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.

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.

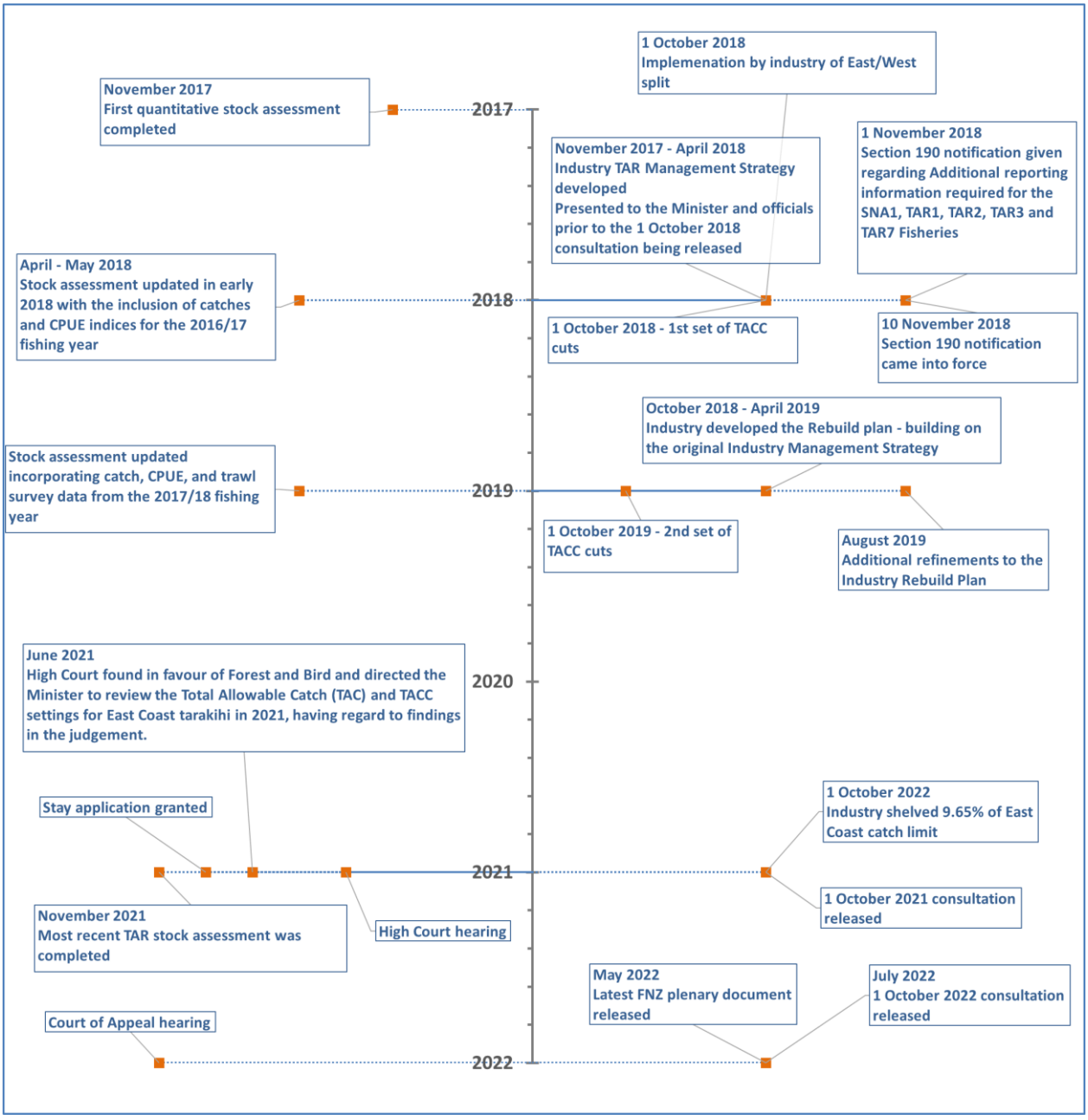

Figure 1 Corrected chronology for the development of East coast TAR management

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

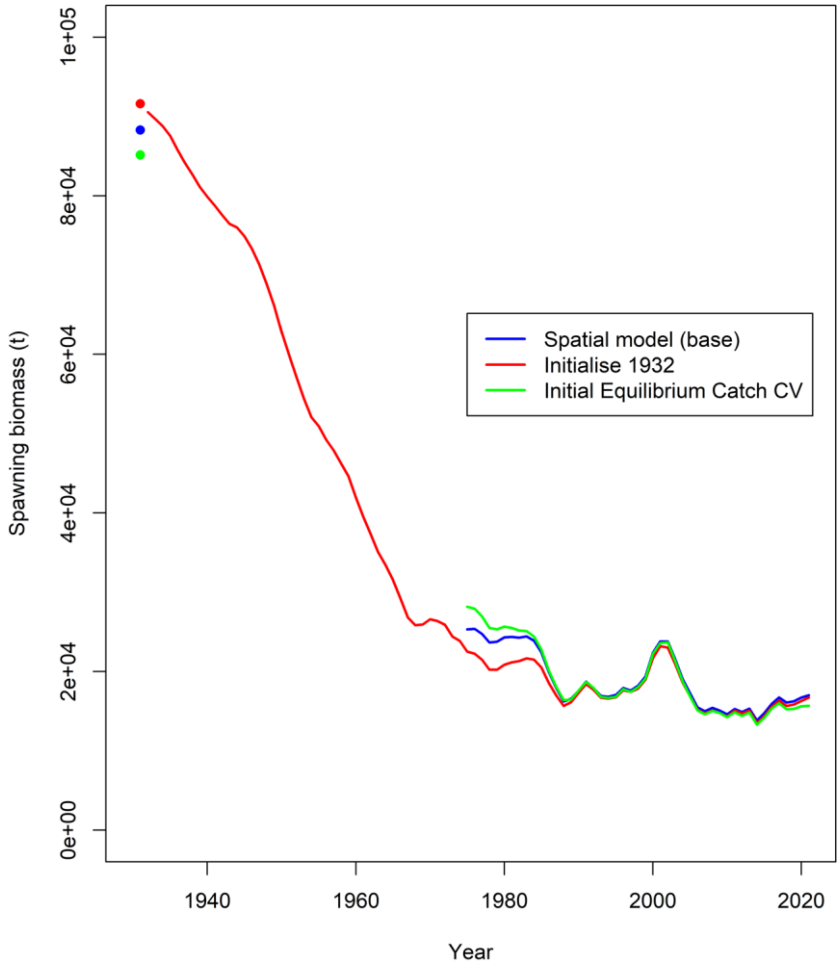

Figure 2. Spawning biomass trajectories from three model options for the three-region spatial model evaluating initial conditions (median of MCMCs). The points represent the estimates of virgin spawning biomass (SB_0) from each model.

- 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.

