

NEW ZEALAND MARINE SCIENCES SOCIETY

TE HUNGA MĀTAI MOANA O AOTEAROA



22 August 2012.

The Director General of Conservation
West Coast Marine Reserves
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West Coast *Tai Poutini* Conservancy
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Dear Director General

NZMSS Submission on West Coast South Island Marine Reserve Applications (section 5 of the Marine Reserves Act, 1971)

This submission is made by the New Zealand Marine Sciences Society council, on behalf of the New Zealand Marine Sciences Society (NZMSS), a professional body of New Zealand's marine scientists that is affiliated to the Royal Society of New Zealand.

The aims of the Society include encouraging and assisting marine research in New Zealand, and the provision of evidence-based comment management of marine resources. The Society has more than 260 scientists, managers, policy makers, and students working in all aspects of marine science in New Zealand and overseas. Every year we hold a conference which provides opportunities for members to present their latest research findings and to network. Our members, therefore, have a wide range of views and experiences on science related issues, including the use of marine reserves for conservation purposes.

The Society's submission is attached. We welcome the opportunity to provide further information on our submission.

Yours sincerely

Handwritten signature of Colin McLay.

Assoc. Professor Colin McLay
Immediate Past President
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NZMSS Submission on West Coast South Island Marine Reserve Applications (section 5 of the Marine Reserves Act, 1971)

1. Benefits of marine reserves

The New Zealand Marine Sciences Society (NZMSS) supports the establishment of marine reserves because they provide excellent opportunities for science and education, as well as conservation, both regionally and nationally. The following science and educational benefits that could be expected as a result of marine reserves being established on the South Island West Coast include:

- as scientific reference sites
- as a focus for research by universities and other educational institutions
- as a tool for achieving conservation goals, as stated in the New Zealand Biodiversity Strategy and the MPA Policy and Implementation Plan.

For example, the long established Cape Rodney – Okakari Point Marine Reserve at Leigh, north of Auckland has enabled researchers from the University of Auckland and NIWA to investigate coastal marine ecosystems, habitats and species' populations in a near-natural state. The more recently established Taputeranga Marine Reserve on the Wellington south coast is already the focus of marine ecological research by Victoria University of Wellington.

Marine reserves enable scientists to investigate the natural functional linkages between species and the impact of human-induced changes on because many of the impacts have been minimised or removed.

Much of our current understanding about the recovery of harvested species in New Zealand, such as rock lobster, snapper and blue cod, and the impacts of harvesting pressure effecting local changes to coastal habitats, has been informed by research studies conducted in marine reserves.

2. General comments on the five marine reserve applications

Compliance and law enforcement

We support the straight-line outer boundaries of the reserves as these are more readily enforced and easier for fishing vessels (commercial or recreational) to locate and identify. The importance of this is recognised in the MPA Policy's Planning Principle 9 "The MPA management regime must be enforceable".

Monitoring and scientific research

NZMSS is encouraged that monitoring and scientific research have been identified as important activities for these proposed marine reserves because the MPA Policy states that a monitoring programme will be undertaken (Design Principle 6). Further, the South Island's West Coast has not been studied in detail and there is much to discover about the marine biodiversity of this area. The presence of marine reserves in representative habitats and of a size large enough to be viable will add to the knowledge we can gain about the functioning of the west coast ecosystems.

The Society anticipates there will be interest amongst its members to carry out research within the newly established marine reserves. We request that the process for obtaining scientific permits be made as transparent and efficient as is possible.

Marine reserve committee/s

The NZMSS submits that marine reserve committees are a vital mechanism for encouraging participation and ownership of marine reserves amongst stakeholders, particularly at the outset of newly established reserves. In the case of the West Coast marine reserves, NZMSS sees the establishment of one or more marine reserve committees as an important transition from the West Coast Marine Reserves Forum that coordinated the development of the marine reserve applications and the consultation process.

NZMSS requests that science skills be represented on the marine reserve committee/s to assist with identifying research objectives for the reserves and communicating the results of research. NZMSS offers assistance to identify people with appropriate skills to be on these committees.

