

Submission on the
Proposed National Inshore Finfish Fisheries Plan
from the
Wise Response Society Inc.

To
Ministry of Primary Industries

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Submission

1. Wise Response welcomes the opportunity to comment and the proposal to modernise and reshape NZ's finfish management. We consider that some of the proposals are particularly useful for improving environmental performance, but we are disappointed that many aspects resembled BAU and did not in fact apply either the ecosystem-based management espoused or the precautionary approach. And where there are appropriate provisions, they are not consistent or specific enough to facilitate coherent action.

Flawed framing of Plan

2. This proposed National Inshore Finfish Fisheries Plan (the Plan) is permitted under the provisions of the Fisheries Act 1996. The Act itself was framed over twenty years ago from the perspective of "utilization" of desirable fish species, rather than the perspective under the RMA of integrated "sustainable management". That means avoiding by-catch of non-target species (fish, sea birds and mammals). To avoid landing by-catch or low-quality fish, dumping and under-reporting of fish catch has been an ongoing enforcement issue.
3. The entire draft Plan is constructed from "human-centred" perspective rather than from the perspective of first understanding and securing the health of the biophysical marine processes and the biodiversity and life-supporting functions of the marine ecosystem or ecosystems.
4. The "single species and stocks" approach to fishing under the QMS has had the effect of cutting across the trophic levels and thereby fragmenting the avoidance and control of impacts and the scope for managing effects on the marine ecosystem. That is, it deals with fish on an isolated stock basis – like "books on a shelf".
5. Including concepts in the Plan like "Improving environmental performance with a focus on protecting *habitats of significance* for fisheries management...and ensuring the long-term viability of *protected species*" and "ensure *habitats of significance* for inshore fisheries and the benthic environment are protected from the impacts of fishing" reinforce a fragmented approach and are inconsistent with a EBFM. That mindset is a relic of a time of plenty, when the effects of inefficient practice and utilization would not be evident.
6. The scope of the paper focuses on inshore finfish but does not include shellfish – or impacts on the benthos. That makes it very difficult to achieve ecosystem-based management or maintenance of biodiversity.
7. **Recommendation:** We now better understand that we are dealing with a highly complex and interdependent network which, to be managed sustainably, needs to be approached holistically – as a single interdependent dynamic entity. With this underlying and critical flaw in our current system, provisions in the Plan are to a large extent simply propping up a management regime which is no longer fit for purpose.

8. We are also very concerned at the criteria used and presented in the plan for making judgements about the grouping of stocks and for fisheries management. These seem primarily to be about the extractive value, and in particular, the financial value of the fish.
9. **Recommendation:** This fails to apply the full set of criteria and considerations in the Fisheries Act 1996 (FA96). There appears to be little reference either to the international obligations (s5) or to the Purpose (s8), or to definitions including the s8 full definition of “sustainability” and the definition of “utilisation”, which includes conservation and non-extractive uses.

Legal rights and obligations

10. New Zealand's right to manage fisheries is derived from the UN Convention on the Law of the Sea (UNCLOS). That allows us to conserve, use and manage fisheries in the area out to 200n miles and also resources on the seafloor. These rights however are subject to the obligation to “preserve and protect the marine environment” (Art.192 of UNCLOS).
11. These obligations are not properly reflected in many parts of the draft Plan.
12. The draft acknowledges the obligations to honour the Treaty of Waitangi (Fisheries Settlement) Act in s5 section of the FA96, but the recognition and incorporation of international obligations are barely reflected in the Plan.
13. New Zealand's international obligations relating to fisheries management (s5 of the Fisheries Act 1996) include those under UNCLOS and related agreements including the UN Fish Stocks Agreement; the Convention on Biodiversity and the Aichi Targets; The Sustainable Development Goals (SDGs) especially but not only SDG 14; and under human rights, labour and other international agreements including a range of other environmental and conservation agreements; MARPOL, IMO and so on. CCAMLR, SPRFMO and other marine and fisheries management agreements relate to fisheries management.
14. **Recommendation:** Wise Response asserts that these provisions of the Act are critical to framing and moving forward into the modern, inclusive and ecosystem-based management envisaged in the draft Plan, though we also think the Purpose of the Act needs some key changes. Until such legislative change is implemented, there is ample scope for adopting a more imaginative and ecologically-aware interpretation.
15. The discussion in the Plan and the criteria used to group and manage fisheries are almost entirely focussed on the financial return to industry. There is virtually no discussion concerning the application of s8.1.b, of conservation, or of the non-extractive uses of the environment.
16. Habitats of particular significance to “fisheries management” are not the same as habitats of significance to “fishing” (Section 9 (c)). Including, but not limited to 1.b, the definitions in s8 and s9 require attention to considerations of impacts of fishing and hence to spatial and method impacts assessment and controls and regulations for the

various goals in S8 and 9. These include biodiversity maintenance, provision for future generations, etc. Regulations must also include temporal controls on activities.

17. Biodiversity, biosecurity and biophysical impacts should be consider, avoided, mitigated or remedied. There is virtually no application of these aspects of the Act. Scientists have been calling for urgent action for a decade or more, evidenced by the marine provisions in the Sustainable Development Goals (SDGs).

