



Fisheries Management
Fisheries New Zealand
PO Box 2526
Wellington 6140

By email: FMSubmissions@mpi.govt.nz

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SUBMITTER DETAILS

Full name: Environmental Defence Society Incorporated
Address: PO Box 91736, Victoria Street West, Auckland 1142
Contact: Raewyn Peart
Email: raewyn@eds.org.nz

Review of sustainability measures for orange roughy (ORH 3B) for 2023/24

Introduction

1. This is a submission on the review of sustainability measures for orange roughy (ORH 3B) for 2023/24 as set out in Fisheries New Zealand Discussion Paper No 2023/10 (Discussion Paper).
2. The Environmental Defence Society (EDS) is an independent not-for-profit organisation conducting interdisciplinary policy research and litigation. It was established in 1971 with the purpose of improving environmental outcomes in Aotearoa New Zealand.
3. EDS has a special interest in the marine environment and recently completed the first phase of a multi-year project looking at options for future reform of the oceans management system.¹ This included, among other things, fisheries management. In 2018, EDS led an in-depth review of the national fisheries management system and published findings in a report entitled *Voices from the Sea: Managing New Zealand's Fisheries*.² It has also sought to improve fisheries decision-making by submitting on proposals to set sustainability measures for the management of various wild fish stocks.³

Summary of submission

4. EDS is very concerned about the depleted biomass levels of ORH3B.

¹ Greg Severinsen and others, *The Breaking Wave: Oceans Reform in Aotearoa New Zealand* (EDS, Auckland, June 2022) available from www.eds.org.nz

² Raewyn Peart, *Voices from the Sea: Managing New Zealand's Fisheries* (EDS, Auckland, 2018) available from www.eds.org.nz

³ Copies of EDS's recent submissions on a range of wild fish stocks are available from www.eds.org.nz

5. EDS supports the need to reduce the current Total Allowable Catch (TAC) in ORH3B and in this respect of the options presented, Option 3 is preferred above the other less precautionary options (Options 1 and 2).
6. However EDS submits that a further option (Option 4) is preferred and should be presented to the Minister with a positive recommendation for approval. Option 4 is more precautionary and would reduce the TAC to the level set in 2012/13 at 3,600 tonnes.

The current situation regarding the ORH3B stock

7. The Discussion Paper describes the current situation regarding the state of the stock. What is notable in this description are the following matters:
 - a) Orange roughy is a very slow-growing and long-lived species living up to 120-130 years. It is also has relatively low reproductive potential which means that a conservative TAC setting is warranted.
 - b) The unstandardised catch per unit effort (CPUE) across most fished areas is declining and is at historical lows for non-spawning fisheries.
 - c) The acoustic survey series (which appears to be the most reliable information currently available) indicates flat or declining trends in estimated spawning biomass since 2011. Aligned with this finding, Fisheries NZ considers that the TAC has been set too high since 2014/15. *We note that in 2012/2013 (prior to the increase in the 2014/15 year) the TAC was set at 3,600 tonnes and that it is currently set at more than double that amount, at 8,355 tonnes.*
 - d) The previously accepted stock assessment can no longer be relied on (as it does not accurately reflect stock status) and therefore has been rejected. The current status of the stock is unknown.
 - e) Three previous increases in the TAC were based on this flawed stock assessment. It is evident from the Discussion Paper (para 33) that there has been for some years an over-reliance on a model that was developed on the basis of too little data and flawed assumptions (i.e. that the fishery was more productive than it likely is) and that this model was used as a basis for previous significant increases in the TAC. This highlights the dangers of relying on such models, instead of investing in the actual science that is needed to better understand the stock.
 - f) Despite this being a highly valuable fishery (generating close to \$50 million in exports each year) Fisheries NZ and quota owners have failed to invest in the requisite science to make sound decisions on stock management. The Discussion Paper (para 40) highlights the gaps in referring to the need for further “significant” work on ageing, surveys and assessments.
8. All of the above indicates a systemic failure in the management of the fishery and a need for a much more robust and precautionary approach as well as significant investment in science and the collection of reliable independent data.