Extending the network of no take marine reserves for the West Coast

NZMSS strongly supports the Department of Conservation's proposal to establish a network of 5 no-take reserves and encourages DoC to extend the network. Part 30 of the MPA Policy states that marine reserves are a core tool in the development of a representative network of MPAs (32) and are the most appropriate tool in the MPA planning process (30). Also, that marine reserves will be used to protect:

- (i) representative examples of the full range of marine communities and ecosystems that are common or widespread;
- (ii) outstanding, rare, distinctive, or internationally or nationally important marine communities or ecosystems; and
- (iii) natural features that are part of the biological and physical processes of the marine communities and ecosystems referred to in (i) and (ii), in particular those natural features that are outstanding, rare, unique, beautiful, or important.

In addition a marine reserve will be established to protect at least one sample of each habitat or ecosystem type in the network (93)The Marine Protected Areas Policy and Implementation Plan (MPA Policy) aims to address the New Zealand Biodiversity Strategy by protecting the full range of New Zealand's marine habitats and ecosystems, with the goal of having 10% of New Zealand's marine environment with some form of protection by 2010. The key aspects of this are size of areas and representation of habitats. The West Coast South Island marine reserve applications and Fisheries Act tools provide the first results from the MPA Policy process for a mainland New Zealand biogeographic region. As we will outline, there are other considerations contained in the Policy such as the viability of the network. The proposed marine reserves, a core part of the network, only protect 1.3% of the West Coast South Island bioregion and do not protect the full range of habitats found in this region. Including the proposed fishery closures, the total area of marine habitats protected in any form on the west coast would be 2%.

While NZMSS recognises the marine reserve applications are an improvement in terms of providing some protection for marine habitats on the West Coast, we believe the applications as a whole fall short on meeting both the goals of the MPA Policy and international guidelines on protecting marine biodiversity (e.g. Secretariat of the CBD, 2004). Collectively the proposed reserves do not meet the objectives of the MPA Policy which is outlined as the objective of this process undertaken in the West Coast (see page 10). The applications should be viewed as the first step towards implementing a network of marine protected areas on the South Island West Coast.

In contrast to the small overall area that is fully protected (1.3%), the linear extent of coastline to be fully protected under the proposal is ~6% of the total coastline. Consequently, if the proposed marine reserves were extended out to 12 nautical miles, this would act to greatly increase the total area protected (to ~6%). This would be a more meaningful outcome in terms of biodiversity protection and a much greater step towards achieving the goals of the MPA Policy. It would provide protection to offshore and deeper water habitats that are not represented in the current applications, and it would provide greater habitat connectivity, affording protection from estuarine to deep subtidal habitats.

It is clear from the West Coast Forum's Recommendations Report (www.westmarine.org.nz, Appendix 8) that 4 out of the 19 habitats in this bioregion are not represented at all in the proposed network of MPAs as a whole (Marine reserves and Fisheries Act tools). These are estuarine tidalflats, shallow subtidal gravel, deep subtidal gravel and deep water >200m which are significant in extent. Other habitats are protected to very varying degrees. This is even more exaggerated when considering protection marine reserves alone provide. Based on this we consider the proposal fails in terms of meeting Part 30 of the MPA Policy i.e. marine reserves do not "protect representative examples of the full range of marine communities and ecosystems that are common or widespread" in this bioregion. Further comments in relation to representation of habitats are outlined later in our submission.

We also note that two marine reserves recommended by the West Coast Forum have not been put forward for public consultation: Siberia Bay (88ha) and Jackson Head (21ha). The later of these has "distinctive features unknown or uncommon in other parts of the West Coast". We consider these marine reserves where there for a purpose in terms of contributing to representing habitats or distinctive features (Part 30 of the MPA Policy) and should remain in the network.