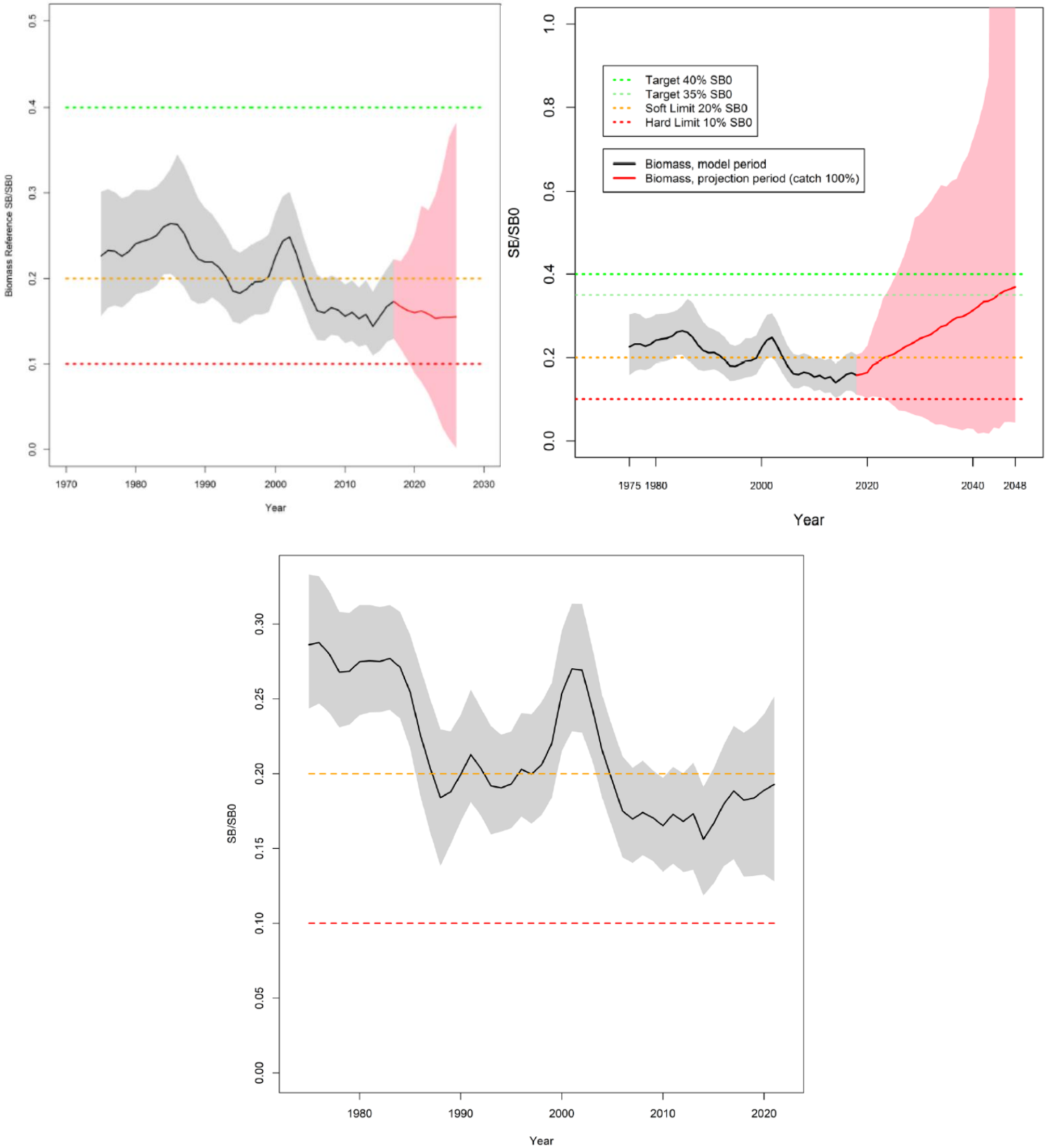

Figure 3 Comparison of the annual trend in spawning biomass relative to 40% SB0 target biomass level (green dashed line), the 20% SB0 soft limit (orange dashed line), and the 10% SB0 hard limit (red dashed line). The uncertainty in the projections from 2017 forward (pink line) are due to uncertainties 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.

