Seven reasons to include the EEZ in the new MPA Legislation

Background Information for March 2016 Submissions

The New Zealand government is proposing to create new a Marine Protected Areas (MPA) legislation – the Marine Protected Areas Act -which is supposed to enable the establishment of a national network of MPAs for the purpose of marine biodiversity protection. While this legislation is needed and long awaited, there are several problems with the current proposal.

The most striking of which is that the proposed legislation only covers the Territorial Sea (out to 12 nautical miles from the coast) and excludes New Zealand’s Exclusive Economic Zone (EEZ). The EEZ is the area that extends from 12 nautical miles out to 200 nautical miles, and makes up 95% of New Zealand’s oceans. This means that our vast oceans beyond 12 nautical miles would not be considered in the process of creating New Zealand’s national network of marine protected areas.

This document outlines seven reasons for the government to change their proposal and include the EEZ in the new MPA legislation. The reasons are:

1. It is essential to create a representative network of MPAs.
2. Our EEZ contains biodiversity of global importance.
3. Meeting New Zealand’s international obligations and commitments to contribute to global marine biodiversity conservation.
4. Achieving national goals for marine biodiversity protection and honouring promises made to the New Zealand public.
5. Improving resilience against climate change and helping sustain a productive fishing industry.
6. Providing more comprehensive governance of the marine environment and more certainty for New Zealand marine resource industries.
7. Future-proofing the Act and avoiding costly amendment/review at a later date.

1. It is essential to create a representative network of MPAs

With the primary purpose of the legislation being marine biodiversity protection, this legislation should be strongly driven and developed from the best scientific understanding about how to protect marine biodiversity.

There is strong agreement within the international marine science community that the best way to protect marine biodiversity is to safeguard a full range of different marine habitat types.1 The basic understanding is that each different habitat type is home to unique biological communities, and therefore when we protect ‘representative’ examples of each habitat, we have the best chance at building and maintaining

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1 The importance of protecting a full range of habitat types in a national network of MPAs is recognised in the Convention of Biological Diversity. The Ad Hoc Technical Expert Group (AHTEG) on Marine and Coastal Protected Areas defines a MPA network as “an appropriate mix of highly protected areas and ancillary areas, which interact collectively to provide benefits greater than the sum of their individual benefits”. The AHTEG recognises that to achieve the full benefits, this network needs to be “representative (meaning that the entire network should include the full range of marine and coastal ecosystems, and that individual MCPAs in the network should reflect the biotic diversity of the ecosystems from which they derive)” (UNEP, 2003). MCPAs are Marine and Coastal Protected Areas.
biodiversity in our oceans (Woodly et al., 2012; Lindenmayer & Fischer, 2006; Worboys et al., 2010). Effectively protecting New Zealand’s marine biodiversity requires establishing a national MPA network that includes a full range of different marine habitat types including representative deep sea habitats within our EEZ.

The proposed special legislation to establish a Kermadec Ocean Sanctuary (KOS) is an important step in improving protection in the EEZ. However, while this will protect many important sub-tropical habitats and species, New Zealand still needs to be able to protect habitats and species in temperate and sub-Antarctic biogeographic zones.

The government’s consultation proposal recognises the value of a ‘representative network’ of MPAs; however it can not achieve a representative network if the EEZ is left out of the Act.

2. Our EEZ contains biodiversity of global importance

New Zealand’s oceans are a biological treasure-chest of global importance and interest. Our marine estate is the 6th largest in the world (3,947 124 million km²), and the life within it is abundant, diverse and unique. The high level of endemic species and the range of coastal and marine habitats found in New Zealand’s marine environment make it one of the top hot spots for biodiversity in the world (Conservation International, 2010; Kingsforce, et al., 2009). Nearly half of the world’s dolphins, porpoises and whales are found in our waters and more species of seabird breed on our islands than anywhere else in the world (Baker et al., 2010; Gordon et al., 2010; Taylor, 2000). There are many ecologically important and unique marine habitats and species that live and range in our EEZ. Some particularly sensitive deep sea habitats include: deep-sea hydrothermal vents, macro-algal beds, methane or cold seeps, sea pen fields, sponge gardens, and stony coral reefs (MacDiarmid et al., 2013). Please see appendix 1 for more details about these sensitive deep sea habitats.

