

Submission on the

**Proposed South-Eastern South Island Marine
Protected Network
from the
Wise Response Society Inc.**

to

**Department of Conservation and Fisheries New
Zealand**

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Submission

1. New Zealand's Marine Protected Area (MPA) policy objective is to "protect marine biodiversity by establishing a network of MPAs that is comprehensive and representative of New Zealand's marine habitats and ecosystems" (Marine Protected Areas Policy & Implementation Plan, paragraph 13). There are currently no MPAs between Banks Peninsula and Stewart Island. To meet the policy objective, the outcome of the SEMPf process must be multiple new MPAs in the south east region.

Area for marine reserve

2. New Zealand's Biodiversity Strategy includes an action (3.6b) to protect 10% of New Zealand's marine environment – this is the goal for 2020 under Sustainable Development Target 14.5 and Biodiversity Convention Aichi Target 11. In 2016, the IUCN's World Conservation Congress encouraged IUCN Member Nations (including New Zealand) to designate and implement at least 30% of each marine habitat in a network of highly protected MPAs. The aim is a fully sustainable ocean, at least 30% of which has no extractive activities (IUCN motion 53).
3. The proposed network of MPAs for the south east region includes less than 5 % of the area in non-extractive marine reserves, with an additional 12 % or so in lower-level 'type 2 MPA' protection. Therefore, even if all the proposals were accepted, this falls well short of the previous IUCN target and is meaningless in comparison to the current IUCN recommendation. The percentages above are based on the offshore extent of the SEMPf process, being 12 nautical miles offshore – the 'territorial waters' boundary. The proposals are a much smaller proportion of New Zealand's EEZ waters.
4. The SEMPf process should therefore add further MPAs to the proposed network and/or enlarge existing proposed sites. The proposals that did not make it through the SEMPf process (e.g. Long Beach Marine Reserve) should be added first, followed by additional MPAs until the 30% IUCN target is met for territorial waters. Reserves on the shore should go to the high tide line.

Habitat type

5. New Zealand's MPA policy states that "a marine reserve will be established to protect at least one sample of each habitat or ecosystem type in the network" (Marine Protected Areas Policy & Implementation Plan, paragraph 93). The network of marine reserves that is designated as a result of the SEMPf process must meet this goal. Therefore, if there is no replication of a particular habitat within the proposed network, then each proposed reserve must be accepted.

Reserve size

6. It is now accepted that marine reserves can result in recovery of previously exploited species (see reviews by Halpern 2003; Willis 2013). However, the effect of marine reserves is largely site-specific and species-specific and dependent on appropriate design.

7. The conservation benefits of marine reserves generally increase with size (Halpern 2003; Edgar et al. 2014). Moderately sized reserves that are several to tens of kilometres in alongshore length and extend offshore to encompass depth-related movements to contain adult movement for much of the diversity of nearshore species (Gaines et al. 2010). A recent review of literature concluded that conservation benefits were greatest for marine reserves larger than 100 km² (Edgar et al. 2014). In line with this scientific evidence, we recommend that each of the existing proposals be extended to at least 100 km² by extending these protected areas north, south and offshore.
8. For wide-ranging species, such as marine mammals, seabirds, sharks and other top predators, MPAs need to be much larger to be effective. Sufficiently large coastal MPAs can be beneficial for seabirds and cetaceans, either through enhancing prey availability (e.g. Pichegru et al. 2010), or reducing fisheries related mortality (e.g. Gormley et al. 2012). However, the MPAs proposed for south-east Otago would need to be enlarged substantially to provide these benefits.

Endangered species

9. The South East region is home to some of New Zealand's most endangered endemic marine species, including yellow-eyed penguins (Darby & Dawson 2000), Hector's dolphin (MacKenzie & Clement 2014; Turek et al. 2013) and New Zealand sea lion (Auge et al. 20102).
 - **Yellow-eyed penguins** have declined on the mainland from an estimated 580 nesting pairs in 2008 to 216 pairs in 2015. Marine impacts, including depletion of food resources and bycatch in setnets and trawl fisheries, are important drivers in these population declines.
 - **Hector's dolphins** have declined to an estimated 27% of their abundance in 1970, due to fisheries mortality (Slooten & Dawson 2010).
 - **New Zealand sea lions** have declined nationally by approximately 50% since 1998 and are vulnerable to bycatch in trawl and setnet fisheries (Robertson & Chilvers 2011; Meyer et al. 2015).
10. Exclusion of the least selective forms of fishing, i.e. set-netting and trawling, from large areas of the region, should therefore be a priority.
11. Inshore fishers need to make the transition to selective, sustainable fishing methods, to avoid impacts of these highly damaging fishing methods on protected species such as marine mammals and seabirds, and the wider marine environment.

Submarine canyons

12. Submarine canyons are among the most productive deep-sea habitats yet described, supporting exceptional biomass of benthic invertebrates, demersal fish and top predators, including marine birds, pinnipeds and cetaceans (De Leo et al. 2010; Santora & Reiss 2011). The South East region is one of only two places in New Zealand where submarine canyons extend inside territorial waters and can therefore be protected within a marine reserve network.

13. Although the mechanisms by which canyons enhance productivity are not fully understood, it is likely a combination of complex bathymetry and interaction with the local hydrology (De Leo et al. 2010; Santora & Reiss 2011).
14. Therefore, for conservation of marine biodiversity, the best option proposed by the SEMP is site F, because the Saunders Canyon has the steepest and most complex bathymetry inside the territorial limits. The current policy only allows MPAs to be designated within territorial waters, while fishing effort can occur anywhere. In this case therefore, it would be sensible to rank the biodiversity value of the Saunders canyon above the value to fisheries.

Resilience

15. MPA's don't exist in isolation and their context should be included in spatial management.
16. Most MPAs appropriately focus on the exclusion of extractive and disturbing activities. Thought should be given to activities that may enhance the lifeforces, integrity and functionality of an MPA. For example, appropriate control measures of invasive species, such as *Undaria Pinnatifida*, could be beneficial for indigenous biodiversity in an MPA. Marine reserves with higher populations of rock lobster and blue cod will help to reduce "kina barrens".
17. Understanding ecological flows to increase MPAs toward the initial 30% goal should be actively made visible and encouraged, especially in relation to extractive industries that ultimately depends on well-functioning MPAs.

Key recommendations

18. As a minimum and first step we support the full network of reserves for protection but (~1200 km²) with more robustness built in to address the concerns raised above. Key amongst these are:
 - i. It is important to employ an **ecosystem-based approach** for the network and its relationship with adjacent non-reserve areas so that ecosystem function and marine biodiversity is secured in the first instance.
 - ii. The location, size, relationship and habitat characteristic of each reserve needs to take into account the pending changes in ocean temperature and chemistry with **climate change** and the need for species to migrate and adapt (e.g. increased predation).
 - iii. Climate change and other stresses, such as land and sea-sourced pollution, past overfishing and the use of destructive fishing methods means that the **precautionary principle** needs to be front and centre in reserve network design
 - iv. The overall downward trend in fish catch and the **threatened status** of key marine fish and bird species needs to be taken into account
 - v. Best outcomes are likely with the establishment of **dedicated management committees** established for the reserves that reflect local community interests.
19. Thank you for the opportunity to submit on this important proposal. Background to our Society and its purpose is provided in Appendix A below. If there is the opportunity, we would like to be heard on this submission.

20. 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
Dr Marjan van den Belt
Associate Professor Hamish Rennie
Dugald MacTavish, QSM

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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.