Implementation of the Marine Protected Areas Policy in the Territorial Seas of the Subantarctic Biogeographic Region of New Zealand

June 2009

Consultation Document

Developed by the Subantarctic Marine Protection Planning Forum

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Foreword

In February 2008 the Ministers of Fisheries and Conservation (Ministers) appointed a 14 person Forum to identify sites and potential tools for area-based protection of marine biodiversity around three subantarctic island groups (Antipodes, Campbell and Bounty). The Subantarctic Marine Protection Planning Forum (Forum) comprises rep̄resentatives from a number of interests including Māori, commercial fishing, environmental/conservation and scientific interests.

The task of the Forum is to apply the Marine Protected Areas Policy (MPA Policy) to the territorial seas around the three island groups. The Forum has considered a range of information including the occurrence of habitat types and ecosystems, the values of the areas, the existing users and Treaty of Waitangi obligations. The Forum has worked through the steps set out in the MPA Policy and has identified options for marine protected areas around each of the island groups.

The territorial seas around the three island groups are very significant from a biodiversity perspective. The importance of the area is reflected by the World Heritage status of the island groups and their territorial seas. The options for marine protected areas developed by the Forum seek to reflect the significance of these areas. The national and international importance of the ecosystems around the island groups was a significant influence on the approach adopted by the Forum, and consequently the options that were developed. It is the view of the Forum that such an approach is unlikely to apply in any other biogeographic region under the MPA Policy.

The purpose of this consultation document is to provide interested stakeholders and the public the opportunity to comment on the options developed by the Forum and the rationale supporting those options prior to the Forum making final recommendations to the Ministers. The Forum would welcome any comments received through this consultation process.

The closing date for comment is 31 July 2009. Once comments are received on the consultation document, the Forum will consider those comments and finalise its report and recommendations to the Ministers.

If you have any queries please contact:
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Paul Beverley
CHAIRPERSON
SUBANTARCTIC MARINE PROTECTION PLANNING FORUM

Introduction

1. The purpose of the Subantarctic Marine Protection Planning Forum (Forum) is to develop options and provide recommendations for marine protected areas in the subantarctic biogeographic region in accordance with the *Marine Protected Areas Policy and Implementation Plan* (2006)[1] and *Marine Protected Areas: Classification, Protection Standard and Implementation Guidelines* (2007).[2]

2. More specifically, the Ministers stated in the Terms of Reference:

   The Forum will be tasked to provide a report for Ministers recommending areas for marine protection consistent with the MPA Policy. Specifically the Forum will:

   (a) Consider the classification and inventory information

   (b) Consult with existing users and interests in the area

   (c) Identify sites and potential tools for area-based protection of biodiversity

   (d) Seek to establish consensus on proposed areas to be set aside as protected areas

   (e) Consult on protection options and make written recommendations to Ministers.

3. The Forum met seven times during 2008 and those meetings have culminated in this consultation document. In preparing this consultation document the Forum has considered a range of information, including the following key documents:

   (a) Marine Protected Areas Policy and Implementation Plan.

   (b) Marine Protected Areas: Classification, Protection Standard and Implementation Guidelines.

   (c) The New Zealand Biodiversity Strategy: Our Chance to Turn the Tide – *Whakakahukihukitia Te Tai Roroku Ki Te Tai Oranga*.

   (d) The Marine Ecosystem of New Zealand's Subantarctic Islands and their Surrounding Plateaus.

   (e) Marine Protection for the New Zealand Subantarctic Islands: A background resource document.

   (f) Subantarctic Regional Marine Protection Planning Forum Terms of Reference.

4. This consultation document sets out the analysis undertaken by the Forum in accordance with the MPA Policy, and the proposed options developed as a result of that analysis.

1 Department of Conservation and Ministry of Fisheries. 2005. *Marine Protected Areas Policy and Implementation Plan*. Department of Conservation and Ministry of Fisheries, Wellington, New Zealand. 24 p. www.biodiversity.govt.nz.

2 Ministry of Fisheries and Department of Conservation. 2008. *Marine Protected Areas: Classification, Protection Standard and Implementation Guidelines*. Ministry of Fisheries and Department of Conservation, Wellington, New Zealand. 54 p. www.biodiversity.govt.nz.

Background to marine protected areas policy

5. The government, recognising both the environmental importance of marine biodiversity and the value that it provides to all New Zealanders, has made an explicit commitment to effectively conserve marine biodiversity through the protection of a full range of marine habitats and ecosystems.
6. The New Zealand Biodiversity Strategy[3] reflects the government's commitment, in ratifying the international Convention on Biological Diversity, to stem the loss of biodiversity. One of the objectives of the New Zealand Biodiversity Strategy is to protect a full range of natural marine habitats and ecosystems to effectively conserve marine biodiversity, using a range of appropriate mechanisms including legal protection.[4] The instrument the government has chosen for this is the MPA Policy, which seeks *"to protect marine biodiversity by establishing a network of marine protected areas that is comprehensive and representative of New Zealand's habitats and ecosystems"*. A marine protected area (MPA) is *"an area of the marine environment especially dedicated to, or achieving through adequate protection, the maintenance and or recovery of biological diversity at the habitat or ecosystem level in a healthy functioning state."*[5]
7. The MPA Policy provides an integrated process, based on regional formulation of proposals through the use of marine protection planning forums and wider public consultation. The purpose of the MPA Policy is to establish a network of MPAs within New Zealand's marine environment to the edge of the exclusive economic zone (EEZ). The MPA Policy envisages the use of single tools or a combination of tools to meet the protection standard. The protection standard requires sufficient protection for a site to be designated an MPA.
8. In February 2008 the government released *Marine Protected Areas: Classification, Protection Standard and Implementation Guidelines*. This was a task required by the MPA Policy, and provided for a nationally consistent layered classification that has been developed to ensure a uniform approach to habitat and ecosystem identification. The first layer of the classification defines 14 coastal biogeographic regions of New Zealand based on broad-scale physical factors. The other layers of the classification define additional characteristics such as environment, depth, exposure and substrate type.
9. The subantarctic biogeographic region (subantarctic region) was identified in the MPA Policy as an advanced regional project to be commenced before publishing the February 2008 guidelines. A preliminary subantarctic marine protection workshop was held in 2004 for the purpose of initial engagement with stakeholders. The Forum for this advanced MPA project was formally convened in February 2008. By this stage a resource report for the subantarctic region had been published.[6]

3 Department of Conservation and Ministry for the Environment. 2000. *The New Zealand Biodiversity Strategy: Our Chance to Turn the Tide*. Department of Conservation and Ministry for the Environment, Wellington, New Zealand. 146 p.

4 New Zealand Biodiversity Strategy, Objective 3.6.

5 Definition in the MPA Policy.

6 Department of Conservation. 2006. *Marine Protection for the New Zealand Subantarctic Islands: A Background Resource Document*. Department of Conservation, Wellington, New Zealand. 48 p.