The Text of the Fisheries Act 1996

8. Purpose

(1) The purpose of this Act is to provide for the utilisation of fisheries resources while ensuring sustainability.

In this Act, — *ensuring sustainability* means—

- (a) maintaining the potential of fisheries resources to meet the reasonably foreseeable needs of future generations; and
- (b) avoiding, remedying, or mitigating any adverse effects of fishing on the aquatic environment

utilisation means conserving, using, enhancing, and developing fisheries resources to enable people to provide for their social, economic, and cultural well-being.

9. Environmental principles

All persons exercising or performing functions, duties, or powers under this Act, in relation to the utilisation of fisheries resources or ensuring sustainability, shall take into account the following environmental principles:

- (a) associated or dependent species should be maintained above a level that ensures their long-term viability:
- (b) biological diversity of the aquatic environment should be maintained:
- (c) habitat of particular significance for fisheries management should be protected.

18. **Recommendation:** We submit that these matters cannot wait on some long transition to an ecosystem-based management system, although we agree that this must be part of the new regime. Observance of *all* of the Act is required *now*. This means that the Plan must also specify that genuine action to implement the EBFM and assessment of fishing impacts, is required within a set timeframe. We simply must develop and implement effective and binding short-term regulatory systems.

Putting flesh on the EBFM concept

19. In an effort to accelerate the ongoing paradigm shift in fisheries science from the traditional single-species mindset toward more ecosystem-based approaches, Robert Francis et al proposed the following principles as “action items for scientists attempting to bridge the gap between general principles and specific methodologies”:
- (i) Keep a perspective that is holistic, risk-averse, and adaptive.
 - (ii) Question key assumptions, no matter how basic.

- (iii) Maintain old-growth age structure in fish populations.
- (iv) Characterize and maintain the natural spatial structure of fish stocks.
- (v) Characterize and maintain viable fish habitats.
- (vi) Characterize and maintain ecosystem resilience.
- (vii) Identify and maintain critical food web connections.
- (viii) Account for ecosystem change through time.
- (ix) Account for evolutionary change caused by fishing.
- (x) Implement an approach that is integrated, interdisciplinary, and inclusive.

20. They also considered “full implementation of ecosystem-based fisheries science will require an expanded empirical basis as well as novel approaches to modelling”¹.

21. We note also that in the UN Fish Stocks Agreement and in the SPRFMO agreement, the Precautionary Principle is very clear that where there is uncertainty, the precaution must be exercised in favour of the environment. That is already something that New Zealand should correct in our legislation (s10) but it clearly can and should be applied under s9, Environmental Principles.

22. **Recommendation:** We consider this suite of principles along with the precautionary principle, to be a very useful guidelines for the refinement of this plan.

Plan Vision

23. **Recommendation:** To help guide the EBFM process, the Plan would benefit from an over-arching vision. We propose:

“A highly functional, biodiverse and intact marine ecosystem, where any utilisation of fisheries resources is subject to avoiding, remedying or mitigating environmental harm, where ecosystem health and abundance is maintained, or restored and maintained, and where an informed wider community is actively involved in its planning and management, with a view to fair access to marine resources, local employment and markets”.

Implementation of Ecosystem-Based Fisheries Management

24. While it is encouraging to see the extent to which the EBFM methodology is discussed in the Plan, there is very little evidence from the proposed objectives that it will have any significant impacts on BAU. Fish stock management remains structured around how desirable a species is for users. This approach has nothing to do with sustainability or resilience, biodiversity or avoidance of environmental harms.

¹ [Robert C. Francis](#) [Mark A. Hixon](#) [M. Elizabeth Clarke](#) [Steven A. Murawski](#) [Stephen Ralston](#)
First published: 09 January 2011 <https://afspubs.onlinelibrary.wiley.com/doi/abs/10.1577/1548-8446%282007%2932%5B217%3ATCFBFS%5D2.0.CO%3B2>

25. Where EBFM is mentioned, it is couched as something to “work toward” rather than something to implement as soon as possible. For example, it states that advancing EBFM “will require a high level of investment and time before this approach is fully operationalised” (p. 20).
26. **Recommendation:** A holistic approach is essentially what EBFM requires. Plans constructed under the obligations of the Act will have some constraints, but there is plenty of scope (notably under s5, the Purpose, s8, and s9, sustainability measures and on catch limit setting) for much more ecosystem-sensitive management, for recognition of the non-extractive uses of the environment, and for avoiding or controlling the environmental harms. Likewise, Part 2 and Part 3 (sustainability measures) of the FA96 give wide powers to manage environmental outcomes for genuine sustainability.

