

# REVIEW OF SUSTAINABILITY MEASURES FOR TARAKIHI 2019/20

## SUBMITTER DETAILS

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## 1. Introduction

- 1.1 This is a submission on the Review of Sustainability Measures for Tarakihi (TAR 1, 2, 3 and 7) for 2019/20 as set in the Fisheries New Zealand (**Fisheries NZ**) Discussion Paper No: 2019/13 (**Discussion Paper**).
- 1.2 EDS is a not-for-profit, non-government national environmental organisation. It was established in 1971 with the objective of bringing together the disciplines of law, science, and planning in order to promote better environmental outcomes in resource management. EDS recently undertook an in-depth study into the operation of the fisheries management system, with a focus on inshore stocks. The study included 60 interviews with people directly involved with fisheries management in New Zealand and was published in 2018 under the title: "Voices from the Sea: Managing New Zealand's Fisheries".

## 2. Summary of submission

### 2.1. EDS seeks:

- a) An additional proposal be included for consideration by the Minister demonstrating the measures required to rebuild tarakihi stock to 40% abundance in 10 years in accordance with the Harvest Strategy Standard (**HSS**)
- b) That either proposals in Option 1 and 2 (for the reduction by 31% or 35% Total Allowable Commercial Catch (**TACC**) over an 11 or 12 year timeframe) or in (a) above be adopted by the Minister
- c) Option 3 as proposed in the Discussion Paper be removed as an option for consideration by the Minister on the basis that it is ultra vires
- d) That targeting of tarakihi by bottom trawl equipment be prohibited

- 2.2. EDS considers that a decision by the Minister based on the Discussion Paper's advice would be unlawful because it fails to include information necessary to fulfil the Minister's statutory obligations under the Fisheries Act (**FA**) meaning that a decision on the basis of the Discussion Paper would fail to take into account relevant considerations.

### 3. Compliance with the FA

- 3.1. When considering the setting of sustainability measures for a fish stock the Minister's decision-making power is subject to specific and directive statutory requirements under the FA.

#### ***Purpose: section 8A***

- 3.2. The Minister's decision must be consistent with achieving the FA's purpose s8 FA: "*to provide for the utilisation of fisheries resources while ensuring sustainability*". The definition of "*ensuring sustainability*" includes in ss8(2)(b) "*avoiding, remedying and mitigating any adverse effects of fishing on the aquatic environment*". The "*aquatic environment*" is defined in s2 as "*the natural and biological resources comprising any aquatic ecosystem*" and to include "*all aquatic life*". The term "*aquatic life*" captures "*any species of plant or animal life that, at any stage of its life history, must inhabit water, whether living or dead; and includes seabirds (whether or not in the aquatic environment)*".
- 3.3. As a result, the Minister's decision must be consistent with avoiding, remedying, and mitigating any adverse effects of fishing on all marine species of plant and animal life as well as on the marine ecosystems which they comprise.
- 3.4. The Discussion Paper sets out proposals to alter the TACC but contains little other information on the adverse effects of trawling for tarakihi on other marine species or on marine ecosystems. EDS considers that a decision made by the Minister based on this deficient advice would be unlawful.

#### ***Environmental principles: section 9***

- 3.5. s9 FA sets out the environmental principles which the Minister must "*take into account*" when making a decision on the setting of sustainability measures. The two most relevant to the tarakihi stock are:
- a) "*biological diversity of the aquatic environment should be maintained*" (s9(b)).
  - b) "*habitat of particular significance for fisheries management should be protected*" (s9(c)).
- 3.6. None of the terms in s9(c) which states that "*habitat of particular significance for fisheries management should be protected*" are defined by the FA.
- 3.7. We have been unable to identify any case law defining the word "protect" for the purposes of s9(c) FA. "Protect" is defined by the Compact Oxford Dictionary<sup>1</sup> as "*keep safe from harm or injury*". The Courts have confirmed the same definition applies in the context of the requirement to protect significant areas of indigenous vegetation and significant habitats of indigenous fauna under the Resource Management Act 1991.<sup>2</sup>

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<sup>1</sup> 3<sup>rd</sup> edition, pg 737.

<sup>2</sup> [2015] NZEnvC 219 at [63].

- 3.8. The Discussion Paper indicates that these habitats should be protected and adverse effects on them avoided, remedied or mitigated. EDS emphasises that the direction in s9 is outcome focused. Simply avoiding, remedying, or mitigating adverse effects generally is not sufficient – the actions undertaken must be adequate to achieve protection.
- 3.9. The Discussion Paper contains very inadequate information on the adverse effects of fishing activity on biological diversity and habitat of particular significance to fisheries management. It is therefore not possible to assess whether the sustainability measures proposed are adequate to achieve protection.

#### ***Information principles***

- 3.10. When making a decision under the FA, the Minister must take into account the information principles in s10:
- a) decisions should be based on the best available information
  - b) decision makers should consider any uncertainty in the information available in any case
  - c) decision makers should be cautious when information is uncertain, unreliable, or inadequate
  - d) the absence of, or any uncertainty in, any information should not be used as a reason for postponing or failing to take any measure to achieve the purpose of this Act
- 3.11. The Discussion Paper contains only partial information, with significant gaps in the provision of information on important matters that the Minister is legally required to take into account (as discussed further below). For this reason, EDS considers that the Discussion Paper has not provided the best available information.