Subantarctic Marine Protection Planning Forum

10. The Terms of Reference provided by the Ministers of Fisheries and Conservation to the Forum is contained in Appendix 1. The Ministers directed that marine protection in the subantarctic region should be carried out in two phases:
    (a) Phase 1 to consider protection options for the territorial seas (within the 12 nautical mile limits) of the Campbell, Antipodes and Bounty island groups; and
    (b) Phase 2 to consider the remainder of the subantarctic region, out to the 200 nautical mile limits of the exclusive economic zone (EEZ), following the completion of Phase 1.
11. The Forum has only considered Phase 1, and this consultation document relates only to that phase.
12. The Forum was asked to provide recommendations for area-based marine protection for the full range of habitats and ecosystems present, using appropriate statutory and regulatory tools. It was also asked to report to the Ministers recommending areas for marine protection consistent with the MPA Policy.
13. The Ministers directed that the Forum should recognise the special qualities of the adjacent terrestrial areas when considering nearshore protected areas. The Terms of Reference state:

    "Recommendations must be underpinned by a commitment to minimise the impact of new protected areas on existing users of the marine environment and Treaty settlement obligations where there are options for alternate locations to achieve protection of particular habitats. Matters to consider in choosing between minimum impact sites are: accessibility for management and enforcement requirements; and benefits such as educational, diving and tourism opportunities.

    The Forum should recommend marine reserve MPAs or other tools that offer sufficient protection to be considered other MPAs in accordance with the approved guidelines for MPA implementation.

    The Forum should be mindful of the special qualities of the adjacent terrestrial areas when considering nearshore protected areas. The Subantarctic Islands are Nature Reserves, the highest level of protected area status under New Zealand legislation, with access strictly controlled. These areas are also listed under IUCN criteria as World Heritage sites. The unique, rare and threatened biota of the islands has a strong relationship with coast and sea, and the nearshore habitats and ecosystems may be judged to have their own distinctive qualities."

The Subantarctic Biogeographic Region

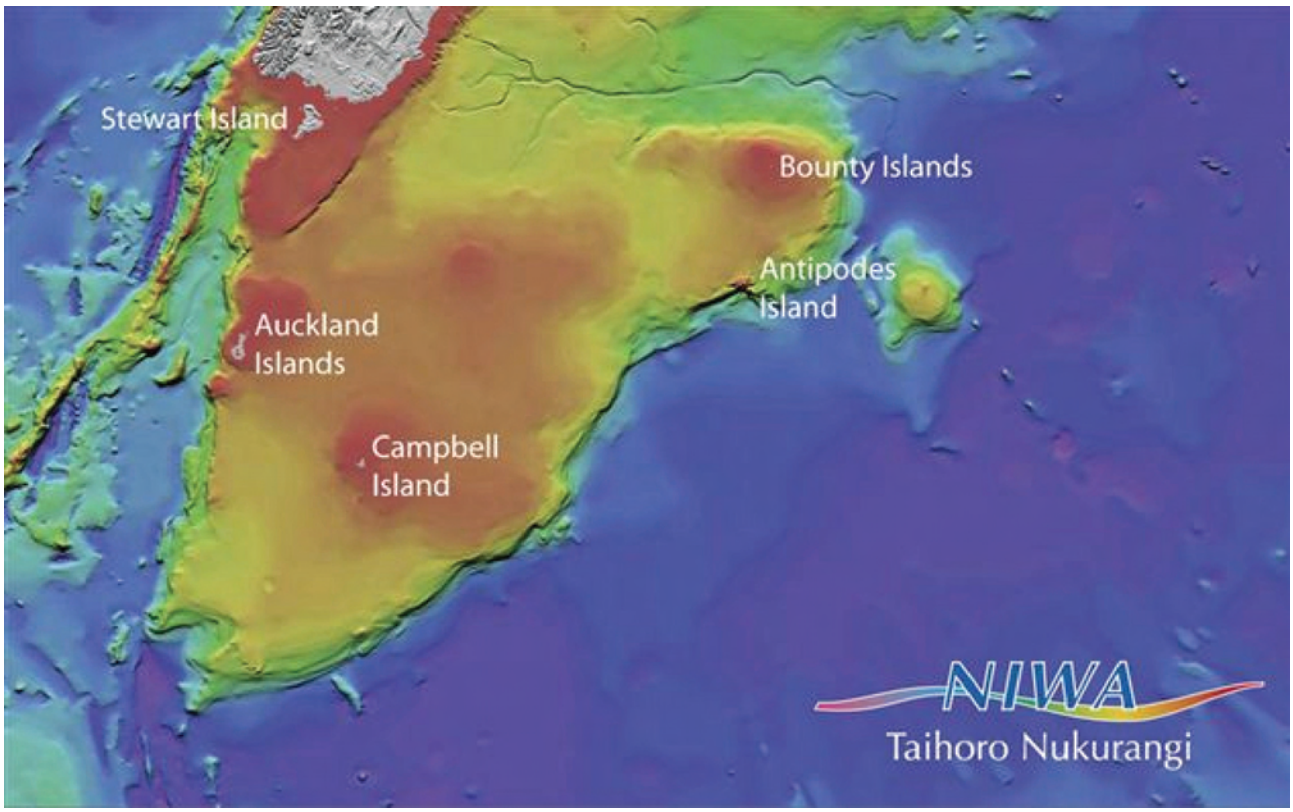
14. The *Marine Environment Classification* (2005)[7] was used to establish the boundaries of the subantarctic region for planning purposes, based on broad physical characteristics defined primarily by oceanographic currents. North of the region lies the subtropical front which defines the limit of the northern Southern Ocean. To the south of the region lies the Antarctic circumpolar current with subantarctic waters covering most of the region. Subantarctic waters are cooler and less saline than those to the north.
15. The region includes the seas of the Campbell Plateau and the Bounty Plateau, which are collectively referred to as the Southern Plateau. This plateau is a major structure covering approximately 434,000 sq km that protrudes into the southwest Pacific Ocean for 1100 km from the southeast margin of the South Island of New Zealand. The plateaus are surrounded by waters that deepen steeply to abyssal depths and areas of topographic complexity, including seamounts. Four small island groups emerge near the edges of the plateaus, some of which include extensive shallow zones (less than 100 m deep).
16. Regionally the sediments reflect weak terrigenous (land) sources and the unique (for New Zealand waters) iron-limited primary production system in the waters above them. Production is as much microbial as it is phytoplankton-based, leading to low sedimentation rates. This sedimentation is strongly calcareous and leads to a unique (for New Zealand) subantarctic deposit-feeding guild of invertebrates that tend to be slow-growing and long-lived.
17. The special physical characteristics of the region include several factors. It is New Zealand's southernmost and coolest region. It experiences extreme climatic exposure with near-constant wind and frequent gales. Together with the Bounty Trough it is the only part of New Zealand with subantarctic water and is a region of complex flow of cool, less salty waters from Antarctica.

7 Ministry for the Environment. 2005. *The New Zealand Marine Environment Classification*. Ministry for the Environment, Wellington, New Zealand. 70 p.