Enhanced Vertical Integration and transition planning

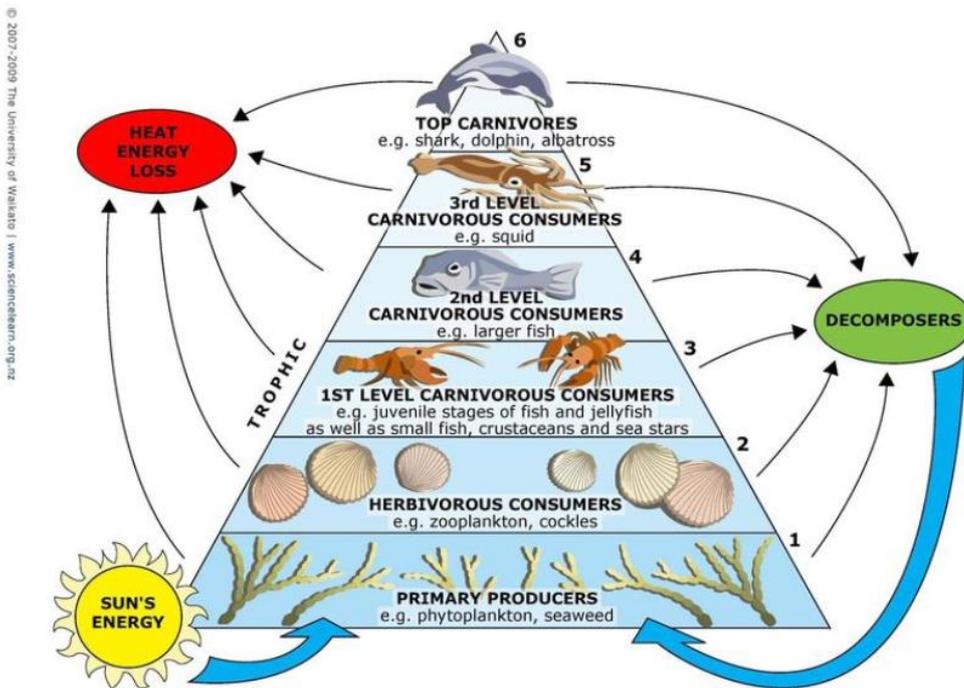
27. By definition, an ecosystem-based methodology is one that aims to preserve food web *connections* and *interactions* between and within trophic levels, and recognises the biophysical systems' health and influences. If this is to be achieved, attention needs to be directed at ensuring that the original balance in assemblages is retained or reinstated (see Figure 1 a).
28. **Recommendation:** If the proposal to adopt the EBFM is to be taken seriously, we consider it will require a fundamental reorientation of fishing practice and its management. Figures 1b and 1c (where the dark blue is total permitted catch), provide a simply visual representation of that reorientation.
29. Figure 1b represents the current species-based approach with its potential for fragmentation of the ecosystem and Figure 1c the improved connectivity sought with a more ecosystem-based approach. The later facilitates connections between trophic levels thereby leaving the majority of the food web/ecosystem intact to preserve strong networks and associated resilience.
30. Other potential implications of a move to a more ecological-based/vertically integrated approach include:
- Re-establishing balance has the potential to alter relative species quota
 - Leaves a higher proportion of the food web/ecosystem intact
 - Broadens the variety of seafood (and thus enhanced food security) that could be used for human consumption²
 - Requires developing ways to harvest and utilize the wider variety of species
 - A higher utilization capacity implies less discard
 - Special consideration for some individual species (recruitment rate, state, resilience etc).

² Teh, L. C. L., & Pauly, D. (2018). Who brings in the fish? The relative contribution of small-scale and industrial fisheries to food security in Southeast Asia. *Frontiers in Marine Science*, 5, 44

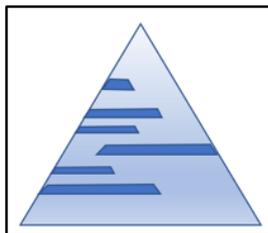
31. Where ecosystems are already heavily impacted, the original species assemblage may be difficult to determine. Ecosystem models for reconstructing the past may assist,³ alongside Strategic Environment and Impact Assessments.

Figure 1: Generalised Marine food web showing a) broad trophic levels, energy and matter fluxes⁴ and b) and c), alternative management concepts

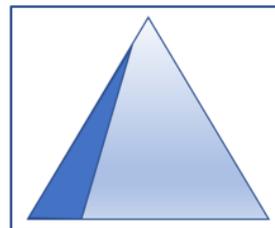
a) Generalized marine food web



b) Species-based concept



c) Ecosystem-based concept



³ Back to the Future Methodology, Tony Pitcher Fisheries Centre, UBC http://epub.sub.uni-hamburg.de/epub/volltexte/2011/12205/pdf/12_1b.pdf

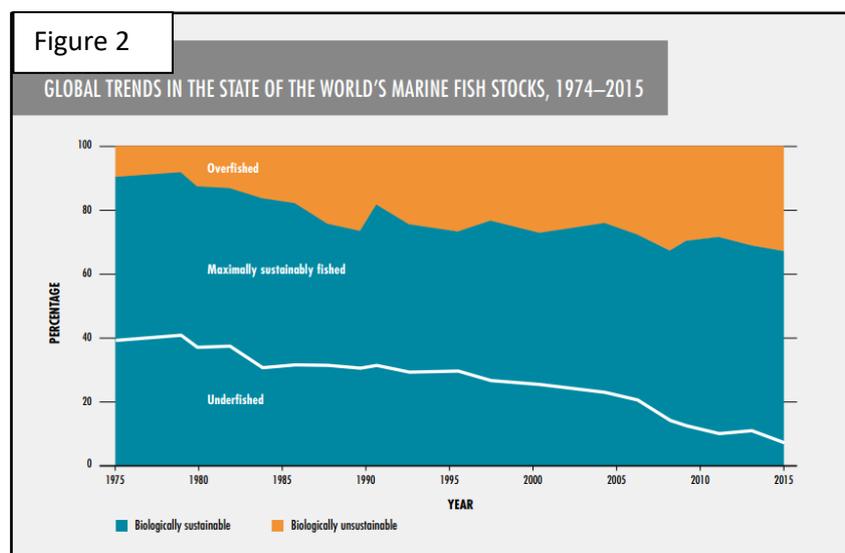
⁴ <https://www.sciencelearn.org.nz/resources/143-marine-food-webs>