#### **4. Discussion Paper Proposals**

- 4.1. Following the recommendations made in the 2018 Sustainability Measures document the Minister decided to implement a two-stage plan to rebuild tarakihi abundance. The first stage of the rebuild plan was to implement a 20% TACC reduction. The second stage is the implementation of additional measures to rebuild abundance, and is the focus of the current Discussion Paper.
- 4.2. The Discussion Paper indicates that the tarakihi fishery has been in long-term decline and currently has an abundance rate of 15.9% of virgin biomass. As tarakihi are long-lived and slow-growing, they are a low productivity species. The Harvest Strategy Standard for New Zealand Fisheries (2008) (HSS) default proxy of 40% abundance is recommended.
- 4.3. The HSS, which outlines international best practice, recommends a rebuild timeframe of 10 years to reach 40% abundance. EDS has previously indicated support for this timeframe, and reiterates that support now.
- 4.4. The three measures proposed are:

- **Option 1:** A 31% reduction in TACC, predicted to enable the stock to reach the 40% abundance rate within 12 years
  - **Option 2:** A 35% reduction in TACC, predicted to enable the stock to reach the 40% abundance rate within 11 years
  - **Option 3:** No further reduction in TACC and the implementation of additional management options, predicted to enable the stock to reach a 35% abundance rate in 27 years
- 4.5. The three options have significant differences in their estimated per annum costs but when averaged across the total time needed to rebuild the stock these differences converge. However, it is noted that the economic evaluation of the cost of each option to rebuild does not include the economic benefits that would be derived from rebuilding the stock, and instead focuses on the loss of revenue for the different rebuild options. It also does not include the economic losses from not taking action. This provides a misleading picture.
- 4.6. Option 3 does not propose any reduction in TACC and instead relies on additional measures proposed in the commercial fishing industry's *'Eastern Tarakihi Management Strategy and Rebuild Plan'*. A decision to retain the status quo for the TACC would not meet the requirement under s 13(2A) to set a TAC *"that is not inconsistent with the objective of... moving the stock towards or above, a level which can produce the MSY"*. Option 3 is therefore not legally available to the Minister.
- 4.7. Option 3 also does not provide any certainty in the timeframe required to rebuild tarakihi abundance to a sustainable rate. Fisheries New Zealand notes in the Discussion Paper that *"there is uncertainty in whether the Industry Rebuild Plan will deliver an accelerated rate of rebuild"*. The Minister is required to take this uncertainty into account when exercising his duties, and should be cautious about acting on the basis of uncertain information.<sup>3</sup>
- 4.8. EDS supports both Option 1 and Option 2, but suggests that Option 2 may be the preferred option in terms of fairness to the affected fishermen, as the reductions are spread out more evenly over TAR 1 and TAR 2.
- 4.9. It is recommended that an additional proposal be included that details the measures required to rebuild tarakihi to 40% of its virgin biomass within a 10 year timeframe, as recommended by the HSS. This would enable the Minister to make a fully informed decision about which option is preferable.

## 5. Obligations under the Fisheries Act

- 5.1. The Discussion Paper does not adequately address the Minister's environmental obligations under ss8 and 9 FA. It therefore does not provide the Minister with the best available information on which to consider these matters as required under s10(a) FA.

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<sup>3</sup> Section 10(b) and (c).

5.2. Tarakihi stock is primarily harvested through bottom trawl and the Minister therefore needs to consider the impact of this fishing method on:

- a) Biological diversity of the aquatic environment.
- b) Habitat of particular significance for fisheries management.

5.3. There is a wealth of information on this topic which the Minister needs to consider in order to meet his statutory obligations. The information is summarised in the publication “Ministry for Primary Industries (2017). Aquatic Environment and Biodiversity Annual Review 2017. Compiled by the Fisheries Management Science Team, Ministry for Primary Industries, Wellington, New Zealand” (**AEBAR**) which has a chapter on benthic impacts of fishing activity.

5.4. AEBAR provides strong scientific evidence that using bottom trawl gear on hard reef structures and biogenic communities is particularly damaging to those habitats. It summarises the international scientific findings of the benthic impacts of trawling including that:<sup>4</sup>

*the effects on habitats of mobile bottom fishing gears were that they can:*

- *Damage or reduce structural biota (all reviews, strong evidence or support).*
- *Damage or reduce habitat complexity (all reviews, variable evidence or support).*
- *Reduce or remove major habitat features such as boulders (some reviews, strong evidence or support).*
- *Alter seafloor structure (some reviews, conflicting evidence for benefits or harm).*

*Other emergent conclusions on habitat effects included:*

- *There is a gradient of effects, with greatest effects on hard, complex bottoms and least effect on sandy bottoms (all reviews, strong support, with qualifications).*
- *There is a gradient of effects, with greatest effects on low energy environments and least (often negligible) effect on high-energy environments (all reviews, strong support).*
- *Trawls and mobile dredges are the most damaging of the gears considered (three of the reviews considered other gears; all drew this conclusion, often with qualifications).*