**Box 1: New Zealand marine biodiversity facts**

- As much as 80% of New Zealand’s indigenous biodiversity is found in the sea (Department of Conservation/ DOC and Ministry for the Environment (MFE), 2000)
- At least 17,135 species live in New Zealand waters, of which 4,315 are undescribed. On average, around 20 new species of fish are discovered every year. Given that fish are only a small proportion of all marine species, the New Zealand EEZ could contain up to 100,000 species in total. The number of undiscovered marine species in New Zealand’s oceans likely exceeds the number of species that have been identified (Gordon et al., 2010)
- DOC identifies 56 species of marine mammals that reside in New Zealand waters (DOC, 2013)
- Of the 359 species of birds in the world that obtain all or nearly all their food from the sea, 140 species of seabirds live in or visit New Zealand, 86 species breed in New Zealand and 36 are endemic. The total number of seabirds breeding in New Zealand is about 14 million pairs (Royal Forest & Bird Protection Society of New Zealand, 2014).

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2 It is increasingly accepted in the scientific community that protected areas must be part of connected networks, with conservation cores and effective connectivity in order to maintain genetic diversity (Woodly et al., 2012; Lindenmayer & Fischer, 2006; Worboys et al., 2010).


4 New Zealand endemic species are unique to New Zealand and live nowhere else in the world.

5 What makes our waters so biologically diverse is the huge range of coastal and marine habitats. Whether it is kelp forests, sea mounts, thermal vents, reefs, or rocky shores – each different type of habitat contains unique communities of plants and animals.
Some of our most endangered endemic species such as the New Zealand sea lion, Māui and Hector’s dolphins, yellow-eyed penguin, and New Zealand albatrosses live and/or forage in the EEZ. Please see maps 1-6 in Appendix 2. Map 6 shows that some good work has already been done to identify priority areas for seabird conservation (Royal Forest & Bird Protection Society of New Zealand, 2014).

Additionally, many rare and endangered species migrate through New Zealand’s EEZ, such as blue whales, humpback whales, and great white sharks. Please see maps 7-9 in Appendix 2.

The EEZ is where most of our biodiversity resides; therefore it makes no sense to exclude the EEZ from the proposed MPA Act.

3. Meeting New Zealand’s international obligations and commitments to contribute to global marine biodiversity conservation

The marine science community has established that different ecoregions of the world have unique marine biodiversity, and that action to safeguard marine biodiversity in our planet’s oceans requires a global response.

Scientific understanding about how best to protect marine biodiversity has driven formal international agreements, such as the Convention of Biological Diversity, to call for the creation of networks of MPAs within national marine jurisdictions, in order to contribute to a global MPA network. Countries such as Australia, USA, UK and Chile have lead the way in creating networks of MPAs within their oceans (including EEZs). New Zealand has a particularly large responsibility to participate in the global movement of marine biodiversity protection because we have a particularly large, unique, and biodiverse marine environment (as outlined in section 2). Our government has recognised that there is an opportunity for New Zealand to be a world leader in managing oceans; however their decision to exclude the EEZ sends the opposite signal.

As party to United Nations Convention on the Law of the Sea (UNCLOS), New Zealand has a legal duty to protect and preserve the marine environment. Sovereign rights to exploit its natural resources must be exercised in accordance with this duty. We have legislation that provides for the use and development of marine resources (such as the Fisheries Act 1996, The Crown Minerals Act 1991 and the EEZ Act 2012).

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6 Ecoregions are large areas with characteristic combinations of habitats, species, soils and landforms. Ecoregions reflect the distributions of fauna and flora across the entire planet (Woodly et al., 2012).

7 The World Summit on Sustainable Development, the 5th Worlds Parks Congress, the Convention on Biological Diversity and the G8 Group of Nations – have all called for the establishment of a global system of MPA networks. The Convention of Biological Diversity (COP 7 Decision VII/518) agreed that “the goal for work under the Convention relating to marine and coastal protected areas should be: the establishment and maintenance of marine and coastal protected areas that are effectively managed, ecologically based and contribute to a global network”. The Report of the Ad Hoc Technical Expert Group (AHTEG) on Marine and Coastal Protected Areas used to inform COP 7 Decision VII/518 states: “...given that a very small portion of marine and coastal biological diversity is currently included in MCPAs, the goal for the future should be the development of an effectively managed, ecologically representative global system of MCPA networks” (UNEP, 2003).