32. **Recommendation:** We recommend that the Plan includes a comprehensive staged transition plan from the current species-focused management system (including timeline, monitoring and enforcement provisions) to a genuinely integrated EBFM.
33. **Recommendation:** What's more, genuine framing of the EBFM approach will make a more integrated and simpler Plan possible, as all parts of the protected portion of the ecosystem become equally important to sustain. For example, different management objectives would not be required for each sector.

Global fishing context for the Plan

34. The global context for fishery is a steady downward trend in the proportion of underfished stock from 40% in 1975 to less than 5% in 2015 (Figure 2)⁵.
35. This change is reflected in the decline in global catch since the 1990s (Figure 3) and a similar patten is evident in the total catch for New Zealand (Figure 4). As the NZ inshore is known to be already heavily depleted⁶, we expect the trend there will be similar.

Figure 2: Global trends in the state of the worlds marine fish stocks, 1974 - 2015



⁵ MEETING THE SUSTAINABLE DEVELOPMENT GOALS WORLD FISHERIES AND AQUACULTURE Food and Agriculture Organization of the United Nations Rome, 2018
<http://www.fao.org/3/i9540en/i9540en.pdf>

⁶ Prof Liz Slooten – per. com. Feb 2020

Figure 3: Global total reconstructed marine fisheries catch (\pm 95% confidence intervals), including discards⁷

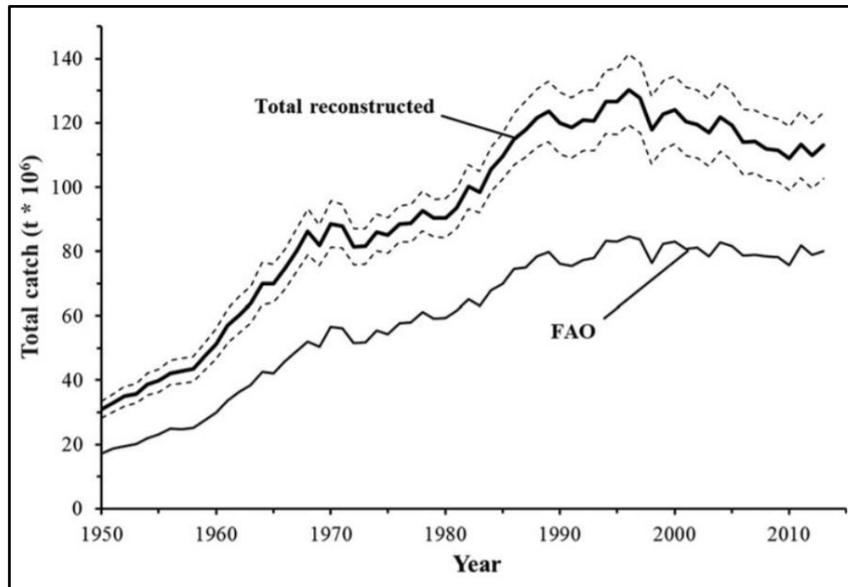
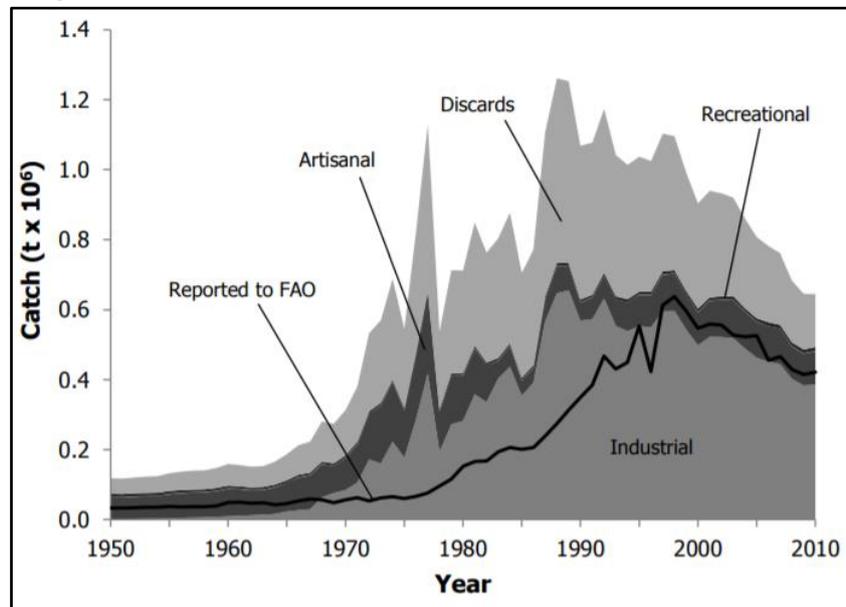