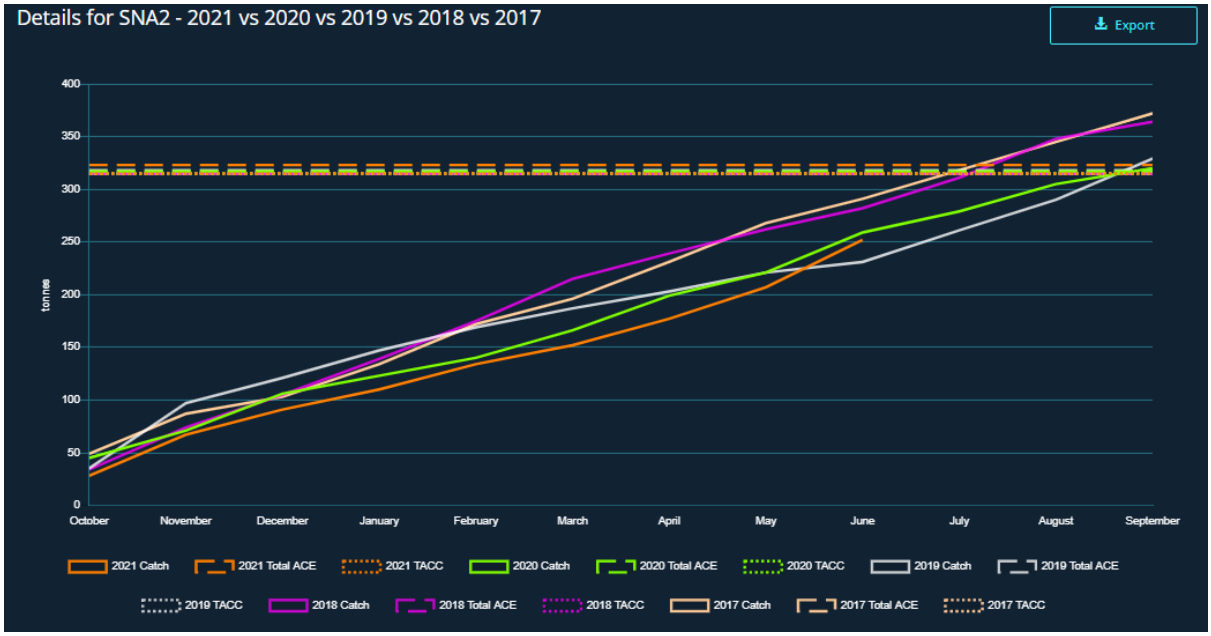

Figure 4 SNA2 Catch trends from 2017 – 2021

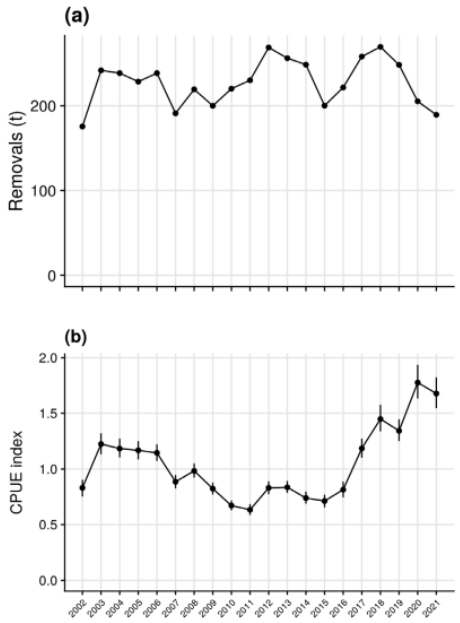

Figure 5 Historical Stock Status Trajectory and Current Status for SNA2N (a) Annual commercial removals for SNA 2N; (b) the standardised catch per unit effort (CPUE) index for SNA 2N from trawling targeting gurnard, snapper, tarakihi and trevally. (Source: May 2022 Plenary - https://www.mpi.govt.nz/dmsdocument/51739-Fisheries-Assessment-Plenary-May-2022-Stock-As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

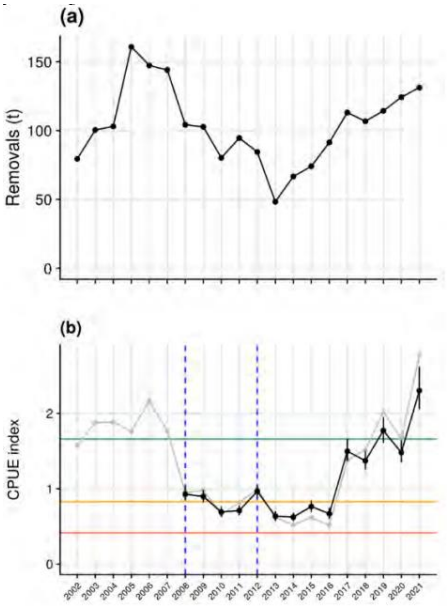