9 UNCLOS Part XII article 192, 194, and 56(1) (b) (iii) oblige coastal States to protect the marine environment in their own EEZs. Article 192: “States have the obligation to protect and preserve the marine environment”. Article 193: “States have the sovereign right to exploit their natural resources pursuant to their environmental policies and in accordance with their duty to protect and preserve the marine environment”.

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However we do not currently have legislation that enables effective marine biodiversity protection in the EEZ. Including the EEZ under the MPA Act would address this important legal issue.

As a party to the Convention on Biological Diversity (CBD), New Zealand has a range of legal obligations in relation to the development and establishment of protected areas for the conservation and sustainable use of biological diversity in our oceans. In particular, New Zealand has committed to the ‘Aichi Target 11’, which requires setting up a representative and well-connected system of protected areas in our oceans.

4. Achieving national goals for marine biodiversity protection and honouring promises made to the New Zealand public

New Zealand’s own goals for marine biodiversity protection would not be achieved if the government leaves out the EEZ from the national network of MPAs. The New Zealand government’s commitments to marine protection are detailed in the National Biodiversity Strategy and Action Plan (2000), which has had a goal to “[protect a] full range of marine habitats and ecosystems representative of New Zealand’s biodiversity” (DOC and MfE, 2000). The Marine Protected Area Policy outlined that this should be done through “establishing a network of MPAs that is comprehensive and representative of New Zealand’s marine habitats and ecosystems” (DOC and Ministry of Fisheries, 2005).

By excluding the EEZ, the government is breaking promises it made to the New Zealand public. The Environment Minister, the Department of Conservation and the National Party have all made explicit promises to the New Zealand public to include the EEZ in the MPA legislation. See box 2 for examples.

Furthermore, there is clear evidence that better enabling marine protection in the EEZ was a key purpose of the new legislation. On the 2 May 2014, the Ministry of Business Innovation and Employment (MBIE) produced a briefing to Minster Simon Bridges which states: “The Aim of the proposed new legislation is to fill a gap in New Zealand marine protection regime by putting in place a process to establish marine

Box 2: Government promises to the public

Environment Minister Nick Smith, 2014

“The new Marine Protected Areas Act will broaden the purpose to include conservation and recreation, allow for marine protected areas in the Exclusive Economic Zone, provide for a stronger role for local communities and iwi in decision-making, and improve the processes for establishing reserves, parks and sanctuaries.”

National Party, 2012:

“National will pass a new Marine Reserves bill to allow marine reserves beyond the territorial sea, and to improve the way they are created.”

Environment Minister Nick Smith, 2011:

“The EEZ legislation announced today does not provide for areas of complete marine protection. The proper vehicle for this is a new and updated Marine Reserves

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10 Marine and coastal biological diversity was the focus of CBD-COP7 Decision VII/5 where parties agreed to establish and maintain (by 2012) marine and coastal protected areas that are “effectively managed, ecologically based and contribute to a global network of marine and coastal protected areas”.

11 The exact words of ‘Aichi Target 11 are that “by 2020 [...] 10 percent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures”.

reserves in the country’s Exclusive Economic Zone.” It is also clear that the government’s original purpose for enabling MPAs in the EEZ was for biodiversity protection: “The legislation aims to further the objective of the New Zealand MPA Policy to ‘protect marine biodiversity by establishing a network of MPAs that is comprehensive and representative of New Zealand’s marine habitats and ecosystems’.”

By excluding the EEZ, the government has set the Act up to fail at achieving its original purpose of biodiversity protection.

5. Improving resilience against climate change and helping sustain a productive fishing industry

The most significant driver of change in our oceans in our lifetime and for our future generations will be climate change (National Oceanic and Atmospheric Administration/NOAA, 2015; Britten et al., 2015; EGI 10/09/15). There is strong scientific evidence that one of the best ways to ensure our oceans can adapt to and withstand climate change is to build and maintain marine biodiversity. Biodiversity makes marine ecosystems and the economically important fish stocks within them, more robust and resilient (Riemer et al., 2015; Perry et al., 2010; Levin and Lubchenco, 2008; Worm et al., 2006).