Figure 4: Total reconstructed catch (New Zealand and foreign flagged vessels) showing the distribution of each sector and fish discards. The solid line represents total landings reported to the FAO on behalf of New Zealand⁸



⁷ Zeller D, Pauly D (2019). Viewpoint: Back to the future for fisheries, where will we choose to go? *Global Sustainability* 2, e11, 1–8. <https://doi.org/10.1017/sus.2019.8>

⁸ Reconstruction of marine fisheries catches for New Zealand (1950-2010) Glenn Simmons, Graeme Bremner, Hugh Whittaker, Philip Clarke, Lydia Teh, Kyrstn Zylich, Dirk Zeller, Daniel Pauly, Christina Stringer, Barry Torkington, and Nigel Haworth Year: 2016, Working Paper #2015 – 87, University of British Columbia

36. Persistently declining stocks or the unprofitable collection of fish means overfishing, a strong warning light that radical management change is needed! And given the integrated nature of the marine environment and fishery, we cannot expect our fisheries to be immune from international pressure, therefore the need to be conservative in planning its protection.
37. Such “emerging pressure” is acknowledged in the Plan (p. 3) but since the proposed framework does not reflect or further the EBFM as the preferred management option, it will not achieve protection. This omission would be largely addressed if Plan provisions were aligned with the legal and international obligations.
38. Thus, the challenge is to achieve a critical mass of stakeholders in the fishing industry who can see that genuine EBFM ultimately benefits not just those outside the industry, but also those inside it. Clearly, for the fishing industry to have a future, arresting the downward trend in the catch is imperative.
39. The chances of achieving this goal will be enhanced if the wider community can be drawn into the debate. As they are genuine stakeholders, they best assure “accountability and certainty” over the longer term.

Addressing perverse incentives

40. The nature and geopolitical setting of the marine fishery are often used as a classic example for a “tragedy of the commons” where all individual fishers behave as if what they do will not significantly impact the continuity of the overall resource.
41. The challenge of sustainably managing the resource would be greatly simplified if that incentive could be reversed, so that each fisher considered it in their interest to actively protect the resource. Were this achieved, it would greatly improve the chances of sustaining a healthy intact resource and reduce the burden on the state to monitor and enforce.
42. It will be necessary to counter the widely held misconception that the ecosystem approach is mainly concerned with conservation, when in reality it is essential for optimising the fishery and sustainability.
43. **Recommendation:** The Plan needs to include a study identifying ways to incentivise environmental behaviour, to demonstrate how sound stewardship of the fisheries is to the benefit of all actors in the sector.

Primary production and modelling

44. Currently, insufficient attention is given to preserving and enhancing the primary producers (seaweed, Bryozoans etc) at the bottom of the food web, both as the energy driver for the entire ecosystem and a nursery for young fishery stock.
45. **Recommendation:** To facilitate this, we consider it will be necessary to employ a dynamic, whole-of-system modelling approach based on species interdependence, energy and nutrient flows that can be used to predict pre-fishing biomass, and current resource productivity as a sound basis for sustainable resource allocation and monitoring.

Protection of indigenous biodiversity and environmental quality

46. **Recommendation:** As indicated earlier, failure to include shellfish and other benthic life makes sound ecosystem-based management very difficult as primary production is not an integral part of the Plan. Even if not to be part of the plan, it should be clear that sustainable finfish catch must be based in evaluation of primary production and associated energy flow⁹. To be consistent with the SDG goals, benthic protection must be achieved¹⁰.
47. **Recommendation:** Furthermore, local marine species have co-evolved, so in order to preserve diversity and resilience, the Plan should ensure that the indigenous assemblages at all levels (but particularly the benthic community) are preserved. This will require effective control of invasive species and destructive fishing practice.
48. One proven way to add value to maintaining biodiversity is to develop a revenue stream from complementary business even within fish harvest zones (e.g. indigenous seaweed harvest, spear fishing).
49. **Recommendation:** We recommend that the plan include a study into the potential for an industry based on the husbandry and harvest of indigenous seaweed.
50. **Recommendation:** In order to safeguard the life-supporting capacity of the benthic ecosystem, it will be necessary to prevent bottom trawling and strictly control seabed mining.
51. It is important to note that while the RMA is clear that it cannot manage fish for the purpose of the Fisheries Act, the Motiti Decision¹¹ determined that it can manage the

⁹ Better integration of sectoral planning and management approaches for the interlinked ecology of the open oceans, Ban N.C. et al, Marine Policy 2013

¹⁰ UN SDG Goal 14 Target 14.4.

¹¹ AG v Motiti Rohe Moana Trust & Ors – NZ Court of Appeal. CA408/2017, [2019] NZCA 532.

effects of fishing and therefore the activity of fishing where the effects are on matters governed by the RMA (e.g. natural character).