The exchange of larvae (or connectivity) among marine reserves is the fundamental biological rationale for reserve networks. The MPA policy has as a key consideration that the MPA network should be viable (Network Design Principle 3). Connectivity between MPAs is mentioned as a component of this which the network is dependent on for its functioning. The recommended spacing of marine reserves to promote connectivity is between 50-100 km (this guideline has been adopted and implemented by the Marine Life Protection Act in California and is based on the best available scientific information [CDFG, 2008]). Based on genetic data worldwide the distance of 50-100 km is considered to be within the typical dispersal distance of most commercially and recreationally caught marine species, and therefore it is necessary that reserves are spaced within this range in order to facilitate connections between reserves and to allow them to function as a network. The spacing of the four reserves proposed for the West Coast South Island (excluding the Ship Creek reserve, which is too small (16 ha) to be considered a viable marine reserve) ranges between ~140 and 200 km (straight line/across water distance). As a result, these proposed reserves do not fulfil the criterion of connectivity set out in the MPA Policy. Other aspects of MPA network viability are discussed in the detailed sections of this submission.

NZMSS is concerned at the lack of scientific process that has been applied to identifying the marine reserve applications. An important step, between the documentation of information about the West Coast and the identification of options for protection there has been missed out. By way of an example, the rezoning of the Great Barrier Reef Marine Park resulted in more than 30% of habitats being

represented in no take areas (Great Barrier Reef Marine Park Authority, 2005). This result was underpinned by the use of mapping tools that took biophysical, economic and social data to identify a range of options that would both satisfy the objective of a network of fully protected marine areas as well as being of least impact on users. A similar process should have been used to identify a network of marine reserves on New Zealand's West Coast.

NZMSS urges the Department of Conservation to continue to progress a fully functioning marine reserve network for the West Coast. We, as a science community, are interested in assisting with such an initiative as we may be able to add substantial value to the process particularly since the process should take into account the best available information in decision making (Planning Principle 7 of the MPA Policy). Our membership may also be able to contribute to the process in relation to Planning Principle 8: Decision-making on management actions will be guided by a precautionary approach: "management actions to implement MPAs should not be postponed because of a lack of full scientific certainty, especially where significant or irreversible damage to ecosystems could occur or indigenous species are at risk of extinction."

3. NZMSS submissions on each marine reserve application.

Kahurangi – qualified support

NZMSS supports the 15.8 km north-south extent of the reserve between Wekakura Point to near Crayfish Point. The location of this proposed reserve will form an important component of a West Coast MPA network, being located geographically in the northernmost part of the West Coast Conservancy. Its juxtaposition to the Kahurangi National Park will ensure a land-sea continuum of protected areas.

NZMSS gives qualified support for the proposed reserve at Kahurangi. We are disappointed that the proposal put forward by the West Coast Marine Protection Forum (Option A), which extended out to the 12 nm Territorial Sea boundary, is not reflected in this marine reserve application. There is no rationale provided in the marine reserve application document for having a significantly smaller area. The larger area proposed by the Forum has the potential for comprehensive protection of a full range of habitats, providing connectivity between habitats, including the estuary of the Heaphy River, the intertidal area and seawards to include deep subtidal habitats over 100 m depth. The current marine reserve application has little deep water habitat and also, little estuarine habitat. It does not extend sufficiently offshore to adequately represent deeper subtidal habitats or provide broader protection for species such as Hector's dolphins (offshore distribution extends to at least 6 nautical miles (Rayment et al. 2011), New Zealand fur seals and the foraging areas of the vulnerable Westland Petrels that range well beyond the 50 m depth contour.

Relief sought:

NZMSS requests that the current seaward boundary of the application be extended further offshore to include significantly more area of deep subtidal soft sediment habitats and deep water than is currently provided for (at less than 0.5% of the West coast region's total for that habitat). Our preference is for the marine reserve to extend seawards out to 12 nautical mile Territorial Sea boundary because these shelf habitats are not currently protected in marine reserves anywhere around New Zealand.

Punakaiki – qualified support

NZMSS gives qualified support for the Punakaiki marine reserve application. We support the geographic location of this proposed reserve as it could potentially comprise an important part of a West Coast MPA network. Its location in a tourist hotspot will raise the profile of this marine reserve, both nationally and internationally.

We are disappointed that the proposal put forward by the West Coast Marine Protection Forum (Option B), which extended out to the 12 nm Territorial Sea boundary, is not reflected in this marine reserve application. There is no rationale provided in the marine reserve application document for reserving a significantly smaller area. The larger area originally proposed by the Forum has the potential to provide comprehensive protection of a full range of habitats, and providing for connectivity between habitats. We note that nowhere around mainland New Zealand are these shelf habitats currently protected within marine reserves.