Figure 6 Historical Stock Status Trajectory and Current Status for SNA2S. (a) Annual commercial removals for SNA 2S; (b) the standardised event resolution catch per unit effort (CPUE) index (black line), relative to the agreed reference points, for SNA 2S from trawling targeting gurnard, snapper, tarakihi 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)

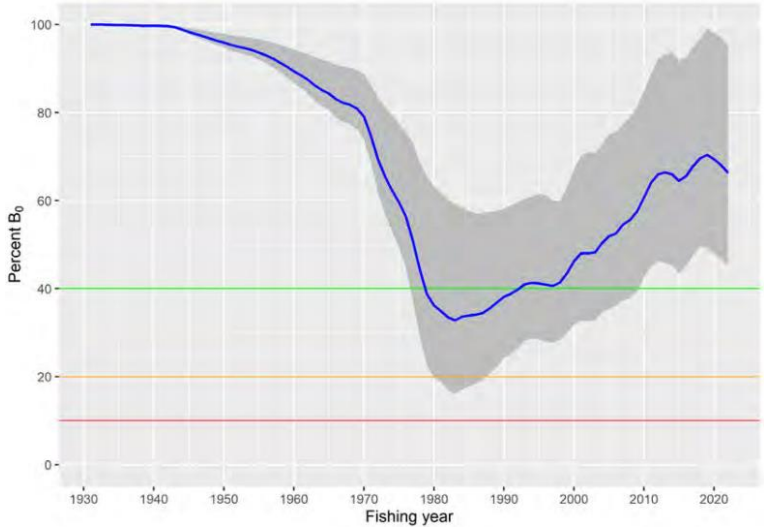

Figure 7 Historical Stock Status Trajectory and Current Status for TRE1. Spawning stock biomass from the MCMC for the base model, with 95% credible interval. Horizontal lines are the 40% target (green), soft limit (orange), and hard limit (red). (Note - There is no accepted stock assessment for TRE 2. 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)