52. The Plan is also weak on RMA advocacy to stop sedimentation and improve water quality. To “prevent or significantly reduce marine pollution of all kinds, in particular from land-based activities including marine debris and nutrient pollution” is a target in the SDGs for 2025¹². It must be remembered too that globally, nutrient flux (mainly N and P) that ends up in the ocean, far exceeds what is considered safe¹³ and that plastic is now a top issue¹⁴.
53. **Recommendation:** Addressing this will require sector participation in planning matters concerning discharge to the coastal zone (e.g. National Policy and Regional Policy Statements and Plans).
54. **Recommendation:** Accordingly, there is a need for firm national marine water quality standards to defend in these forums (like the National Environmental Standards for Freshwater under the RMA).
55. **Recommendation:** Likewise, more specific provision is required in this Plan for the protection of sea birds, their habitat and feeding grounds as an integral part of the marine environment (e.g. Hoiho/yellow-eyed penguins). The siting of the proposed expanded reserve areas (see below) should take this need into account.

Climate change

56. The Zero Carbon Bill has just established the Climate Change Commission who have the task to identify a pathway to zero net carbon by 2050 and an interim target of 50% reduction by 2030.¹⁵ We also know that delay in GHG emissions, increases the chance of transgressing a point of no return with climate change.
57. **Recommendation:** Hence, the Plan needs to signal the urgent development of a Climate Change Adaptation and Mitigation Plan. That will include the likes of projected habitat impacts, fish migration, changes in fish composition and ecosystem and industry vulnerabilities.

¹² UN SDG Goal 14 Target 14.1

¹³ Planetary Boundaries, 2019

<https://stockholmuniversit.app.box.com/s/avnyhh4xzshxb19j82hn5mf3hxyuvqj0>

¹⁴ Our Marine Environment 2016

¹⁵ IPCC 1.5 degree Report, 2019.

Protected areas

58. Reserves are universally recognised as an essential way to preserve intact ecosystems, to monitor background change and provide a benchmark for managing harvested zones. The pools of biomass and biodiversity have also been shown to benefit surrounding fisheries¹⁶. "Fish less and catch more"¹⁷ is a poorly understood but scientifically and economically verified concept in fish management.
59. Currently some 30% of New Zealand's land and less than 1% of our oceans are under reserve protection¹⁸. Yet the sustainability and resilience case for reserves is equally valid for both settings. NZ has policy for "growing a nationwide network of marine protected areas representing more of NZ's marine ecosystems" and that "biodiversity is integrated into NZ's fisheries management system"¹⁹. The Plan must be consistent with other legal provisions.
60. A group formed by US Secretary of State Madeleine Albright, the Aspen Ministers Forum (endorsed by Alex Rogers, Science Director for [REV Ocean](#)) has called for setting a global target of strongly protecting at least 30% of the land and 30% of the ocean by 2030 to avoid a "precipice of irreversible loss of biodiversity"²⁰. With the insidious and uncertain impacts of climate change, the need for this provision is increasingly important to buffer adverse impacts and provide reserve for the future.
61. Pauly et al consider zoning the oceans into unfished marine reserves and areas with limited levels of fishing effort would allow sustainable fisheries, based on resources embedded in functional, diverse ecosystems²¹.
62. **Recommendation:** Hence, in addition to introducing EBFM on zones identified for harvest, we consider it time to set aside from all fishing a minimum of 25% of the inshore fishery as Type 1 Marine Protected Areas (MPAs).

¹⁶ Edgar, G. J., Ward, T. J., & Stuart-Smith, R. D. (2018). Rapid declines across Australian fishery stocks indicate global sustainability targets will not be achieved without an expanded network of 'no-fishing' reserves. *Aquatic Conservation: Marine and Freshwater Ecosystems*, 28, 1337–1350

¹⁷ Zeller D and Pauly D. Back to the future for fisheries, where will we choose to go? <https://s3-us-west-2.amazonaws.com/legacy.seaaroundus/researcher/dpauly/PDF/2019/Journal+Articles/Zeller+D%2C+Pauly+D+2019+-+Global+Sustainability+-+Viewpoint+Back+to+the+future+for+fisheries%2C+where+will+we+choose+to+go.pdf>

¹⁸ Clarke, Helen. New Zealand Biodiversity Strategy 2000

¹⁹ NZ Biodiversity Action Plan 2016-2020 (targets 13 and 5 respectively)

²⁰ <https://www.climatechangenews.com/2020/02/18/protect-30-earth-avert-irreversible-biodiversity-loss-former-ministers-say/>

²¹ Towards sustainability in world fisheries, Daniel Pauly, Villy Christensen, Sylvie Guénette, Tony J. Pitcher, U. Rashid Sumaila, Carl J. Walters, R. Watson & Dirk Zeller

63. **Recommendation:** Control of other fishing methods in Type 2 MPAs is necessary to safeguard the life-supporting capacity and healthy function of the ecosystem. This will require a shift to yet more environmentally and economically sustainable fishing methods with much lower adverse impacts on the seabed (e.g. crayfish pots, hook and line, fish traps, and only netting methods approved for that ecological area). Concurrently, such control would reduce energy dependency and carbon emissions, as well as help reconnect resources with local communities.

