishery. Industry has benefited from catches above a sustainable yield for many years, there is an obligation therefore to rapidly input back into the fishery for stock rebuilds.

I encourage and fully support FNZ in restoring Tarakihi TAR from its estimated 19.3% biomass to 40% biomass.

On-board cameras need to be deployed on all vessels engaged in the fishery given concerns around targeting juvenile fish, discarded fish and bi-catch.

An important consideration I feel FNZ should take on board is the effect the depleted Tarakihi stock has on the recreational fishery in the Kaikoura Marine Area. There has been approximately 2 decades of difficulty catching Tarakihi, prior to that I remember myself having better catches, I have been recording my fishing catch since 2000 that shows sporadic catches since then. There has been increasingly a little more tarakihi available in the last 2 years probably as a result of reduced juvenile catch in the Canterbury Bight indicated in the discussion paper.
Any fishery that is languishing at 10% to 15% biomass is having a profound effect on the recreational fishery, I think recreational fishers these days know no difference, with diminishing baselines, it's just normal but shouldn't be.
Maybe recreational accessibility considerations should be added to discussion papers for rebuild strategies.

Fisheries New Zealand
Tini a Tangaroa

Submission Form

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Submitter details:

Name of submitter or contact person:	Doug MARRA
Organisation (if applicable):	—
Email:	
Fishstock(s) this submission refers to:	TARAKIHI
Your preferred option as detailed in the discussion paper (write "other" if you do not agree with any of the options presented):	Possibly OPTION 1 with suggestions below

Official Information Act 1982

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Fisheries New Zealand
Tini a Tangaroa

Submission:[1]

Details supporting your views:

I fish in TAR 2 - more specifically off OHOPE with a good amount of time in the OPOTIKI Mussel farm.

I am a recreational fisherman, who has fished this area for 30+ years.

I would like to recommend making the Tarakihi minimum size 28cm. + half the current catch from 20 per day to 10. A recreation boat with 4 on board can still bring home 28 snapper, 40 Tarakihi (or less if other fin fish are caught). We also ~~et~~ catch gurnard + Kahawai so happy to make our Tarakihi catch bigger fish with less number. We have talked for several years that Tarakihi should reduce per fishing trip.

Regards

Doug Marra.

Please continue on a separate sheet if required.

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Fisheries New Zealand
Tini a Tangaroa

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Submitter details:

Name of submitter or contact person: Luke Owen Williamson	
Organisation (if applicable):	
Email:	
Fishstock(s) this submission refers to:	**Review of East Coast tarakihi**
Your preferred option as detailed in the discussion paper (write "other" if you do not agree with any of the options presented):	Option 1

Official Information Act 1982

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Fisheries New Zealand
Tini a Tangaroa

Submission:[1]

Details supporting your views:

The tarakihi stock has not been adequately managed for quite some time and has hovered on or below 20% of original biomass for 20-30 years. This is unacceptable and represents a danger to the longterm viability and genetic variation of the species. These decisions take far too long to come to fruition while commercial fishing, in particular, continues to reduce stock numbers. Reduce the TACC now and significantly or we will all regret it in the near future. Please.

Please continue on a separate sheet if required.

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