The Islands in the Subantarctic Region

18. There are four island groups in the subantarctic region, all separated by large distances. This means there are four discrete territorial sea areas. The island groups are geologically different. The oldest formations on the Southern Plateau appear to be Jurassic (180 million years old) granitic remnants that comprise the Bounty Islands. The Auckland and Campbell formations are dated at 6–11 million years old, as remnants of shield volcanoes, with adequate topography and weathering to produce peaty soils. Antipodes Island at the edge of the plateau is made up of basaltic volcanic cones, vents and breccias of much more recent origin.
19. The terrestrial environments of the subantarctic islands support ecosystems that have evolved to suit the physical characteristics of the islands. The geographic separation between the islands and the New Zealand mainland has resulted in distinctive terrestrial ecosystems and numbers of life-forms found nowhere else (that is, endemic species). The terrestrial ecological communities of the subantarctic islands enjoy considerable protection, as the islands are National Nature Reserves. This is the highest level of protection under New Zealand law, declared to protect values of national or international significance and the outstanding value of the islands' ecosystems, flora and fauna.
20. The isolation of the subantarctic islands has also resulted in the development of specific marine ecosystems and endemism. Preliminary evidence from dive surveys close to the islands suggests that these marine environments support rich and diverse communities, with ecological uniqueness. This picture may change as more information is collected. Given the oceanographic and physiographic setting of these islands, a continuation of the single-island endemism observed in shallow water could be expected in deeper waters within the territorial seas.

Map 1: The New Zealand Subantarctic Islands



21. In 1998 UNESCO listed the subantarctic islands and their territorial seas (12 nautical miles around the islands), as World Heritage sites.[8] The listing conveys the highest possible international conservation status for these islands, recognising that they have outstanding conservation and scientific significance. The 1997 nomination for World Heritage listing identified the following natural features of "outstanding universal value" that had direct links to the marine environments surrounding the islands:
    (a) the most diverse community of seabirds in the world;
    (b) ten seabird taxa endemic to the region, including six species (three shags, two albatrosses, one penguin) restricted to single island groups;
    (c) ten albatross species (42% of the world's taxa), including six species endemic to the region and one species endemic to New Zealand;
    (d) four penguin species, including two endemic to the region and one endemic to New Zealand (the world's rarest, the yellow-eyed penguin);
    (e) the largest populations of great "wandering" albatrosses (Gibson's albatross and Antipodean albatross) found at a single breeding area anywhere in the world;
    (f) the world's rarest cormorant (the Bounty Island shag);
    (g) 30% of the world's petrels – 21 species or subspecies;
    (h) a phenomenally large population of breeding seabirds;
    (i) 11% of all seabird taxa in the world (40 taxa);
    (j) a rare and threatened endemic sea lion whose principal breeding range is restricted to fewer than five sites; and
    (k) a significant breeding population of southern right whales, formerly endangered.
22. In 2003 a marine reserve was declared around the Auckland Islands.[9] This marine reserve extends from the shore to the territorial sea boundary at 12 nautical miles, and protects the ecosystem from extractive uses such as fishing and mining. The reserve overlays a marine mammal sanctuary that was declared in 1993 to protect important breeding populations of the New Zealand sea lion.
23. In 2006 the fishing industry recommended the establishment of a series of benthic protection areas (BPAs) within the territorial seas and the EEZ around New Zealand. This included proposals for BPAs covering the territorial seas of the three remaining island groups in the subantarctic region. In 2007 the Minister of Fisheries approved the proposals through Fisheries Act regulations.[10] These regulations prohibit contact with the seabed by dredge or trawling methods.

8 http://whc.unesco.org/en/list/877.

9 http://www.doc.govt.nz/conservation/marine-and-coastal/marine-protected-areas/marine-reserves-a-z/auckland-islands.

10 Fisheries (Benthic Protection Areas) Regulations 2007.

IMPLEMENTATION OF THE MPA POLICY

Information sources

24. A range of information was provided to the Forum in order to help apply the MPA Policy. This included coastal and deepwater mapping and classification information.[11] The subantarctic region has had little detailed scientific study compared with some mainland New Zealand marine environments because of its remoteness and the inhospitable nature of the region, including the prevailing weather patterns. The Forum members were also able to contribute from their own backgrounds and affiliations.

25. The Forum sought and received briefings on the existing use of the marine environments of subantarctic territorial seas and matters relating to Treaty of Waitangi and fisheries settlement obligations. This included data and presentations from the Ministry of Fisheries, Crab Co Ltd, Te Ohu Kaimoana and Te Rūnanga o Ngāi Tahu. Fisheries representatives on the Forum also provided additional information during the course of the Forum's seven meetings.

26. The Forum sought information on other matters which it was required to take into consideration, including outstanding, rare, distinctive or internationally or nationally important habitats or ecosystems.

Outcomes

27. The key outcomes from this process were:

    (a) the creation of habitat and ecosystem maps for the Antipodes, Bounty, Campbell and Auckland island groups, which were used as the basis for developing MPA options;[12]

    (b) an improved understanding of the special relationship between the Crown and Māori, and the rights and responsibilities of users of the marine environment; and

    (c) an improved understanding of the linkages between the unique, rare and threatened biota of the islands and their relationship with coast and sea.

28. In the absence of a developed standard to outline the quality requirements for the use of information in the MPA planning process, the Forum agreed that it had obtained the best available information when identifying sites and protection tools.

29. Since May 2008, the information has been available on the government's biodiversity website as part of the requirement that the process followed be open and transparent, and accompanied by an invitation for public input.[13] This information is at http://www.biodiversity.govt.nz/seas/biodiversity/protected/mpa_consultation.html.

11 *Marine Protected Areas: Classification, Protection Standard and Implementation Guidelines.*

12 See http://www.biodiversity.govt.nz/seas/biodiversity/protected/mpa_consultation.html.

13 See http://www.biodiversity.govt.nz/seas/biodiversity/protected/mpa_consultation.html.

Tasks Under the MPA Policy and Implementation Plan

30. The MPA Policy and Implementation Plan sets out the requirements for implementation of the MPA Policy based on a four-stage process built around 10 key tasks. The Forum's role is to follow the implementation plan to Task 9: Designation of new MPAs. The Forum's approach to those tasks is set out below.
31. The Forum sought from officials the information relevant to each task and satisfied itself that each task was completed as it moved through its programme.

Tasks 1 and 2: Develop classification approach and refine protection standard

32. Tasks 1 and 2 had been completed before the Forum process began, with the release by the Ministers in February 2008 of *Marine Protected Areas – Classification, Protection Standard and Implementation Guidelines.*[14]
33. Further clarification was provided on the protection standard during the Forum process. The MPA Protection Standard, with respect to fishing, will be interpreted and implemented as follows:
    - Bottom trawling, dredging and Danish seining will be prohibited in all MPAs.
    - Methods that contact the seabed, such as potting and bottom set-netting, should be considered for prohibition in an MPA if they are being deployed on fragile, biogenic habitats (the additional prohibitions being confined to the fragile area, not extending to the entire MPA).
    - Mid-water fishing methods such as purse seining, mid-water trawling and mid-water gillnetting, will be considered on a case-by-case basis to determine if these methods are having an adverse effect on the aquatic environment. If evidence suggests mid-water methods are being used and are having an adverse effect on the aquatic environment, as defined by the Fisheries Act, they will need to be prohibited if the area is to be called an MPA. If these methods are not in use, or there is no evidence they are having an adverse effect, an MPA can be established without further prohibitions.