Roles for Fisheries NZ

64. **Recommendation:** The Plan should clarify the role of each sector within the industry. Fisheries NZ needs to be required to put effort into:

- Relationship building between sector interests and strengthen communication between different arms of MPI (a well as other relevant regulatory authorities) concerned with fishery (compliance, science, analysts etc.) to minimise loopholes and create stronger policy and management.
- Supporting development of alternative employment in value added or aquaculture, so adding value to each fish.
- Supporting development of more imaginative fish marketing (e.g. with a local story).
- Assessing aquaculture alternatives – where (i.e. spatial planning), minimum impact, positive energy return (e.g. when destined for aquaculture or animal feed).
- Research into interaction and mitigation of aquaculture on wild fishery.
- Embed systems that can respond quickly when issues are identified.
- Decentralize scientists to fishery hot spots to strengthen understanding of fishing practice and capacity to support local community and Iwi Management groups.

Recreational and local fishery

65. There is no doubt that the QMS has undermined the viability, culture and social benefit that fishing once brought to small fishing communities, because proximity to the resource is no longer a key consideration.

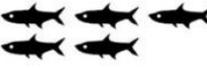
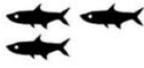
66. In the past, local fishermen with modest craft had an incentive to fish sustainably in “their patch”. With the QMS have come larger craft, more advanced fish location and processing technology that no longer rely on a local resource and knowledge.

67. In their place, charter fishing has expanded. As fishing stocks in some areas have become depleted the pressure on remaining areas increases. Bag limits set in another time (e.g. 30 blue cod/head) and clients keen to “pay for their outing” have incentivised more of a “meat hunt” than a sport, further endangering local stocks.

68. The result is that there may be only be very rough catch estimates for the bulk of local fish harvest falling outside the QMS, when the quality of the resource management depends directly on the quality of the catch data.

69. Zeller and Pauly have pointed out that by a number of measures small scale fishery is more efficient and brings more benefit to local communities than large scale industrial fishery (Refer Figure 5)²². While their comparison will include fishing communities in the developing world, we consider that the general indications apply to NZ. They are therefore the sort of considerations that must be incorporated in any NZ reviews.

Figure 5: Comparison between the benefits and impacts between large- and small-scale fishery.

Fisheries Benefits		
	Large-scale	Small-scale
Annual catch for human consumption	 about 45 million tonnes	 about 28 million tonnes
Fish and other sealife discarded at sea	 10 million tonnes	 about none
Annual catch reduced to meals and oils	 30-35 million tonnes	 about none
Fuel consumption (t fuel per t fish)	 5-20 tonnes	 2-5 tonnes
Number of fishers employed	 about 1/2 million	 about 12 million
Government subsidies (billions of USD)	 25-30 billion USD	 5-7 billion USD

²² Zeller D and Pauly D. Back to the future for fisheries, where will we choose to go? <https://s3-us-west-2.amazonaws.com/legacy.searoundus/researcher/dpauly/PDF/2019/Journal+Articles/Zeller+D%2C+Pauly+D+2019+-+Global+Sustainability+-+Viewpoint+Back+to+the+future+for+fisheries%2C+where+will+we+choose+to+go.pdf>

70. Vulnerability to climate and energy shocks can thus be minimised by sustaining strong and more readily accessible inshore fishery.
71. **Recommendation:** Review the status of the ecosystem as a whole (including robustness of total catch data) and if necessary, consider strong policy change. Options might include:
- Closing wider fishing zones or depleted species for the time necessary for them to recover.
 - Restricting the use of fish finders in recreational fishing.
 - Setting aside special fishing zones for exclusive community use for recovery and enhanced better protection.
 - Review bag limits and where excessive, set them to actually impact average catch. For instance, a bag may be 20 but an average take 8, so reducing to 10 is ineffective.
 - Electronic monitoring by cameras or observers.
 - Higher level of monitoring and observers in inshore fishery.
 - Removing indirect fishing subsidies including through insufficient
 - levies for research under QMS
 - environmental controls (except for a few species)
 - carbon credit liability
 - regulatory overheads.
72. **Recommendation:** More generally, we support Professors Dawson and Dunne's call for a robust review of the QMS, including both its cultural impacts and its implications for control of the fishing resource²³. Iceland has adopted the method of tying the quota to fishing vessels to ensure that the act of fishing and the right to fish are closely connected.
73. **Recommendation:** Once operational, the integrated model recommended above could support this process.

Customary fishery

74. We endorse the Plans support for Customary fishing and the Treaty of Waitangi agreement.
75. **Recommendation:** We consider the best chance of ensuring that the overall management of the marine environment remains coherent and consistent, is if these interests are (as far as possible) achieved collaboratively through Fisheries NZ.