In the current marine reserve application, while bedrock is represented, there is no inclusion of sandy substrate. Also it would make sense to have all of Dolomite Point contained in the reserve within some buffer around it. The proposed reserve does not extend sufficiently offshore to adequately represent deeper subtidal habitats or provide broader protection for species such as Hector's dolphins, whose offshore distribution extends to at least 6 nautical miles (Rayment et al. 2011).

NZMSS does not support the exclusion of the two areas adjacent to the coast in the vicinity of the Pororari River beach and Punakaiki River Beach/Razorback Point. These areas account for a total of 326 ha and in effect remove a substantial proportion of shallow inshore habitat from the benefit of comprehensive protection of marine biodiversity.

The application document does not provide sufficient justification for allowing fishing to continue in these areas. NZMSS does not agree with the statement in the application document under s5.5(a) "Some nearby areas used by recreational fishers have been excluded from the proposed marine reserves while maintaining the integrity of the proposed protection". NZMSS contends that the gaps created by this approach will likely impact on the integrity of the proposed reserve.

The protection afforded by the marine reserve will be compromised by the edge effects created by each of the gaps by Movement of mobile species from the no-take reserve area into the fishing areas. The resultant effect will be that densities of mobile species adjacent to the boundaries will be relatively low as they are fished out.

Research by Willis et al (2003) in the Cape Rodney – Okakari Point Marine Reserve showed edge effects on snapper densities there. Being a mobile species, snapper were targeted by recreational fishers near the reserve boundaries and their densities for some distance inside the reserve were suppressed as a result. Similarly Freeman et al (2009) studied rock lobsters in the Te Tapuwae O Rongokako Marine Reserve and concluded that, if reserves are intended to conserve 'natural' biological communities, then decisions on reserve boundaries should take into consideration the movement of the species intended for protection.

Having complicated boundaries, such as caused by the gaps in this proposed reserve, adds more edge (i.e. increased boundary to area). An increased edge effect relative to the total area of the reserve will increase the loss of mobile species as they move from protected to fished areas. In addition, complicated boundaries make it more difficult for the public (including fishers) to know where the reserve

boundaries are and increase the expense and difficulty of compliance and law enforcement.

We note the application document states that there will be minimal impacts on trawling and longlining, while there is currently no commercial fishing for paua (page 29). We therefore see no valid reason for having two areas set aside for fishing within the proposed marine reserve.

The NZMSS is further concerned at the potential impacts of black sand beach gold mining operations on the water quality of the nearshore in the southern section of the proposed marine reserve, although the scale of the activities is unclear. We suggest that any such existing activities, if permitted to continue, be given a finite period of time after which no further mining would be allowed in the reserve.

Relief sought:

Fishing should not be provided for in the two sites within the proposed marine reserve.

The proposed marine reserve should be extended further offshore to provide protection of habitats and mobile species, including Hector's dolphins, in waters deeper than the 30 m depth contour. Our preference is for the marine reserve to be extended to the 12 nautical mile Territorial Sea boundary.

Existing black sand beach gold mining activities should be subject to a sunset clause, after which time, any activities should cease. There should not be any provision made for new authorities for this activity.

Okarito – qualified support

NZMSS gives its qualified support to the Okarito marine reserve application. This reserve could form an important part of a West Coast MPA network, given its geographic location. Being adjacent to the Westland *Tai Poutini* National Park will ensure a land-sea continuum of protected areas.

The proposed reserve comprises mostly shallow subtidal habitat with no deep water habitats represented. We consider that the seaward boundaries of the proposed reserve should be extended to include deep water habitats well beyond the 20 – 30 m depth contour, which is the current limit of the proposed reserve. Our preference is for the boundary to extend to the 12 nautical mile Territorial Sea boundary. We note that nowhere around mainland New Zealand are these shelf habitats currently protected within marine reserves.