Task 3: Map existing management tools

34. The Forum process began with Task 3, which requires the mapping of existing management tools. An inventory of current management tools within the territorial seas around the four island groups of the subantarctic region was prepared – see Table 1 and Map 2 below.

14 Page 13 of the Marine Protected Areas: Classification, Protection Standard and Implementation Guidelines (2008) provides more detail about the different types of marine protected areas.

Map 2: Subantarctic MPA Planning Region indicating existing protection tools

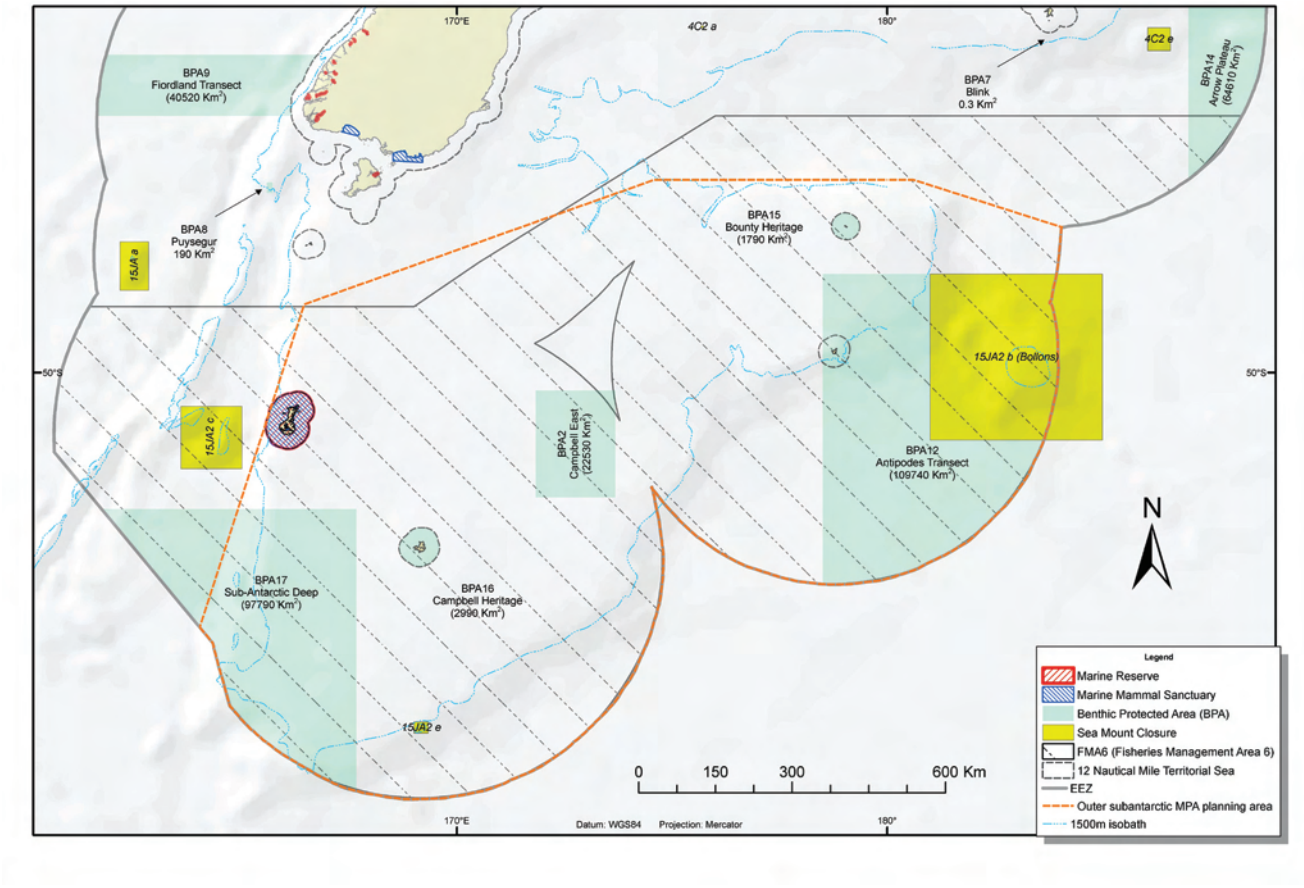


Table 1: Subantarctic region territorial seas – inventory of existing management tools

Tool	Location	Notes	Area of territorial sea (sq km)	Protection provided
Nature reserve	All islands	Subject to the Reserves Act to Mean Low Water Springs (MLWS)	Data unavailable	No interference with or removal of biota
Marine mammal sanctuary	Auckland Islands	All of the territorial sea	4980	No commercial fishing
Marine reserve	Auckland Islands	All of the territorial sea	4980	No fishing; other activities controlled or excluded
Benthic protection areas	Campbell Island	BPA 16 Campbell Heritage territorial sea (TS)	2897	Illegal to trawl within 100 m above the seabed, or dredge Any trawling in these areas subject to specific monitoring and compliance requirements
	Antipodes Island	Part of BPA 12 Antipodes Transect TS	2169	As above
	Bounty Islands	BPA 15 Bounty Heritage TS	1813	As above
Fisheries Regulations – vessel restriction	All territorial seas	46 m rule and foreign charter vessels		No commercial fishing with vessels longer than 46 m in length or foreign charter vessels

Task 4: Develop an inventory of measures that meet the protection standard

35. Officials evaluated the management tools mapped in Task 3 against the protection standard approved by the Ministers. This analysis was to determine which management tools offer sufficient protection to habitats and ecosystems for the sites concerned to be considered MPAs in terms of the MPA Policy. In summary, the analysis found that:

    (a) the nature reserve status of the intertidal zones for the subantarctic islands provides a high level of protection sufficient to meet the protection standard;

    (b) the marine reserve status of the Auckland Islands meets the protection standard; and

    (c) because Danish seining was not prohibited in BPAs, these areas did not meet the first test in the protection standard. Consequently, no further analysis was undertaken.

Task 5: Identify network gaps

36. *Marine Protected Areas: Classification, Protection Standard and Implementation Guidelines* sets out a classification system for the marine environment . The classification was applied to the territorial seas and habitats and ecosystems identified at each island group. This enabled an analysis as to which habitats and ecosystems are adequately represented and which are underrepresented.

37. Table 2 indicates those habitat types known to be present in the territorial seas of the subantarctic islands. There is no information available on the full extent of each habitat within each of the island systems. It is highly likely that some habitats have not yet been recorded. There may be a greater range of habitats and more duplication than initial analysis would suggest.

38. Planning Principle 5 of the MPA Policy dictates that a marine reserve will be established to protect at least one sample of each habitat or ecosystem type in the subantarctic region before considering protection of replicates of those habitats with other tools. The Forum identified those habitat or ecosystem types in the region that were not represented in the Auckland Islands Marine Reserve (Table 2 below). It identified 13 coastal habitat types and six deep-water habitat types within the region yet to be represented in a marine reserve.