The importance of protecting biodiversity for productive fisheries has also led to the use of MPAs as fisheries management tools. MPAs produce ‘spill-over benefits’ – building the health of ecosystems, species diversity and biomass outside the reserve (da Silva et al., 2015; Harrison et al., 2012; Lester et al.; 2009). Protecting structured habitats, nursery grounds, and fish spawning areas can also help sustain fish reproduction, resilience and abundance (Reimer, et al., 2015; Low et al., 2003).

6. Providing more comprehensive governance of the marine environment and more certainty for New Zealand marine resource industries

According to international law (UNCLOS), proper governance of our ocean requires legislation that enables protection as well as sustainable use. The fact that New Zealand has not yet effectively implemented our international obligations to protect areas of the EEZ (explained in section 3), means that our governance framework is incomplete. This creates uncertainty for marine resource industries about what areas can be used and what areas will either be fully protected or be subject to specific limitations on use. This uncertainty has an impact on long term planning and investment.

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13 2/05/ 2014 MBIE briefing to Simon Bridges (Briefing number 2822 13/14). ‘The MBIE comment on proposal for new marine protected areas legislation’.
15 Environmental change/variability includes warming of oceans, changes in ocean currents including potential regime shifts (large-scale and persistent changes in ocean circulation and vertical water column structure), increase the likelihood of invasive species (Willis et al., 2007), increasing ocean acidification, changes in salinity, and sea level rise (Office of the Prime Minister’s Science Advisory Committee, 2013).
16 24% of 1600 of marine protected areas in the USA are focused on sustainable fisheries (Wenzel and Brock, 2013)
17 It is for these reasons that the Southeast U.S. fishery managers are considering a proposal to protect certain areas where fish live and spawn. The proposed spawning special management zones would target small, important areas on the edge of the continental shelf (http://www.pewtrusts.org/en/research-and-analysis/fact-sheets/2015/08/protecting-fish-spawning-sites)
18 Government already recognises that “Developing a robust marine governance framework would enable more certain development of our rich marine resource base while sustaining our unique marine environment.” (Natural Resources Sector Briefing to the Incoming Minister (2014, page 6.) (http://nrs.mfe.govt.nz/sites/default/files/nrs-bim-final.pdf)
Including the EEZ in the MPA legislation is therefore an essential step to achieving a more robust marine governance framework and creating greater certainty.

7. Future-proofing the Act and avoiding costly amendment/review at a later date

If the EEZ is not included in the legislation now, it is highly likely that it will have to be included later in order to meet New Zealand’s international obligations. Therefore, enabling the inclusion of the EEZ in legislation now will future-proof the Act, provide essential management and protection options for future decision-makers, and avoid costly and inefficient legislative amendments/reviews to include the EEZ at a later date.

We already know that the biodiversity in our EEZ is globally important, that a representative network of MPAs is not possible without the EEZ, that greater certainty benefits users of the oceans as well as conservation, that greater resilience to ecosystem disturbance is important, and that the government has promised this reform. It makes no sense to leave out the EEZ. It makes every sense to include it.

Do it once. Do it right.

Appendix 1: Ecologically important and sensitive marine habitats in New Zealand’s EEZ

In 2013, National Institute of Water and Atmospheric Research (NIWA) produced a report that identifies sensitive marine habitats in New Zealand’s EEZ (MacDiarmid et al., 2013). Some key information about several of these habitat types is provided below.

1. Deep-sea hydrothermal vents

Hydrothermal vents provide a habitat for unique communities of organisms dependent on the sulfide-rich vent fluids that support chemosynthetic bacteria at the base of the food web. There have been more than 500 new species described from hydrothermal vents, with more expected to be described as more vent fields are discovered (NIWA, 2013).

Seabed communities found at hydrothermal vents are considered to be sensitive to physical disturbance by human activities such as fishing and mining, as well as scientific sampling (ibid). Some vent species in New Zealand waters are recognised by the national Threat Classification System, including *Vulcanolepis osheai* which is considered among the top 10 species at risk of extinction (‘nationally critical’) (ibid).

