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#### **Review of Sustainability Measures for 2024/25**

##### **Introduction**

1. This submission addresses Fisheries New Zealand's (**FNZ**) review of sustainability measures for the following stocks:
  - Blue cod (BCO 5)
  - Leatherjacket (LEA 3)
  - Snapper (SNA 2)
  - John dory (JDO 2)
  - Snapper (SNA 7)
  - Flatfish (FLA 7)
  - Snapper (SNA 8)
  - Orange roughy (ORH 7A)
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.<sup>1</sup> 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*.<sup>2</sup> 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.<sup>3</sup>

## Summary

4. EDS has assessed FNZ's proposed sustainability measures against Part 3 of the Fisheries Act 1996 (**Act**), the 'sustainable utilisation' purpose of the Act and the Act's environmental principles which decision makers must have regard to.<sup>4</sup>
5. EDS considers that some of the proposed sustainability measures are inconsistent with these sections because:
  - They are not consistent with the objective of maintaining stock at or above a level that can produce maximum sustainable yield (**MSY**);<sup>5</sup>
  - They do not ensure the maintenance of the potential of fisheries resources to meet the reasonably foreseeable needs of future generations,<sup>6</sup> and
  - They do not avoid, remedy or mitigate adverse effects of fishing on the aquatic environment.<sup>7</sup>
6. In particular, increases in total allowable commercial catch (**TACC**) will enable greater fishing effort, and this can have associated adverse environmental effects, particularly if bottom contact fishing methods are used. FNZ's proposed sustainability measures fail to recognise and/or avoid, remedy or mitigate these adverse effects.
7. For these reasons, EDS opposes proposed sustainability measures to increase TACC for SNA 2, SNA 7 and SNA 8.
8. EDS supports proposed sustainability measures to reduce TAC for BCO 5, FLA 7 and ORH 7A, and considers a more significant decrease in TAC in JDO 2 to be necessary to ensure sustainability.

## Failure to manage adverse effects of bottom-contact fishing

9. FNZ's proposed sustainability measures do not avoid, remedy or mitigate adverse effects of bottom-contact fishing on the aquatic environment.

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<sup>1</sup> Greg Severinsen and others, 2002, *The Breaking Wave: Oceans Reform in Aotearoa New Zealand*, Environmental Defence Society, Auckland, available from [www.eds.org.nz](http://www.eds.org.nz)

<sup>2</sup> Raewyn Peart, 2018, *Voices from the Sea: Managing New Zealand's Fisheries*, Environmental Defence Society, Auckland, available from [www.eds.org.nz](http://www.eds.org.nz)

<sup>3</sup> Copies of EDS's recent submissions on a range of wild fish stocks are available from [www.eds.org.nz](http://www.eds.org.nz)

<sup>4</sup> Fisheries Act 1996, sections 8, 9 and 11-16

<sup>5</sup> Fisheries Act 1996, section 13

<sup>6</sup> Fisheries Act 1996, section 8(2)(a)

<sup>7</sup> Fisheries Act 1996, section 8(2)(b)

10. Bottom-contact fishing is one of the greatest threats to the marine environment (after climate change) in Aotearoa New Zealand, with impacts that include:<sup>8</sup>
  - a. Damage and loss of benthic habitats, biodiversity and associated species including habitat of particular significance for fisheries management
  - b. Disturbance and resuspension of marine sediment which reduces water quality, releases carbon, changes the nature of benthic substrate from gravel/sand to mud over time, inhibits filter feeders, and can further suffocate benthic species
  - c. Accidental capture of protected species including endangered marine mammals, seabirds, sharks, corals and other protected marine species.
11. Section 8 of the Act requires any adverse effects of fishing on the aquatic environment to be avoided, remedied or mitigated.<sup>9</sup>
12. This obligation extends to adverse effects associated with increased fishing effort, as well as adverse effects associated with current levels of fishing effort. It includes *any* adverse effects of fishing, not just those that are significant.
13. In its discussion documents, FNZ outlines existing measures, including spatial restrictions for trawling, to address adverse effects of current fishing effort. EDS considers these insufficient because:
  - a. Significant benthic habitat remains at risk;<sup>10</sup>
  - b. Trawl-induced sedimentation continues to be a major concern;<sup>11</sup> and
  - c. By-catch of non-target protected species still occurs.
14. FNZ also recognises an increase in TACC for some stocks may increase fishing effort and associated adverse effects, but fails to outline how such increased effects will be avoided, remedied or mitigated. Increased monitoring, as proposed, does not constitute fulfilment of s 8 obligations. Rather, to comply with its statutory obligations, FNZ should adopt measures that:
  - a. Limit all bottom-contact fishing such as bottom trawling to its current footprint
  - b. Prohibit bottom-contact fishing in sensitive areas where benthic structures (like biogenic habitats, mussel beds, or seamounts) exist
  - c. Prohibit bottom-contact fishing in the outer Marlborough Sounds, and any other areas where re-suspension of sediment is altering natural fluxes and/or damaging sensitive ecosystems
  - d. Prohibit bottom-contact fishing in areas where the activity will release carbon dioxide into the atmosphere.