Table 2: Presence of habitat types at subantarctic island groups

Habitat Types	Auckland Islands	Campbell Island	Antipodes Island	Bounty Islands
COASTAL-MARINE				
Intertidal				
Low exposure	Mud flat	Mud flat		
Medium exposure	Sandy beach	Sandy beach		
	Gravel beach	Gravel beach		
	Cobble beach	Cobble beach		
	Boulder beach		Boulder beach	
	Rocky platform	Rocky platform	Rocky platform	
High exposure	Sandy beach	Sandy beach		
		Gravel beach (1)		
		Cobble beach (2)		
	Boulder beach	Boulder beach	Boulder beach	
	Rocky platform	Rocky platform	Rocky platform	Rocky platform
Shallow subtidal				
Low exposure		Shallow mud (3)		
		Shallow sand (4)		
		Shallow cobble (5)		
		Shallow boulder field (6)		
Medium exposure	Shallow sand	Shallow sand		
	Shallow gravel field	Shallow gravel field	Shallow gravel field	
	Shallow boulder reef	Shallow boulder reef	Shallow boulder reef	
	Shallow rocky reef	Shallow rocky reef	Shallow rocky reef	
High exposure		Shallow sand (7)		Shallow sand (7)
	Shallow gravel field		Shallow gravel field	
		Shallow cobble field (8)		
		Shallow boulder reef (9)	Shallow boulder reef (9)	Shallow boulder reef (9)
	Shallow rocky reef	Shallow rocky reef	Shallow rocky reef	Shallow rocky reef
				Shallow biogenic reef (10)
Deep subtidal				
Low exposure	Deep mud			
	Deep sand	Deep sand		Deep sand
	Deep gravel field	Deep gravel field	Deep gravel field	
				Deep cobble field (11)
		Deep boulder field (12)		
	Deep rocky reef	Deep rocky reef	Deep rocky reef	Deep rocky reef
		Deep biogenic reef (13)		
DEEP WATER				
Upper continental slope	Calcareous ooze/mud		Calcareous ooze, mud	
	Calc. gravel/sand	Calc. gravel/sand	Calc. gravel/sand	Calc. gravel/sand
				Deep cobble field (14)
			Seamounts (15)	
			Hard nodules (16)	
Mid cont. slope	Calc. ooze, mud		Calc. ooze, mud	
	Calc. gravel/sand		Calc. gravel/sand	
			Seamounts (17)	
			Hard nodules (18)	
Lower cont. slope	Calc. ooze, mud		Calc. ooze, mud	
			Hard nodules (19)	

Key: Unrepresented habitats

Task 6: Prioritise new MPAs

39. The MPA Policy states that the MPA network will include representative examples of the full range of marine habitats and ecosystems and also outstanding, rare, distinctive or internationally or nationally important marine habitats and ecosystems. The Forum evaluated the requirement to prioritise habitats and ecosystems for new MPAs based on the Terms of Reference, gaps analysis and the design and planning principles of the MPA Policy.

40. The Terms of Reference direct the Forum to be mindful of the special qualities of the adjacent terrestrial areas when considering protection in the marine environment. The islands themselves have National Nature Reserve status, the highest protection status available in New Zealand. The Forum was advised that the unique, rare and threatened biota of these islands has a strong relationship with coast and seas.

41. Network Design Principle 1 states that sites covered in the MPA network should be representative of all marine environment areas (at the classification scale) and should cover centres of endemism and rare habitats and ecosystems. Network Design Principle 4 states:

    "The overall goal [of the MPA policy] is to protect the full range of marine habitats and ecosystems. Prioritisation of actions will therefore be driven by the requirement to protect the under-represented habitats and ecosystems. 'Outstanding, rare, distinctive, or nationally or internationally important' habitats or ecosystems will then be considered."

42. The MPA Policy further directs (paragraph 30) that the government's decision is that protection of outstanding, rare, distinctive or nationally or internationally important marine communities will be by means of marine reserves. These considerations have been given particular prominence in the Terms of Reference.

43. The Forum requested short summaries of the identified unrepresented habitats and the characteristics of the territorial seas of each of the three island groups being looked at, that may be taken into account in addressing the outstanding, rare, distinctive, or nationally or internationally important features (as required by the network design principles of the MPA Policy). A summary was also developed for the Auckland Islands to provide a complete picture for the full biogeographic region. These summaries are presented in Appendix 2.

44. The Forum acknowledged the factors which set the marine environments of the territorial seas of the subantarctic region apart from mainland marine habitats and ecosystems. Scientific advice has been clear that there is a high representation of endemic species within the territorial seas of the subantarctic region as a whole, and that diversity and endemism are also local and distinctive to each of the island groups. The importance of the seas around the islands to terrestrial life, marine mammals and nesting seabirds has been noted. These islands and their waters have the international status of UNESCO World Heritage sites. The Forum's view is that these characteristics would not apply in the context of any other MPA planning forum.

45. Due to these circumstances the Forum agreed that, rather than identify under-represented habitats for marine protection across all island groups, it was appropriate to consider each island group on its own with regard to creating marine protected areas that are representative of the ecosystems and habitats at each island.

Minimising impacts on Treaty obligations

46. The Forum was required by Planning Principle 3 to take into account, when developing recommendations for new MPAs, the special relationship between the Crown and Māori. The Forum acknowledged that the Crown has a number of Treaty obligations (either through the application of Treaty principles or directly through legislative provisions) that it must give effect to when establishing MPAs. The Crown cannot devolve these obligations to the Forum, but the Forum considered it was important to consider these obligations when assessing MPA options.

47. The Forum has considered the Crown's obligations in two categories according to how they relate to the subantarctic region. These obligations reflect the Treaty rights of Ngāi Tahu Whānui, and the rights to fisheries settlement assets in relation to all iwi.

Obligations to Ngāi Tahu Whānui

48. The Crown's obligations to Ngāi Tahu Whānui are as follows:

    (a) **Recognition of tribal structures:** The Crown is bound to recognise Te Rūnanga o Ngāi Tahu (TRoNT) as the representative tribal body of Ngāi Tahu Whānui for all purposes including the conservation and management of fisheries resources and the marine environment.

    (b) **Partnership/input and participation:** The Crown must act reasonably and in the utmost good faith towards Ngāi Tahu Whānui and it must recognise and provide for the input and participation of Ngāi Tahu Whānui into the conservation and management of fisheries resources and the marine environment. This obligation includes providing for Ngāi Tahu Whānui membership on the Forum, recognising TRoNT's Ministerial Advisory Committee status on these matters, recognising the taonga species status of several important species in this region (such as tītī and several species of albatross and marine mammals) and the requirements under 12(1)(b) of the Fisheries Act should the Forum recommend the establishment of Fisheries Act tools.

