

8th February, 2012

Regarding: Submission on the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Bill

To the Office of the Clerk of the House of Representatives,

The Society operates under an Act of Parliament to advance and promote science and technology in New Zealand and provide expert advice to the Government and the community. The Royal Society of New Zealand welcomes the opportunity to contribute to Parliament's consultation on the proposed Exclusive Economic Zone and Continental Shelf (Environmental Effects) Bill. We do not request the opportunity to present this submission in person to the Select Committee.

The Society welcomes this Bill and the commitment from Government to give effect to New Zealand's obligations under the United Nations Convention on the Law of the Sea, in particular Article 194, the right to exploit natural resources pursuant to New Zealand's environmental policies and in accordance with the government's duty to protect and preserve the marine environment.

Overall the Bill is a marked step forward from existing legislation. However, we would like to highlight two issues of concern regarding *clauses 4 & 13*. The Society's concerns refer to the applicability of adaptive management and the adequacy of information used to inform decisions under the Bill.

Clause 4 defines adaptive management and specifies the applicability of such an approach. The requirements for successful adaptive management are that effects are expected to be detectable; limited in scale, distribution, and duration; quantifiable; and attributable. Adaptive management is not suitable where there is the risk of irreversible effects, such as loss of species. Additionally, it is difficult to successfully apply where the effects are difficult to reverse, such as large-scale changes in species populations. Hence *clause 4* should include these requirements by specifying that adaptive management is unsuitable for allowing an activity to commence if the effects are insufficiently monitored or unmonitorable; if the effects are uncertain; or if the effects are irreversible or not easily discontinued.

The impact of *clause 13* will strongly depend upon the definition of "inadequacy" regarding the information used to guide consent decisions. Given our poor knowledge of the marine environment most species, habitats and ecosystems are inadequately understood. For example, a great number species are unknown or undescribed, new species continue to be found, and New Zealand has a limited taxonomic



capacity to identify and describe organisms.¹ Our knowledge of New Zealand waters is rarely sufficient to allow even simple mapping of biodiversity hotspots.² Fish stocks are the most thoroughly studied and best understood marine resource. However, of the 636 managed fish stocks in New Zealand waters, there is only sufficient information to characterise 127 stocks.³

We recommend that the standard for adequacy of information should be more precisely specified and that the standard for adequacy of information required should depend upon the potential risk from a proposed activity. Stricter standards should be required for activities that have the potential for effects that are irreversible, difficult to reverse, difficult to detect, long-duration, large-scale, unbounded, or cumulative.

The wording of *clause 13* should require the consideration of whether there is adequate information to support an adaptive management approach. It is not sufficient that activity managers are able to assess the effects of an activity. In order for the prerequisite of adaptive management to be met, changes to the ecosystem must be attributable to either the effects of a permitted activity or to natural variation. The necessary information for this attribution should include, but not be limited to, long-term baseline data describing the natural variability of species, habitats, and ecosystems. Where information like this does not exist, then an adaptive management approach will not be able to assess effects of activities and is insufficient to allow activities to be undertaken.

The Society welcomes the overall approach taken in this Bill. However, addressing the concerns over the applicability of adaptive management and the standard of adequacy of knowledge would strengthen the Bill and support New Zealand's obligations under the United Nations Convention on the Law of the Sea.

Yours sincerely,

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¹ Gordon DP, Beaumont J, MacDiarmid A, Robertson DA, Ahyong ST (2010) "Marine Biodiversity of Aotearoa New Zealand" PLoS ONE 5(8): e10905.[doi:10.1371/journal.pone.0010905](https://doi.org/10.1371/journal.pone.0010905)

² Gibbs MT (2008) "The historical development of fisheries in New Zealand with respect to sustainable development principles", *The Electronic Journal of Sustainable Development* 1(2)

³ Ministry of Fisheries: Annual Report 2010/2011