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19 To identify sensitive habitats, NIWA used the MARLIN method developed by the United Kingdom’s Marine Life Information Network (http://www.marlin.ac.uk/sensitivityrationale.php)
Figure 1: A “black smoker” at 1600m deep (JAMSTEC/NIWA/GNS)
Macro-algal beds

Macro-algal beds (such as kelp forests) occur within New Zealand’s EEZ and provide important and biodiverse habitats for many types of fish and invertebrate species.

Figure 2: This is the deep-water *Ecklonia radiata* – occurs on offshore rocky outcrops in New Zealand’s EEZ. It is an ecologically important species for several types of reef fish that breed and feed in its fronds. The presence of *Ecklonia* beds affects the character of the fish fauna throughout northern New Zealand (NIWA, 2013, p35).

Figure 3: *Lessonia variegata*
Methane or Cold Seeps

Cold seeps occur where methane-rich fluids escape into the water column from underlying sediments. They are unique habitats for distinctive communities of benthic animals (NIWA, 2013, p39).

Figure 4: The sites where cold seeps were discovered off the East Coast of NZ (NIWA, 2013, p39).
Sea pen fields

Sea pens are a type of soft coral, which live in soft sediments in deep water of New Zealand’s EEZ and continental shelf.

Figure 5: Different forms of sea pens (NIWA, 2013, p47)

Figure 6: This photo taken by Brian Skerry (National Geographic) shows sea pens, a blue cod and a sea star.
Sponge gardens

To date, well over 500 sponge species have been formally described from New Zealand waters but there are many more known with new discoveries every year (NIWA, 2013).

Figure 7: Different types of sponge gardens

Stony coral thickets or reefs

Stony coral thickets or reefs are a group of animals that live in deep (down to 2000 m) and cold water. They are slow-growing, long-lived, and fragile; and they have a high biodiversity value because they are the home for many other species. For these reasons they are considered to be “vulnerable marine ecosystems” that require protection (Food and Agriculture Organization of the United Nations/FAO, 2009) from the impacts of deep-water fishing, drilling, and mining (NIWA, 2013, p55).
Figure 8: Stony coral (*Solenosmilia variablis*) reef at 1000 m depth on the summit of Gothic Seamount, Chatham Rise (NIWA).
Appendix 2: Maps

The following maps show give examples of the many important species that live and forage in New Zealand’s EEZ.

Map 1: Map showing public sightings of Maui dolphins between 2002 – Feb 2015. The sightings circled in red are in the EEZ.
Map 2: Map showing location of the captures of New Zealand sea lions by the squid fishery between 1997 – 2006. Triangles are immature sea lions, solids are lactating females, crosses are non-lactating females, crosses are males. Most of these captures occurred in the EEZ (more than 12 nautical miles from land). Courtesy of Laureline Meynier (Massey University).
Map 3: Yellow eye penguin breeding sights and foraging areas (Ellenberg & Mattern, 2012). This map shows that the home ranges of yellow-eyed penguins are close to the coast, and they forage into the EEZ when they are not breeding or during egg incubation period.
Map 4. Tracks of female Snares penguins foraging (from Snares Island, south of Stewart Island) during chick-guard 2004 (n=14 birds) (Mattern, 2006).

Map 5. Bullers albatross foraging tracks (Torres et al., 2013). Females in red, males in blue.
Map 6. Priority areas for sea bird protection in the EEZ. (Courtesy of Chris Gaskin and Forest & Bird). This map shows that some good work has already been done to identify areas of importance for sea-bird conservation in the New Zealand coastal areas and EEZ.
Map 7: Tracks of great white sharks (NIWA/ DOC). This map shows that New Zealand is an important home base for great white sharks that travel vast distances to neighbouring countries.
Map 8: The Great Humpback Whale Trail (18/01/2016). Courtesy of Rochelle Constantine (Auckland University). This map shows the journey of 12 humpback whales as migrate from Tonga through New Zealand’s EEZ to Antarctic Fishing grounds.
Map 9: Map showing marine mammal sightings from offshore seismic surveys (2005-2015). Courtesy of Amelia Connell (The Pew Charitable Trusts). This map shows that many endangered whales live and travel through our EEZ. The sightings are concentrated in oil and gas permit areas because the sightings were made by people surveying for oil and gas. It is likely that sightings could be extrapolated across the whole EEZ.
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