    (c) **Rangatiratanga/kaitiakitanga:** The Crown must ensure Ngāi Tahu Whānui are able to exercise rangatiratanga (traditional tribal authority) and kaitiakitanga (customary duty of guardianship) over their natural resources. In order to recognise and provide for these use and management practices, the Crown must, for example:

        (i) give effect to the work and mātauranga (traditional knowledge) of tangata tiaki/kaitiaki appointed for this region;

        (ii) acknowledge the non-commercial species status of several *Durvillaea* seaweed species in the region; and

        (iii) ensure Ngāi Tahu Whānui have the ability to establish area management tools (mātaitai, taiūpure or special s186 customary fisheries regulations) in the region if they so choose (provided of course they meet the legislative tests for establishment).

    (d) **Active protection:** The Crown has an active duty to protect the taonga of Ngāi Tahu Whānui including the settlement redress (both commercial and non-commercial) provided by the Ngāi Tahu settlement and the Ngāi Tahu components of the fisheries settlements. The Crown has an active duty to protect this redress and to avoid creating further grievances.

    (e) **Duty to consult and make informed decisions:** In particular the Crown must consult Ngāi Tahu Whānui on any Fisheries Act tools or marine reserves proposed by the Forum.

    (f) **Development right:** The Crown must provide for Ngāi Tahu Whānui to develop their commercial and non-commercial rights (such as developing new policies or tools to recognise and provide for their use and management practices).

Fisheries settlement obligations to iwi

49. The Crown's obligations under the fisheries settlements to all iwi are as follows:

    (a) **Recognition of tribal structures:** The Crown is bound to recognise all Recognised Iwi Organisations (RIOs) or the Mandated Iwi Organisations (MIOs) listed in the Māori Fisheries Act 2004 for the purpose of allocating the commercial fisheries settlement assets including quota.

(b) **Active protection:** The Crown has an active duty to protect the commercial components of the fisheries settlements and to avoid creating further grievances.

(c) **Duty to consult and make informed decisions:** In particular, the Crown must consult iwi on any Fisheries Act tools or marine reserves proposed by the Forum.

(d) **Development right:** The Crown must provide for iwi to develop their commercial fishing assets including quota.

Minimising impacts on existing users

50. Planning Principle 5 directs that adverse impacts on existing users of the marine environment should be minimised in establishing MPAs, and recommends that appropriate recognition be given to the rights and responsibilities of users of the marine environment. The Forum identified four groups of potential users for the marine environment of the territorial seas: commercial fishing, tourism operators, mineral exploration interests and researchers.

Commercial fishing interests

51. Commercial fishing is managed through the Fisheries Act 1996. Under the Fisheries Act the quota management system (QMS) creates individual transferable quota (ITQ) for commercial fish stocks within fisheries management areas (FMA) which is issued in perpetuity. The relevant FMA for the subantarctic region is FMA 6. Individual transferable quota provides for access to a proportion of the yield allocated by the Minister of Fisheries for that stock.

52. The Forum identified existing users as quota holders for stocks in FMA 6 and permit holders who have invested in the capability to harvest fish. They currently have the rights and responsibilities, subject to regulation, of extending their fishing activities into the territorial seas. These activities are not constrained to current use patterns.

53. The initial value of quota is linked to the access regime in place at the time of allocation. Removal of areas of access from a FMA reduces the actual value of those rights by decreasing the biomass available to the fishery and therefore the size of the maximum sustainable yield. Closure of areas may have an adverse effect on both the value and the exercise of that right. With reference to the Treaty of Waitangi Fisheries Settlement, it is important that the Crown considers the impacts on the value of those rights.

54. For species that are not in the QMS, an open access regime exists in most cases. Permit holders currently have the right to explore and develop new fisheries now and in the future, subject to obligations under the Fisheries Act and other legislation. This includes the whole of the subantarctic region, including within the territorial seas. As new species enter the QMS, this triggers a fisheries settlement obligation on the Crown to provide 20% of the quota to be allocated to iwi through Te Ohu Kaimoana.

55. Where marine reserves are declared or fishing activities are constrained by implementing MPAs, there is no compensation mechanism available.

56. The wider subantarctic region occupies about 900 000 sq km, or about 23% of New Zealand's EEZ, and is of considerable economic value to the fishing industry and the New Zealand economy. The weight of fish caught annually with all fishing methods in the region has fluctuated depending on the status of stocks and decisions of fishing operators. Recently catch has ranged from 71 000 to 97 000 tonnes, with an estimated revenue of $114-163 million (based on 2007 export prices). About half of the regional total tonnage is from squid, with significant contributions from southern blue whiting, hoki and ling. Trawling is the principal method used, followed by bottom long lining.

57. The Auckland Islands territorial sea is not available to fishing as the marine reserve status prohibits all fishing removals other than for authorised scientific purposes. There is significant fishing effort in the waters immediately outside of this zone, primarily bottom trawling for squid and scampi. No commercial fishing activities have been recorded in the territorial seas around the Antipodes Islands to date. However, this does not preclude quota owners from exercising their ability to do so. At Campbell Island there is limited evidence of historic fishing in the territorial seas.

58. The territorial seas of the Bounty Islands contain commercial fishing grounds for ling. Bottom long lining has targeted ling, with some associated catch of black cod and rough skate. Reported annual catch using bottom long lining from the wider Bounty Plateau (LIN6B) has ranged from a few tonnes up to about 1000 tonnes.[15] The catch is probably relative to the effort expended on targeting these fish within the region as a whole and the opportunities for New Zealand long line vessels to fish other areas, depending on the vagaries of fishing. Bottom long lining sets at the Bounty Islands appear to start in waters as shallow as 150 m. Effort is seasonal, targeting spawning concentrations in the spring. Bottom long lining for ling has decreased over the last ten years and in the Bounty Islands territorial sea and has ranged from 0 – 46% of the catch in the wider ling fishery on the Bounty Plateau. Refer to the Minimising Impacts on Existing Users box under option B2 for more information.

59. Potential development opportunities for deep sea crab fishing were brought to the attention of the Forum. Deep sea crabs were brought into the QMS in 2006.[16] Quota owners of the deep sea crab stocks used their knowledge of potential fisheries and the assumption of access to them in making decisions about investment in quota for these species. This crabbing industry is largely experimental at present. There is interest in the giant spider crab (*Jacquinotia edwardsii*), which is common around the Auckland Islands from deep water up to the intertidal zone. It has also been found patchily (based on limited survey work) in shallow waters around Campbell Island but appears to be sparse in the deeper waters. Wherever giant spider crabs are found in numbers, they are likely to have a strong influence on the structure and composition of seabed communities. This species has not been recently surveyed as to yield and quality or the economic viability of developing a commercial fishery around Campbell Island. The Campbell Island territorial sea had been identified by quota owners as a potential fishery for further exploration. Deep sea crab quota owners are clear that some access around Campbell Island is desirable to prove the viability or otherwise of a crab fishery.

60. The Forum agreed that, due to the remoteness and hostile weather conditions, there are no existing recreational fishing uses of the territorial seas of the subantarctic islands beyond casual fishing from rare visits by vessels other than commercial fishing vessels. The Forum has been informed by Ngāi Tahu that the territorial seas around the island groups comprise a very small component of the management area for Murihiku (Southland) Tangata Tiaki/ Kaitiaki so that any protection measure that is proposed is unlikely to have a significant impact on customary fisheries management. Ngāi Tahu have also indicated that they have no plans to establish customary fisheries protection tools (such as mātaitai or taiāpure) in the subantarctic region.