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<sup>8</sup> MacDiarmid et al., 2012, Assessment of anthropogenic threats to New Zealand marine habitats, *New Zealand Aquatic Environment and Biodiversity Report No 93*; Anderson T, R Stewart, R D'Archino, J Stead and N Eton, 2020, *Life on the seafloor in Queen Charlotte Sound, Tory Channel and adjacent Cook Strait*, NIWA, Wellington, at 56, 58, 101, 267 and 286

<sup>9</sup> Fisheries Act 1996, section 8(2)(b)

<sup>10</sup> See for example Fisheries New Zealand Discussion Paper No: 2024/19, at pp 20

<sup>11</sup> Swales A, M M Gibbs, S Handley, G Olsen, R Ovenden, S Wadhwa and J Brown, 2021, *Sources of fine sediment and contribution to sedimentation in the inner Pelorus Sound/Te Hoiere*, NIWA, Hamilton, at 88

## Proposed sustainability measures

15. EDS's submission on specific sustainability measures proposed by FNZ are set out below. For those stock not explicitly addressed, EDS generally supports a precautionary approach consistent with s 10(c) of the Act that, at a minimum, ensures sustainability.

### *Blue Cod (BCO 5)*

16. FNZ proposes options to reduce the total allowable catch (**TAC**) for Blue cod in BCO 5. For the following reasons, **EDS supports Option 3**, the most conservative option proposed which is a 38 percent reduction in TAC from 925 tonnes to 587 tonnes:
- a. There is significant uncertainty as to the biomass of BCO 5 with indications of reduced numbers of females in some areas, and declining relative abundance with catch consistently declining over the last 20 years.<sup>12</sup>
  - b. Blue cod is a low productivity species with a constrained home range, making it less resilient to fishing pressure and susceptible to localised depletion.<sup>13</sup>
  - c. Option 3 is the most likely to prevent further overfishing of BCO 5. Option 2 will fail to drive a reduction in fishing mortality and the stock will continue to be overfished because the TACC under Option 2 may be higher than current landings for BCO 5.<sup>14</sup>

### *Leatherjacket (LEA 3)*

17. FNZ proposes options to increase the TAC for Leatherjacket in LEA 3. EDS is concerned with FNZ's approach to managing adverse environmental effects in LEA 3, particularly as it is caught in a mixed species bottom trawl fishery and, as set out in the discussion document:
- a. With respect to habitats of significance, there has been a failure to acknowledge (and manage) adverse effects of sedimentation from trawling on reefs and seaweed habitats.<sup>15</sup>
  - b. There has also been a failure to avoid, remedy or mitigate adverse effects of trawling in LEA 3 more generally (e.g. destruction of biologically sensitive polychaete worm beds and other biogenic habitats). Even if the current proposals do not change trawling effort, there is still an obligation on the Minister to address the impacts of current trawling on the aquatic environment.<sup>16</sup>
  - c. FNZ acknowledges possible adverse effects on associated predator and prey species but fails to provide any detail on how uncertainties are being addressed and any adverse effects managed.<sup>17</sup>

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<sup>12</sup> Fisheries New Zealand Discussion Paper No: 2024/20, at pp 1

<sup>13</sup> Fisheries New Zealand Discussion Paper No: 2024/20, at pp 5

<sup>14</sup> Fisheries New Zealand Discussion Paper No: 2024/20, at pp 2

<sup>15</sup> Fisheries New Zealand Discussion Paper No: 2024/25, at pp 8

<sup>16</sup> Fisheries New Zealand Discussion Paper No: 2024/25, at pp 9

<sup>17</sup> Fisheries New Zealand Discussion Paper No: 2024/25, at pp 6

- d. Given that leatherjacket is a low-medium productivity species of low-moderate resilience to increased fishing pressure,<sup>18</sup> any increase in TAC needs to be gradual, cautious and must be accompanied by measures to avoid, remedy or mitigate adverse environment effects.