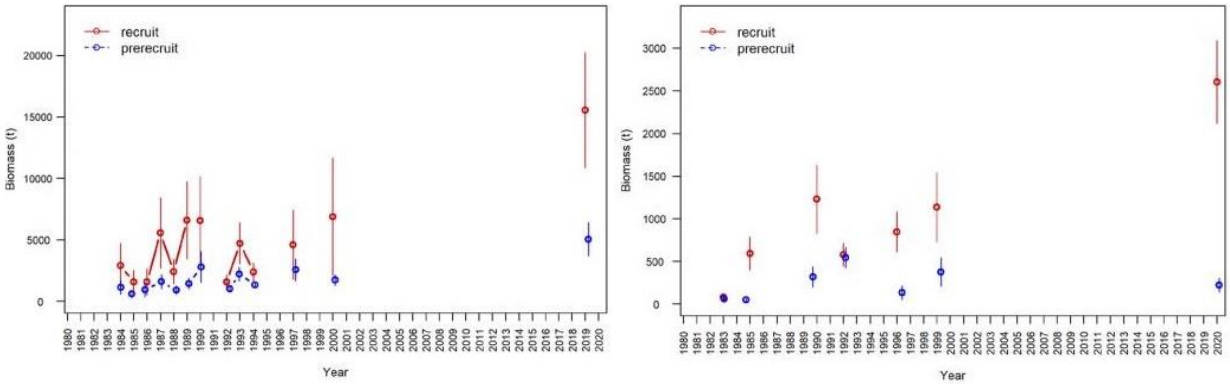

Figure 8 Latest SNA 1 trawl survey results. Left hand side - SNA 1 Hauraki Gulf biomass trends with 95% confidence intervals for pre-recruit (dashed blue line) and recruited (solid red line) fish for the most common QMS species (all sexes combined). Right hand side - SNA 1 Bay of Plenty biomass trends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

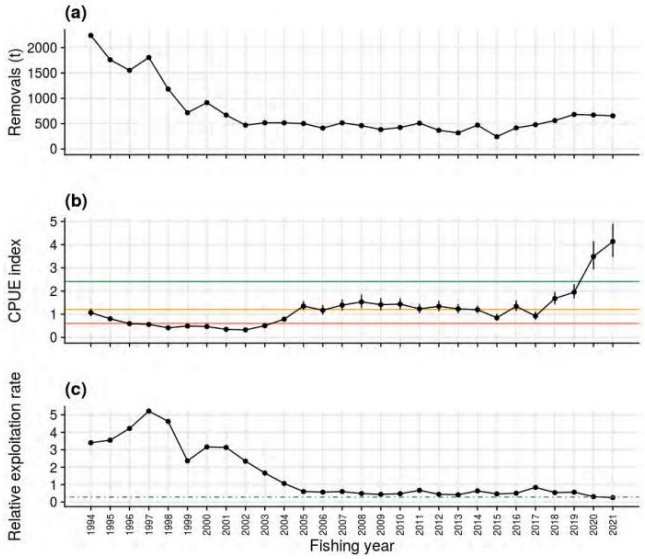

Figure 9 Historical Stock Status Trajectory and Current Status . (a) Annual removals for SKI 1 and SKI 2; (b) the standardised catch per unit effort (CPUE) index, relative to the agreed reference points, for SKI 1 and SKI 2 from trawling targeting hoki and gemfish; (c) annual relative exploitation rate (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)

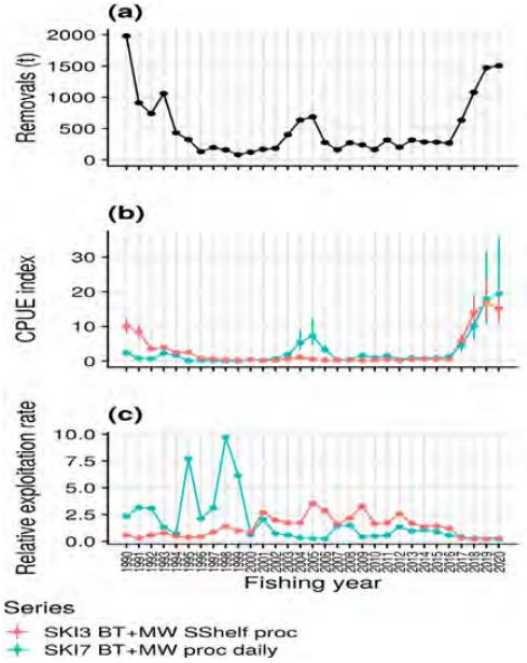

Figure 10 Historical Stock Status Trajectory and Current Status . (a) annual removals for SKI 3 and SKI 7; (b) the standardised catch per unit effort (CPUE) indices for SKI 3 and SKI 7 from daily processing records; (c) annual relative exploitation rate (catch/CPUE) for gemfish in SKI 3 and SKI 7 implied 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]

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.

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