²³ <https://www.sciencemediacentre.co.nz/2016/05/16/nz-fisheries-catch-under-reported-expert-reaction/>

Interpretation and Plan authority

76. **Recommendation:** Wording in the Plan needs clarification. What for example is the significance of:
- The difference between/significance of “Fishery stock complex”, “integrated multi-stock Management” and “marine ecosystem”. And do we really need to go through the “complex” to get to EBFM (p. 16)?
 - “stakeholders and local communities who want greater involvement” – local communities need to be viewed as the key stakeholders and invited to participate
 - “learning by doing” (p. 16) versus acting decisively on the knowledge we already have
 - “supporting” the industry to innovate (p. 21)
77. **Recommendation:** The roles, responsibilities, and monitoring procedures that apply to the different actors in the sector need to be clearly defined.
78. **Recommendation:** Incorporate regular and inclusive review process of achievement of plans and objectives.
79. The history of resource management in NZ is littered with well-meaning, non-statutory plans that have failed to deliver on their objectives²⁴. It is clear from current trends in the global industry and in certain locations locally that we can no longer afford such failures.
80. **Recommendation:** We thus recommend that the Plan be made statutory under the RMA.

Other Matters to be addressed in the Plan

81. **Recommendation:** We recommend that the following additional points be included in the discussion and the Plan:
- Implementation of the provisions in the Act to avoid, remedy and mitigate any adverse effects on the marine environment, including the matters covered in s11, particularly 11.1-11.3 and 11A, which relates to Fisheries Plans.
 - How the provisions of s13 can be more fully and environmentally implemented.
 - The removal of the provision in the Act exempting bycatch from the Bmsy²⁵, and other rules.
 - Steps to be taken to better inform the public of the marine state and fisheries and to include them in consultation.
 - More consideration of the needs of future generations from all points of view, not just fishing.

²⁴ The Earth Summit 25 years on - why is biodiversity continuing to decline Resource Management Journal (New Zealand Resource Management Law Association) Thrush S et al April 2018

²⁵ Biomass that enables a fish stock to deliver the maximum sustainable yield

- f. Mechanisms for assessing the adverse effects of present and planned fishing on the environment. At present, there is no system for Strategic Environmental Assessment (SEA), that is, for determining whether the proposed activity is suitable, if there are alternatives, alternative methods, locations and so on.

Consultation

82. **Recommendation:** There is a requirement in FA96 to consult in s12 of the Act. We recommend that consultation be essentially open, and that all stakeholders are given the opportunity to view the iwi and other management plans so that they too can take them into account.

Thank you for the opportunity to submit on this important Plan. We would like to be heard on this submission.

The preparation of this submission has involved a number of people with links to the Society. We wish to acknowledge the particular assistance of the following people in its preparation. Their assistance does not imply that each agrees with all parts of this submission.

Professor Liz Slooten
Associate Professor Hamish Rennie
Professor emerita Jocelyn Harris
Professor emeritus Sir Alan Mark
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Appendix A: Background to the Wise Response Society

1. Wise Response is an Otago-based but New Zealand-wide, non-partisan Society, launched in 2013 with the purpose of persuading the New Zealand Parliament, Government and New Zealand society in general, to confront and respond effectively to any confirmed threats arising from the question:

"As demand for growth exceeds earth's physical limits causing unprecedented risks, what knowledge and changes do we need to secure New Zealand's future wellbeing?"

2. Chairperson Sir Alan Mark conducted a nation-wide tour that year with 11 public meetings from Auckland to Invercargill to explain the Society's purpose and strategy, and gain support. The Society's strength is in the wide range of supporters who participate in online discussions around the "limits" theme, many being experts in their professional fields

are able to provide multidisciplinary input into our initiatives. Our Patron is Sir Geoffrey Palmer QC.

3. In April 2014, we presented our 5,000-signature petition to Parliament, recommending that they undertake a Risk Assessment of New Zealand, in five subjects as follows:

- i. **Financial security:** the risk of a sudden, deepening, or prolonged global financial crisis.
- ii. **Energy and climate security:** the risk of continuing our heavy dependence on fossil fuels.
- iii. **Business continuity:** the risk exposure of all New Zealand business, including farming, to a lower carbon economy.
- iv. **Ecological/Environmental security:** the risks associated with failing to genuinely protect both land-based and marine ecosystems and their natural processes.
- v. **Genuine well-being:** the risk of persisting with a subsidised, debt-based economy, preoccupied with maximising consumption and GDP and increasing inequality.

4. The Appeal sought a commitment to a quantitative, cross-party risk assessment of how and exactly where New Zealand is exposed, as a rational, integrated basis for planning a more secure future. The petition was referred to the Finance and Expenditure Select Committee, with a hearing on July 1, 2015. The majority response was negative, claiming Government was adequately addressing the issues of concern, but the three minority parties (Labour, NZ First, Greens) offered strong endorsement.

Other submissions

5. Our Society also makes regular submission on a range of policy change issues. Examples include the Emissions Trading Scheme, the Resource Legislation Amendment Bill, Regional Policy Statement of the Otago Regional Council (and mediation with Dr Royden Somerville QC and Will Anglin as Counsel which has since been appealed to the Environment and High Courts), New Zealand Energy Efficiency and Conservation Strategy, the Productivity Commission, the Child Poverty Reduction Bill and the Tax Review Group, and most recently, the Zero Carbon Bill with particular focus on methane, the NPS-FM, the ETS Amendment and the review of the Crown Minerals Act.