#### *Snapper (SNA 2)*

18. FNZ proposes options to increase the TAC and TACC for Snapper in SNA 2. For the following reasons **EDS supports no increase in TACC**:

- a. While stock abundance appears to have increased in recent years, there is uncertainty regarding the impacts of Cyclone Gabrielle on SNA 2 stock biomass.<sup>19</sup> Further, it is unknown whether overfishing in SNA 2N is occurring, while SNA 2S has been assessed as about as likely as not that overfishing is occurring.<sup>20</sup> A precautionary approach should therefore be adopted.
- b. An increase in TACC for SNA 2 will enable an increase in fishing effort in both the target and non-target fishery. Given that snapper is primarily caught in trawl fisheries, this could lead to an increase in associated adverse environmental effects. EDS supports existing spatial gear restrictions (including prohibitions under the Fisheries (Central Area Commercial Fishing) Regulations 1986)<sup>21</sup> but considers further measures are needed to avoid, remedy or mitigate adverse effects.
- c. EDS acknowledges that retaining the status quo would not account for current levels of recreational catch, which is estimated to be 35 percent above the current allowance. EDS accepts an increase in recreational allowance and associated TAC may therefore be appropriate but considers the TACC should remain unchanged considering the concerns outlined above.

#### *John dory (JDO 2)*

19. FNZ proposes options to decrease the TAC for John dory in JDO 2. For the following reasons, **EDS does not support any of the proposed options**, and considers a more significant decrease in TAC and TACC is necessary to ensure sustainability:

- a. Over the last decade, annual landings of JDO 2 have averaged at around 50 percent of the TACC and have declined further since 2019 to landings of only around a third of the TACC.<sup>22</sup> At current catch levels JDO 2 is likely to be below its management target.<sup>23</sup>
- b. The TAC under Option 3 (the most conservative option proposed) is still 26 tonnes above the average commercial catch for the last 5-year period. It is therefore unlikely to reduce fishing effort and/or landings in a way that enables the stock to move towards a level that can sustain MSY.<sup>24</sup>

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<sup>18</sup> Fisheries New Zealand Discussion Paper No: 2024/25, at pp 6

<sup>19</sup> Fisheries New Zealand Discussion Paper No: 2024/17, at pp 1

<sup>20</sup> May 2024 Plenary Volume 3, pp 1619 and 1620

<sup>21</sup> Fisheries (Central Area Commercial Fishing) Regulations 1986, section 4

<sup>22</sup> Fisheries New Zealand Discussion Paper No: 2024/17, at pp 8

<sup>23</sup> Fisheries New Zealand Discussion Paper No: 2024/17, at pp 1

<sup>24</sup> Fisheries New Zealand Discussion Paper No: 2024/17, at pp 14

## Snapper (SNA 7)

20. FNZ invites feedback on changing the recreational daily take limit for SNA 7 and proposes options to increase the TAC for Snapper in SNA 7. **EDS supports Option 1 (status quo)** for the following reasons:
- a. The discussion document identifies significant uncertainties associated with the stock which warrant a more precautionary approach:<sup>25</sup>
    - i. Future SNA 7 recruitment trends are unknown with surveys suggesting recent year classes may be smaller than those over the last decade.
    - ii. Estimates of biomass that will produce maximum sustainable yield (**BMSY**) or virgin biomass cannot be reliably made.
    - iii. There is no separate evidence of increasing snapper biomass in Marlborough Sounds.
    - iv. The degree of connectivity with SNA 8 is unquantified – an increase in fishing pressure in southern SNA 8 (as proposed) could unintentionally affect SNA 7.
  - b. Increases in TAC for SNA 7 may adversely affect ecosystem stability and exacerbate the harmful spread of kina barrens.
    - i. Kina barrens occur extensively in the Marlborough Sounds and Tasman Bay, and as acknowledged in the discussion document, are likely to be caused by cumulative effects including over-fishing.<sup>26</sup>
    - ii. EDS is concerned that an increase in TAC for SNA 7 will enable increased take in the Marlborough Sounds that is unsustainable. While SNA 7 biomass is understood to be increasing in Tasman/Golden Bay, there is no evidence of similar abundance in other parts of SNA 7.<sup>27</sup> As the plenary acknowledges, the Marlborough Sounds is “considered to support a separate stock of snapper within SNA 7, but catches, although minor, are included in the SNA 7 assessment model”.<sup>28</sup> This approach means that higher biomass indices in Tasman/Golden Bay may be masking actual snapper biomass in the Sounds. Before increasing TAC in SNA 7, FNZ needs to assure itself that the Marlborough Sounds snapper biomass and ecosystem stability can sustain increased take.
  - c. Disturbance and re-suspension of sediment from bottom-contact fishing is also a key concern.<sup>29</sup> Specific to SNA 7, fine sediment accumulation has degraded large areas of biogenic and estuarine habitats, such as the Separation Point bryozoan beds following Cyclone Gita, and areas of inner Pelorus Sound.<sup>30</sup>
  - d. EDS considers an increase in commercial fishing effort and associated adverse effects to be likely, given the proposed increases in TACC are substantial. FNZ has

