



9<sup>th</sup> June 2006

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Dr Alison MacDiarmid, Secretary,  
New Zealand Marine Sciences Society,  
c/o NIWA,  
Private Bag 14-901,  
Kilbirnie, Wellington.

Dear Ms Philbert,

### **Concerning the Benthic Protection Areas Consultation**

The New Zealand Marine Sciences Society (NZMSS) is a scientific society affiliated to the Royal Society of New Zealand. It comprises over 250 scientists, managers, policy makers, and students working in all aspects of marine science in New Zealand and overseas. Society members work for universities, Crown Research Institutes, and other research providers, as well as for various central and local government departments, agencies and non-governmental organizations. Our members, therefore, have a wide range of views and experiences on most issues confronting the management of New Zealand's marine environment. Our elected Council has the task of providing comments on marine science issues in the public realm, including government policy and marine conservation. This submission represents a consensus view of the NZMSS Council concerning the scientific issues related to the proposal from the fishing industry that New Zealand establish "Benthic Protection Areas".

This Society advocates strongly for marine science to contribute to wider public debate on the management and conservation of our natural heritage. Fishing is recognised as one of the major stresses to marine ecosystems, affecting their biodiversity and potential to deliver ecosystem services. We argue strongly for an increased focus on understanding the nature of these ecosystems, how they are influenced by human activity and how broader environmental change will influence their ability to deliver environmental goods and services.

We agree that this is a highly significant proposal in that the seabed of over 30% of New Zealand's Exclusive Economic Zone (EEZ) will be protected from trawling and dredging related to fisheries. The size of the area affected, namely 1.2 million km<sup>2</sup> or 4.4 times the land-area, and the fact that it comes from the fishing industry, make this proposal far-sighted and pioneering. It will keep New Zealand at the forefront of international efforts to protect marine habitats, and will be an example for other countries to follow. The independent audit of the figures and the inclusion of industry funded monitoring are commendable. The use of the scientific data on the marine environment is an interesting preliminary step to see how representative the 'protection areas' are of New Zealand's marine environment. However this Society feels that there is available scientific evidence on the nature of seafloor ecosystems and the environmental effects of fishing that has been ignored.

We note that static fishing gear (e.g. hooks, traps), and mobile mid-water and pelagic fishing, will still be allowed in these areas. Thus the proposal does not aim to reduce fishing effort in these areas or to protect biodiversity resources of commercial interest.

Most commercial finfish inhabit the water column rather than sit on the seabed, and the same applies to some species of conservation and public interest such as marine mammals and reptiles, and large fish and sharks. What impact the protection areas will have on these species requires study. For example, the continued or increased fisheries in these areas may result in entanglement and by-catch of non-target species.

We further note that the proposal does not consider other human impacts on the seabed such as aggregate extraction or mineral exploration. We trust the Minister will consider these matters in relation to this and future conservation measures. Without broader measures, the benthic habitats may not in fact be protected.

The aim of the proposal is to protect seabed biodiversity. It is thus extraordinary that no biological data have been included in the proposal. Thus, neither the proposal nor the associated documents mention what biodiversity will be protected. We believe that sufficient scientific data exist on at least species of commercial interest to determine what proportions of their population and their distribution range will be protected by this proposal. This data should be immediately analysed to clarify the potential economic and environmental consequences of the proposal.

Some data on non-commercial species may also be available. For example, by-catch records in MFish databases, log book information from fishing boats, and invertebrate and habitat data held by NIWA, museums, universities, and other organisations. Brought together, this would at least identify seabed biotopes (i.e. physical habitat with a defined species community) that are characteristic of some of the areas, and thus enable assessment of whether these areas are representative of New Zealand's marine seabed habitats.

The Marine Environmental Classification (MEC), used to judge how representative the proposed areas are, is a first approximation of marine environments, which include a seabed habitat component. How the MEC environmental classes map to actual seabed habitats remains to be determined. It is reasonable that the proposal uses the MEC and depth as surrogates of habitats, but it must be realized that in turn habitats are surrogates of what species may be present. Ultimately, there is no substitute for actual species distribution data.

The suggestion that no additional areas should be closed to bottom trawling seems premature. The consequences of the proposed BPA may be to attract fisheries to these areas because of either perceived improved fishing due to lack of seabed disturbance, or real increased production due improved habitat and food for fish populations, or both. Another consequence may be to redirect fishing effort to the other 70% of the seabed, with increased trawling and dredging in other areas that may be directly or indirectly detrimental to fisheries and other biodiversity resources. Furthermore, it is highly likely that further analysis will show the areas are not representative of all benthic habitats and species distributions in New Zealand's EEZ. The industry may benefit from additional areas being protected, because natural benthic conditions provide food for fish, and protection of juvenile fish from predation.

Modern fisheries management seeks to maintain the natural function of ecosystems by appropriate harvesting, reducing by-catch and habitat damage, and other measures. The present proposal is a valuable first step in this, and should be opened up to consider how other components of the ecosystem will be conserved to best deliver environmental goods and services of importance to New Zealand's future generations. Current political and scientific approaches to ecosystem management include the use of inclusive and open decision making processes, such as used by the Department of Conservation in creating Marine Reserves. The present proposal could be a useful start in the process of selecting a range of areas to protect New Zealand's marine biodiversity, including resources of present and future commercial interest.

In conclusion, the proposal is a worthwhile initiative to protect some seabed areas from disturbance by fishing trawls and dredges. Despite the reservations detailed above, we consider that elements of the proposal should move forward, but in an open fashion and calling upon credible scientific expertise.

**The New Zealand Marine Sciences Society asks the Minister to submit the entire proposal, with all its detail, to a full and rigorous scientific review. We also recommend that the Minister immediately initiate research into (a) what biodiversity this proposal will and will not protect, and (b) how this proposal needs to be complemented by protection of demersal (near seabed) and pelagic species in New Zealand's EEZ. It is only in the light of such data that the full costs and benefits of measures such as this can be quantified.**

*Approved by the NZMSS Council 9<sup>th</sup> June 2006.*

Yours sincerely,

Dr Alison MacDiarmid,  
Secretary, New Zealand Marine Sciences Society

Handwritten signature of Alison MacDiarmid in black ink, consisting of the initials 'AB' followed by the name 'MacDiarmid' in a cursive script.