15 Source: Sub Antarctic Marine Protection Planning Forum: Analysis of fishing effort in the Sub Antarctic Forum Region; Ministry of Fisheries, 2008, Background Paper for Forum. See http://www.biodiversity.govt.nz/seas/biodiversity/protected/mpa_consultation.html.

16 Soboil, M.L.; Craig, A. 2007. Self governance in New Zealand's developmental fisheries: deep-sea crabs. *Case Studies on Fisheries Self-Governance*. FAO.

Tourism

61. The MPA Policy does not directly address protection for non-extractive use (such as diving, or intrinsic values, tourism or recreational opportunities).[17]

62. Currently tourism is constrained by DOC's permit policy whereby the numbers of tourist visitors landing at Auckland and Campbell Islands have seasonal and daily limits. These limits are considered to be sustainable. Similar constraints apply to research visitors. The Bounty and Antipodes Islands are not easily accessed and not subject to tourist landings.

63. The seas around the islands are open under the navigation freedoms and constraints of the Law of the Sea, and all island groups are open to the potential for tourist, fishing and casual ships passing or sheltering within their territorial seas. Tourist ships will usually take parties by inflatable boats close in to the shore to appreciate the islands and their nature. The remoteness of these islands limits visits by small private vessels, though yachts occasionally visit the area. The creation of any MPA will not affect international rights of navigation and obligations of ship safety.

Energy and mineral exploration

64. There are have been no permits or licenses issued by Crown Minerals for the exploration or extraction of hydrocarbon or mineral resources in the territorial seas, so current users cannot be identified. The territorial seas have potential for future exploration for hydrocarbon and mineral resources.

Research

65. Due to the remote location, research in the territorial seas around the island groups has not been extensive. Use of the island groups as a base for research requires permits from the Department of Conservation, and other permits may be required from the Ministry of Fisheries and/or the Department of Conservation. Researchers would require a permit to undertake research in a marine reserve which is the only effect of implementing MPAs on this existing user group.

Task 7: Identify sites and potential tools for area-based protection

66. Task 7 requires the Forum to identify sites and potential tools for area-based protection of biodiversity within the territorial seas. This is consistent with Phase 1 of the Forum's Terms of Reference.

67. The Forum was satisfied it had completed all the tasks and explored the various options for new MPAs. The Forum developed two options for new MPAs for the Antipodes, Bounty and Campbell Island groups in order to solicit wider public comment. The options differ in the range of tools proposed and the areas selected.

68. The diverse membership of the Forum is reflected in the two options presented for each island group. These options are:

    (a) The entire territorial sea is included within a marine reserve; or

    (b) Part of the territorial sea is included within a marine reserve while the remainder of the territorial sea is subject to Fisheries Act prohibitions on bottom trawling, dredging and Danish seining.

17 Source:Paragraph 22 of the *Marine Protected Areas Policy and Implementation Pl*an.

69. Marine reserves were selected as a management tool for both options in the subantarctic biogeographic region because:
    (a) the territorial seas of the islands in this biogeographic region are internationally important; and
    (b) the marine ecosystems have outstanding, rare and distinctive features.
70. The marine reserve status for the entire territorial sea option is premised on the recognition of the international importance of the islands and the territorial seas around them by their World Heritage status and the national significance of the terrestrial environment of the islands through the highest protection status available in New Zealand as both nature and national reserves. There are very strong linkages for the islands' rare and threatened biota with coast and sea surrounding each island group. The marine ecosystem of the subantarctic region as a whole and the territorial seas of each island group individually contain high levels of biodiversity and endemism. This option provides equivalently strongly protective status be given to the entire territorial sea.
71. The alternative option similarly recognises the international significance of the territorial seas but proposes the use of large marine reserves that cover a proportion of the territorial sea to ensure lasting protection of the full range of ecosystems present at each island group. The remainder of the territorial seas will be subject to Fisheries Act prohibitions on Danish seining in addition to the current Benthic Protected Area Regulations which prohibit bottom trawling and dredging. These areas are candidate MPAs for the purposes of consultation. Based on advice from officials, the Forum will review formally whether these areas meet the protection standard.
72. The selection of an area to be subject to Fisheries Act prohibitions ensures that commitments to minimise any adverse impact on the rights and responsibilities of existing users of the marine environment and Treaty obligations, are met.

PROPOSED OPTIONS

73. Before the Forum formulates final recommendations on sites and potential tools for area-based protection, it is seeking comment on the draft options it has developed. The two options for each island group, together with supporting information are presented in the following tables.

Figure 1 : Marine Protected Area options in the territorial sea around ***Antipodes Island***

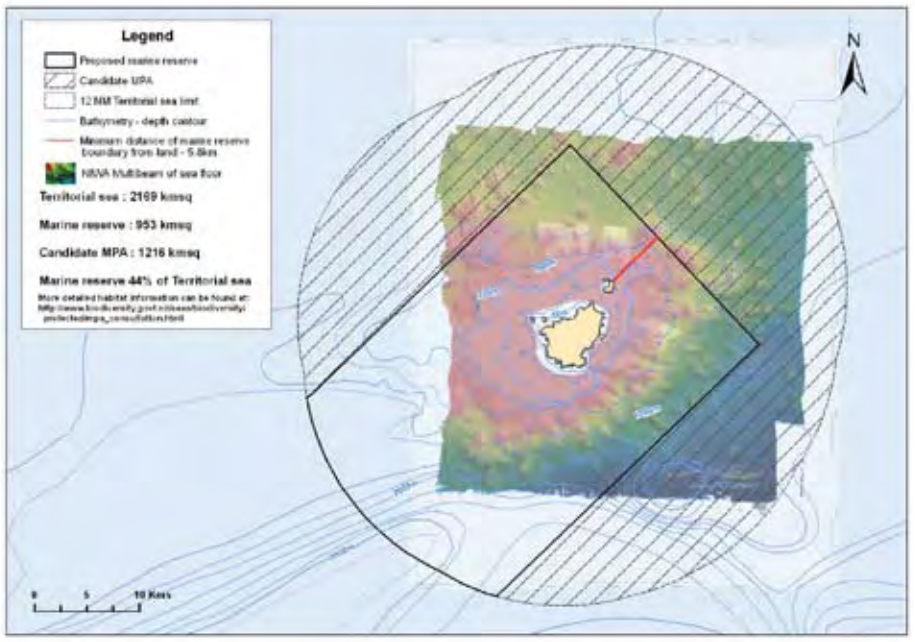
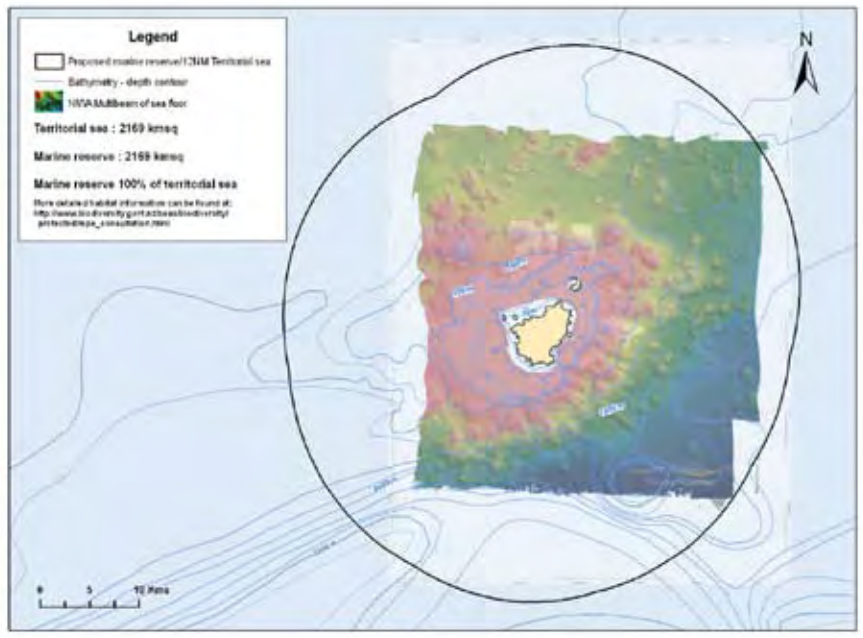
Option A1: Part of the territorial sea in a marine reserve and the remainder of the territorial sea subject to fisheries prohibitions	Option A2: The entire territorial sea in a marine reserve
	