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<sup>25</sup> Fisheries New Zealand Discussion Paper No: 2024/24, at pp 21

<sup>26</sup> Fisheries New Zealand Discussion Paper No: 2024/24, at pp 15

<sup>27</sup> May 2024 Plenary Volume 3, at pp 1641

<sup>28</sup> May 2024 Plenary Volume 3, at pp pp 1643

<sup>29</sup> Swales *et al.*, above n 11, at 24, 71 and 88

<sup>30</sup> Fisheries New Zealand Discussion Paper No: 2024/24, at pp 15; Anderson *et al.*, above n 8, at 101

identified the risks associated with an increase in commercial fishing effort, including “a corresponding increase in associated bycatch, protected species captures, and benthic impacts”,<sup>31</sup> but has failed to include measures to avoid, remedy or mitigate these adverse effects.

#### *Flatfish (FLA 7)*

21. FNZ proposes options to decrease the TAC for Flatfish in FLA 7. For the following reasons, **EDS supports Option 3**, being a decrease in TACC from 2065 to 524 tonnes, with a TAC of 584 tonnes:
- a. As a stock categorised by high natural variability, there is substantial uncertainty as to its BMSY. Over recent years, the landing weight has reduced to below 200 tonnes, and catch per unit effort (**CPUE**) data indicates that New Zealand Sole is unlikely to be at its management target with overfishing likely.<sup>32</sup>
  - b. There is a lack of information as to the effectiveness of Options 1 and 2 in maintaining the stock at or above its management target. A precautionary approach is required.
  - c. Option 3 presents the best opportunity to ensure the stock is maintained in accordance with BMSY, while still allowing room for increased catch in periods of high abundance.

#### *Snapper (SNA 8)*

22. FNZ proposes options to increase the TAC for Snapper in SNA 8. For the following reasons, **EDS supports Option 1 (status quo)** or, where an increase in TAC is deemed appropriate, Option 2, being an increase in TAC from 3065 to 3505 tonnes (but only with associated mitigation measures to address the environmental effects of bottom trawling):
- a. As noted in the discussion document, the “productivity of the SNA 8 stock appears to have varied considerably over the history of the fishery, with variable levels of recruitment and variation in growth rates (that appear to be related to stock abundance).” Future recruitment trends are unknown and only observed with a “high degree of uncertainty” through trawl surveys over the last five years, with available information on these cohorts suggesting they may be “smaller than those which have driven the increasing biomass trajectory over the last decade.”<sup>33</sup>
  - b. There is uncertainty as to the spatial variability of SNA 8 and its relationship with SNA 7. Stock assessments have been heavily influenced by data from northern SNA 8 which does not account for interactions with SNA 7.<sup>34</sup> In other words, there is a lack of understanding about the potential associated effects on SNA 7 of increasing the SNA 8 TACC.

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<sup>31</sup> Fisheries New Zealand Discussion Paper No: 2024/24, at pp 4

<sup>32</sup> Fisheries New Zealand Discussion Paper No: 2024/24, at pp 9 and 13

<sup>33</sup> Fisheries New Zealand Discussion Paper No: 2024/19, at pp 25.