Environmental impacts

9. The Discussion Paper (para 76) indicates that bottom trawling for orange roughy accounts for around 56% of the total protected coral catch bycatch by weight. It also indicates the significance of this bycatch in that recovery is likely to be slow (para 78).

10. Also noted in the Discussion Paper is that there are no restrictions on bottom trawling in new areas, and that this may continue in the longer term if fishers apply more effort to flat areas with longer trawl tows. In addition, the paper states “The impact of trawling in flat areas on biodiversity is unknown, as there is little information regarding the biodiversity of these areas” (para 85). EDS submits that if the impacts are unknown, then the activity should not be allowed to take place until they are known and are confirmed as not being significant. EDS submits that, at the very least, trawling should be restricted to its current footprint while an assessment of its environmental impact can be carried out.
11. The Discussion Paper also highlights (para 109) that “FNZ is progressing to a more integrated ecosystem-based approach to managing oceans and fisheries. In that context, this review contains information on biodiversity impacts, ecosystem function, and habitat protection associated with adjustment to sustainability measures.” We note that, although including this additional information is a positive development, just reporting information does not amount to ecosystem-based management if that information does not impact decision-making.
12. Nowhere in the options proposed is it evident how the environmental information presented in the Discussion Paper has been taken into account. Merely stating that a reduction in TAC will likely reduce environmental impacts does not mean that the impacts (even if they are reduced) are acceptable. The large quantity of protected coral harvested in the fishery as by catch is a case in point. We also note that there is no mention of the impacts of climate change on the stock or the impacts of fishing it, even though this is the greatest driver of shifts in the marine environment including sea water warming and acidification.

Management options

13. The Discussion Paper proposes three options for sustainability measures:
 - a) **Option 1 is a return to the 2019/20 settings with the TAC at 7,116 tonnes.** As the 2019/20 settings were based on a model that is now accepted as being flawed and unusable, it is difficult to see how this could be a credible option and how it complies with the requirement to use the best available information under section 10(a) of the Fisheries Act. Option 1 also relies on the fishing industry implementing non-regulatory measures. We would question whether such reliance is open to the Minister in light of the High Court decision on the East Coast tarakihi stock where the Minister’s reliance on an industry rebuild plan was found to be unlawful as it was an irrelevant consideration.⁴ **For these reasons we submit that Option 1 should be removed from the options provided to the Minister.**
 - b) **Option 2 would return the TAC to the level prior to the first phased increase in the 2018/19 fishing year to 5,470 tonnes.** The scientific basis for this option appears to be that the TAC level being returned to was the one in force prior to the increases that were based on the most recent flawed model. However, it appears that previous assessments must have been similarly challenged given the paucity of data on the stock highlighted in the Discussion Paper. This Option does not use the most recent acoustic biomass estimate which is considered robust, and therefore is the best available information, and so is not available to the Minister. **For these reasons we submit that Option 2 should be removed from the options provided to the Minister.**
 - c) **Option 3 would reduce the TAC to 4,995 tonnes.** This has been calculated using the most recent acoustic biomass estimate and methodology that has been peer-reviewed in scientific

⁴ *Royal Forest and Bird Protection Society v Minister of Fisheries and Ors* [2021] NZHC 1427

journals. It is also the option most likely to increase the ORB 3B at the fastest rate. However, it still falls short of Fisheries NZ's assessment that the ORH 3B TAC has been set too high since 2014/15 i.e. since the TAC was set at 3,600 tonnes.

- d) **EDS submits that an additional option (Option 4) should be developed and recommended to the Minister that reduces the TAC to 3,600 tonnes.** This would be more precautionary than Option 3 and would align with the conclusions of Fisheries NZ in the Discussion Paper that "the ORH 3B TAC has been set too high since 2015/14..." (para 117). We note that in 2012/2013 (prior to the increase in the 2014/15 year) the TAC was set at 3,600. Given the lack of knowledge of the stock, the lack of any reliable stock assessment, the slow growing, long living and low reproducing characteristics of the species, EDS submits that a very precautionary approach is required. **EDS supports this option.**

Conclusion

EDS submits that the three options presented in the Discussion Paper are inadequate and the proper application of the law requires a decision based on EDS's Option 4.