We further submit that the proposal should be extended northwards to include a significant portion of the marine area to the west of Okarito Lagoon. This would serve as an important extension to the proposal for a mataitai reserve in Okarito Lagoon.

We note in the document that the Three Mile and Five Mile Lagoons are not included in the proposed reserve because they already protected within the Westland *Tai Poutini* National Park. It is not clear from the document whether the protection afforded those lagoons extends to a complete prohibition on the taking of aquatic life. We consider it important that protection is afforded to the species living in the lagoons as many will have part of their life cycle in both the coastal area and the sheltered lagoons e.g. flounders. Further, from the perspective of marine reserve design, it is desirable to have the full range of marine habitats protected from the relative shallows of the lagoons through to the deep shelf.

NZMSS is concerned at the potential impacts of black sand beach gold mining operations on the water quality of the nearshore at Three Mile and Five Mile beaches. We suggest that any such existing activities, if permitted to continue, be given a finite period of time after which no further mining would be allowed in the reserve.

Relief sought:

The current proposal should be extended both seawards (to the 12 nautical mile Territorial Sea boundary) and northwards (to include a reasonable portion of the coast of the Okarito Lagoon) to comprise a single large reserve located approximately in the middle of a West Coast MPA network.

Aquatic (including marine) life in the Three Mile and Five Mile Lagoons should be fully protected.

Existing black sand beach gold mining activities should be subject to a sunset clause, after which time, any activities should cease. There should not be any provision made for new authorities for this activity.

Ship Creek – objection with qualified support

NZMSS objects to this marine reserve application because we consider that the very small area (16 ha) will afford minimal protection to the marine biodiversity in the area. The proposal appears to only include the intertidal area and shallow subtidal sandy habitat, together with a part of Ship Creek itself. If this reserve was substantially larger, it would comprise an important part of a West Coast MPA network, given its geographic location.

Research undertaken in small reserves of less than 1 km coastline length showed few benefits to biodiversity, and few detectable changes in the abundance of fish and invertebrates, such as rock lobsters and abalone, when compared with non reserve areas (Barrett *et al.*, 2007; 2009; Denny *et al.*, 2004).

We further consider that the establishment of such a small reserve would result in a disproportionate amount of resource being directed to its management compared with larger reserves. As with the other reserves, there would be a need for signage, boundary markers, interpretation and law enforcement. We question the overall value to be gained by this small reserve.

The Society would support a much larger marine reserve in this area through significant extensions both alongshore (north and south) and out to sea. The reserve should aim to incorporate the full range of marine habitats, including deepwater habitats, as well as being of sufficient size to be ecologically viable.

Relief sought:

The proposal should be substantially increased through extension of its boundaries both alongshore (to the north and south) and seawards to incorporate a wider range of marine species and habitats.

Gorge – qualified support

The NZMSS gives its qualified support to this marine reserve application. We support the reserve's general location because of its juxtaposition to the Te Wahi Pounamu New Zealand World Heritage Area. However, we submit that a greatly increased area of marine reserve both alongshore and offshore, would do justice to the world heritage status of the adjacent terrestrial area. We consider that this

proposal should be increased substantially in size from the current area of 847 ha. The application does not include any deeper subtidal habitat and although this part of the coast has bedrock, none of it is represented.

The application should be extended both alongshore and out to sea to incorporate the full range of marine species and habitats, including deep water habitats, as well as being of sufficient size to be viable. The current seaward boundary barely extends beyond the 30 m depth contour and therefore fails to include significant areas of deeper habitat types.

We request that the proposed marine reserve seaward boundary is extended beyond the 200 m depth contour to include significant areas of deep subtidal habitat (30 – 200m) and deep water habitat (200m+ depth). We further recommend the proposed reserve is increased southwards to include Awarua Point, enabling protection of the shallow boulder habitat and other subtidal habitats there. These extensions would ensure comprehensive protection of a wide range of habitat types and their associated assemblages of species. Geographically, the increased area of this reserve would comprise an important southernmost component of a West Coast MPA network.

Relief sought:

The seaward boundary of the proposed marine reserve should be extended to beyond the 200m depth contour.

The southern boundary of the proposed reserve should be extended to include Awarua Point.

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