<sup>34</sup> Fisheries New Zealand Discussion Paper No: 2024/19, at pp 25

- c. An increased TACC will likely lead to an increase in fishing effort and associated environmental effects.<sup>35</sup> The majority of the catch is taken by bottom trawling. FNZ is wrong to consider that these effects will not be adverse,<sup>36</sup> because fishers are not restricted to current trawl footprints and because the majority of SNA 8 seafloor is not subject to trawl restrictions.<sup>37</sup> Such adverse effects may be worsened by “concerted effort to keep the net on the seafloor”,<sup>38</sup> a practice recently adopted by commercial trawlers in SNA 8.
- d. While around 15 percent of SNA 8 habitat is closed to trawling and Danish seining (largely due to the presence of Maui’s and Hector’s dolphins), two identified habitats of particular significance (Patea Shoals and Ahipara subtidal mussel beds) are not protected from fishing. Other yet to be identified significant habitats may exist. The Ahipara mussel beds may be especially vulnerable as approximately 24 percent of the SNA 8 TACC is caught off Te-Oneroa-a-Tōhē / Ninety Mile Beach in the vicinity of these mussel beds.<sup>39</sup> These areas need to be protected as an integral part of management measures for this fishery.
- e. As acknowledged in the discussion document, any increase in TACC for SNA 8 will need to be closely monitored to assess changes in fishing effort. A smaller incremental increase in TACC would better enable this.

*Orange roughy (ORH 7A)*

23. FNZ proposes options to decrease TAC for Orange roughy in ORH 7A. For the following reasons, **EDS supports Option 4**, being a decrease in TAC from 2163 to 942 tonnes:

- a. Under all three models used to inform options for ORH 7A, biomass is predicted to decline if the catch is maintained at the current TAC.<sup>40</sup> While there are possible environmental explanations for declines in biomass to date, these lack evidence.
- b. Moderate reductions to the TAC as proposed by Options 2 and 3 are unlikely to be sufficient in maintaining stock biomass and recruitment.<sup>41</sup> Option 4 is the only option presented that is predicted to maintain biomass.
- c. If the reduction to the TAC under Option 4 proves to be excessive, or information indicating a more positive stock status becomes available, the TAC/TACC can be re-adjusted in the future.
- d. Orange roughy is very slow growing, has a low fecundity and recruits into the fishery 15 to 20 years before reaching sexual maturity.<sup>42</sup> If reductions in TAC under Options 2 or 3 prove to be inadequate, these characteristics will make it more challenging to maintain biomass in the future.

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<sup>35</sup> Fisheries New Zealand Discussion Paper No: 2024/19, at [67]

<sup>36</sup> Fisheries New Zealand Discussion Paper No: 2024/19, at pp 20

<sup>37</sup> Fisheries New Zealand Discussion Paper No: 2024/19, Table 4

<sup>38</sup> Fisheries New Zealand Discussion Paper No: 2024/19, at pp 19

<sup>39</sup> Fisheries New Zealand Discussion Paper No: 2024/19, at pp 20

<sup>40</sup> Fisheries New Zealand Discussion Paper No: 2024/16, at [4]

<sup>41</sup> Fisheries New Zealand Discussion Paper No: 2024/16, at Table A1

<sup>42</sup> Fisheries New Zealand Discussion Paper No: 2024/16, at [28]



- e. Any adverse effects on revenue and employment of reductions in TACC under Option 4 have not been quantified. In any case, given that the stock is facing a downward trend under all proposed options, these effects are likely to be an inevitable outcome of requirements to reduce TACC either now or in the future. A smaller reduction in TACC now will only delay further action.
- f. A more cautious approach under Option 4 would allow assurance to be provided to the public and customers that the stock is being managed sustainably.
- g. A reduction in TAC under Option 4 would also require a more significant reduction in bottom trawling and associated adverse effects. As noted in the discussion document:<sup>43</sup>
  - i. The nature and extent of those impacts depends on a range of factors including seafloor type
  - ii. Bottom trawling for orange roughy typically occurs on spawning aggregations that occur over underwater topographic features that include knolls and seamounts
  - iii. The hard substrates that make up seamounts around New Zealand provide suitable surfaces for cold-water corals to attach to, enabling extensive reef-like structures to establish, providing habitat for many other marine species
  - iv. Studies have indicated very little recovery of abundance, taxon richness, or species composition of benthic communities on seamounts even 15 years after trawl activity has stopped.

## Conclusion

- 24. EDS emphasises the importance of a precautionary approach in fisheries management, especially in light of uncertainties surrounding stock assessments and ecosystem impacts. We support measures that prioritise sustainability and ecosystem health, including reducing TAC where stocks are declining or at risk of overfishing, and maintaining current levels where uncertainties persist.
- 25. FNZ needs to increase its efforts to address the adverse environmental effects of fishing activities, particularly the impacts of bottom trawling on sensitive marine habitats and non-target species. This includes implementing effective management strategies to avoid, remedy, or mitigate these impacts as required by law.

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<sup>43</sup> Fisheries New Zealand Discussion Paper No: 2024/16, at pp 12