5.5. AEBAR concludes at page 369 that “*The international literature is, therefore, clear that bottom(demersal) trawling and shellfish dredging are likely to have largely predictable and sometimes substantial effects on benthic community structure and function.*”

5.6. The Discussion Paper also fails to address the interaction between tarakihi recruitment and survival and habitat. Research commissioned by government has concluded that juvenile

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<sup>4</sup> Page 368

tarakihi are found in close association with biogenic habitats including bryozoan beds.<sup>5</sup> During the mid 1970s such tarakihi juvenile nursery beds were identified off the south-western coast of the North Island, in Tasman Bay, and along the entire eastern coast of the South Island. They were described as “*dense and varied invertebrate benthic epifauna dominated by sponges and small corals.*”<sup>6</sup>

- 5.7. Of particular relevance to tarakihi is the scientific assessment undertaken of the impacts of trawling on bryozoan communities in the Tasman Bay area (noting that the Tasman bryozoan beds were identified by Vooren (1975) as important tarakihi nursery grounds). Separation Point was first trawled after 1972, and this activity raised concerns about damage to the bryozoan beds and reduction of juvenile fish habitat, which could reduce recruitment into the fishery. In 1980 an area extending 156 km<sup>2</sup> around the Point was closed to power-fishing methods in order to protect the habitat, comprising just 0.4 per cent of the seabed of Tasman Bay. 30 years later areas within and outside the exclusion zone were examined by scientists. The researchers found that “*grab samples of the sediment from inside the closure area are very coarse, full of shell, and poorly sorted; in contrast, the samples from adjacent fished areas comprise almost entirely soft muds, nearly devoid of shell material and surface-dwelling organisms*”. This was likely due to the ploughing effect of repeated disturbance whereby over time, a coarse shelly seabed is turned into a soft fine mud substrate. Overall, the seabed in the trawled areas had reduced size structure, biomass, and productivity. This has almost certainly impacted on the productivity of associated fisheries including tarakihi through loss of food sources and juvenile habitat.<sup>7</sup> A more recent study of the impacts of trawling on Tasman and Golden Bays concluded that the abundance of species which grow above the seabed, such as horse mussels, bryozoans and sponges, was reduced by up to 50% in areas fished on average just 2 to 3 times a year.<sup>8</sup>
- 5.8. Apart from the small protected area in Tasman Bay at Separation Point, important tarakihi habitats have not been protected from trawling impacts and continue to be trawled today. Such benthic habitats are particularly susceptible to damage and destruction by repeated trawling over time which produces cumulative and chronic impacts. It would seem extremely likely that the loss of these habitats due to chronic trawling damage has significantly reduced recruitment into the fishery. The Minister needs to prohibit the use of bottom-trawl for targeting tarakihi. In addition, Fisheries NZ as a matter of urgency, needs to identify important habitats for the tarakihi stock and protect them from other destructive fishing activities.<sup>9</sup>

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<sup>5</sup> Morrison, M.A.; Jones, E.; Consalvey, M.; Berkenbusch, K. (2014). Linking marine fisheries species to biogenic habitats in New Zealand: a review and synthesis of knowledge. *New Zealand Aquatic Environment and Biodiversity Report No. 130*, 119

<sup>6</sup> C. M. Vooren (1975) Nursery grounds of Tarakihi (*Teleostei: Cheilodactylidae*) around New Zealand, *New Zealand Journal of Marine and Freshwater Research*, 9:2, 121-158;

<sup>7</sup> Handley S J, T J Willis, R G Cole, A Bradley, D J Cairney, S N Brown and M E Carter, 2014, 'The importance of benchmarking habitat structure and composition for understanding the extent of fishing impacts in soft sediment ecosystems', *Journal of Sea Research*, 86, 58–68

<sup>8</sup> Tuck I D, J E Hewitt, S J Handley and C J Lundquist, 2017, 'Assessing the effects of fishing on soft sediment habitat, fauna and process', *New Zealand Aquatic Environment and Biodiversity Report No. 178*

<sup>9</sup> In order to fulfil the obligation under the FA to ensure sustainability which includes “*maintaining the potential of fisheries resources to meet the reasonably foreseeable needs of future generations*” and “*avoiding, remedying, or mitigating any adverse effects of fishing on the aquatic environment*” under s8(2)(b),

## **6. Conclusion**

- 6.1. EDS supports taking management action to rebuild tarakihi stocks, and considers the timeframe and abundance rate suggested by the HSS is appropriate. It is submitted that an additional proposal detailing what a 10-year rebuild timeframe would be is required. As management action for tarakihi is long overdue, it is recognised that the measures required to rebuild the stocks will need to be more stringent than if action had occurred earlier.
- 6.2. EDS reiterates its disappointment at the failure of Fisheries NZ to include the best available information on the environmental effects of fishing activity. It is required that this information be provided to the Minister to enable him to make an informed decision on the proposals.