

**From:** Simon Thrush  
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Submission on Proposed Marine protected Areas for New Zealand's South Island South-East Coast.

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I am very pleased to have the opportunity to make a submission, I started my career in marine science at Otago and this section of our coast and shelf have many unique features and significant biodiversity.

I am very pleased to see the collaborative, multi-stakeholder and participatory process that has led to the development of this proposal. This is an important opportunity to move to a more shared use of our marine environment.

I have a major concern that I think significantly under values the MPA proposal document. I suspect that this will also generate future problems with both implementation and operation of the MPA network. What is missing from the plan is any sign of engaging with and using science in the design of the MPAs. This means that some of the proposed MPAs do not make ecological sense, locations of MPAs do not maximise biodiversity or resilience benefits and there is no clear sense of a network design. What appears to have resulted is a hodgepodge of locations for potential MPAs of various size, this looks very much like the areas fishers do not want. All users (passive and active) of the marine environment should be considered in the design, but without a clear design framework this does not seem to be the case.

Here are some specific examples of the problems I speak of above:

- The vast amount of international scientific literature and processes for MPA design does not appear to have informed MPA location.
- I suppose the habitat classification employed has been imposed by MPI and DOC, but this is unfit for purpose. Biodiversity on the seafloor is not well predicted by the factors used in this classification. I have the sense some local knowledge has also been used but this knowledge does not support an understanding of biodiversity across the region. For example, the shelf area north of Otago Harbour is unprotected, yet biogenic habitats have been reported from similar areas. We can do better than this.
- Many of the MPAs appear disconnected in an ecological sense. For example, the kelp forest reserves (North Otago) do not encompass the adjacent soft sediment habitat. Yet there are often important ecological interactions that integrate across these habitat boundaries.
- An important function of MPAs is the conservation of biodiversity, but they are also about restoration, allowing ecosystems to recover from habitat disturbance or fishing pressure. This thinking does not seem to be included in design.

I hope my comments help you to realise the value marine science has to offer in MPA design. Particularly in relation to the design based on the habitat classification you use, please expect this to fail to conserve biodiversity and as you implement your plan please ensure that habitats are checked and compared so we learn from this process.

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