Description of option This option proposes the protection of a large part of the territorial sea through the use of a single marine reserve that extends to the edge of the territorial sea in the southwest quadrant. The orientation of the proposed marine reserve enables coverage of all habitats from the high water mark at the shore to those at greater than 3000 m depth within a single reserve. The remainder of the area is protected by Fisheries Act prohibitions on Danish seining in addition to existing BPA prohibitions on bottom trawling and dredging to create a candidate MPA.	**Description of option** This option proposes the protection of the entire territorial sea as a marine reserve.
Representation This option provides protection through a marine reserve to all intertidal to subtidal habitats and a large area which contains representative examples of all known deep water habitats found in these territorial seas, including habitats not known to be present at the Auckland Islands Marine Reserve. Fisheries prohibitions across the remainder of the area will provide protection of the remaining benthic habitats.	**Representation** This option provides protection of all nearshore habitats and ecosystems in the territorial sea, including shallow and deep water, seabed and water column.
Outstanding, rare or distinctive features, and national or international importance This option acknowledges the distinguishing factors and international importance of the habitats and ecosystems of the Antipodes Island territorial sea (isolation, endemism, etc.) by proposing protection through a marine reserve that contains the full known range of habitats and ecosystems at each island group, rather than proposing protection only for under-represented habitats and ecosystems on a regional scale. Management measures through fisheries prohibitions will apply across the remainder of the territorial sea.	**Outstanding, rare or distinctive features, and national and international importance** This option recognises that all of the marine habitats and ecosystems of the territorial seas around the Antipodes meet the policy criteria of being "outstanding, rare, or distinctive", while also being both "internationally (World Heritage site status) and nationally important". Many of the plant and animal species and communities that make up the unique ecosystems of these islands and the surrounding seas are found nowhere else. This list of unique features is considered certain to grow as further surveys take place. Even though large areas of the territorial seas around the Antipodes have never been sampled, it is now known that the overall species density and richness of the Antipodes are about 25% higher than the Hauraki Gulf. Internationally the level of diversity is very high, with the Antipodes ranked between that of the Galapagos Islands and the northeast Pacific. The distinctive features of the Antipodes Islands are detailed in Appendix 2.1.
Land and sea relationships This option provides protection through a marine reserve of a corridor to the edge of the territorial sea and provides coverage of the full range of habitats for a land–sea continuum. The proposed marine reserve extends for a minimum of 5.8 km from the island group. The remainder of the area is protected through regulations to reduce impacts of fishing on benthic habitats and through the requirement of the Fisheries Act to avoid, remedy or mitigate the adverse effects of fishing on the aquatic environment and to take into account that biological diversity of the aquatic environment should be maintained.	**Land and sea relationships** This option reflects the isolation of Antipodes Island from the mainland and the other subantarctic islands (210 km to Bounty; 730 km to Campbell). Antipodes Island is vital for marine mammals and seabirds that need to return to land to feed, breed and moult. Many of these animals are endemic to the island and threatened. The marine reserve provides for a land–sea continuum across the entire territorial sea.

*Figure 1 : Marine Protected Area options in the territorial sea around **Antipodes Island** (contd.)*

Option A1: Part of the territorial sea in a marine reserve and the remainder of the territorial sea subject to fisheries prohibitions	Option A2: The entire territorial sea in a marine reserve
Planning and design principles This option meets Network Design Principle 1 by providing protection that meets the standard to examples of the full range of natural habitats and ecosystems based on the national classification approach. Selecting a combination of a marine reserve and fisheries prohibitions provides a high level of protection. This option assumes that the nature of actual or foreseeable threats to the habitats and ecosystems in the territorial sea is low because of the very remote location of the islands and the proposed fishing prohibitions. Therefore, the use of two management tools is proposed. A single, large marine reserve rather than a series of smaller reserves further helps ensure ecosystem processes across different habitat types; the maintenance of plants and animals; resilience to edge effects; and simplification of boundaries for compliance, monitoring and enforcement.	**Planning and design principles** This option meets Network Design Principle 1 by providing protection to the full range of natural habitats and ecosystems based on the national classification approach. Selecting a marine reserve as the management tool gives a high level of protection to ensure viability. This option assumes that the nature of actual or foreseeable threats to the habitats and ecosystems in the territorial sea is low because of the very remote location of the islands and the existing fishing regulations. Therefore, full protection of the territorial sea which contains the range of habitats and ecosystems is proposed. A single, large marine reserve rather than a series of smaller reserves further helps ensure ecosystem processes across different habitat types; the maintenance of plants and animals; resilience to edge effects; and simplification of boundaries for compliance, monitoring and enforcement.
Minimising impacts on existing users This option closes part of the territorial sea to all fishing activity. This option makes provision for any future potential fishing activity in the area outside the proposed marine reserve to be subject to existing regulations, thereby minimising impacts on the exercise of existing rights and the value of quota.	**Minimising Impacts on existing users** This option would close the total territorial sea to all fishing activities. This option is based on an understanding that there is no existing fishing or other use which would be adversely affected by full 12 nautical mile marine reserve boundaries at the Antipodes.
Impacts on Treaty settlements This option, by allowing some fishing within the territorial sea, explicitly enables the Crown to meet Treaty obligations to Ngāi Tahu Whānui (and fisheries settlement obligations to other iwi) to enable Māori fishing to develop.	**Impacts on Treaty settlements** With this option there should not be any undue adverse impact to fisheries settlement rights including fishing development rights given the remoteness of the location of these islands and the absence of known fish stocks or interest in exploration. This option will provide some protection for many species of seabird and marine mammal identified in schedule 97 of the Ngāi Tahu Claims Settlement Act as taonga species

*Figure 2 : Marine Protected Area options in the territorial sea around the **Bounty Islands***

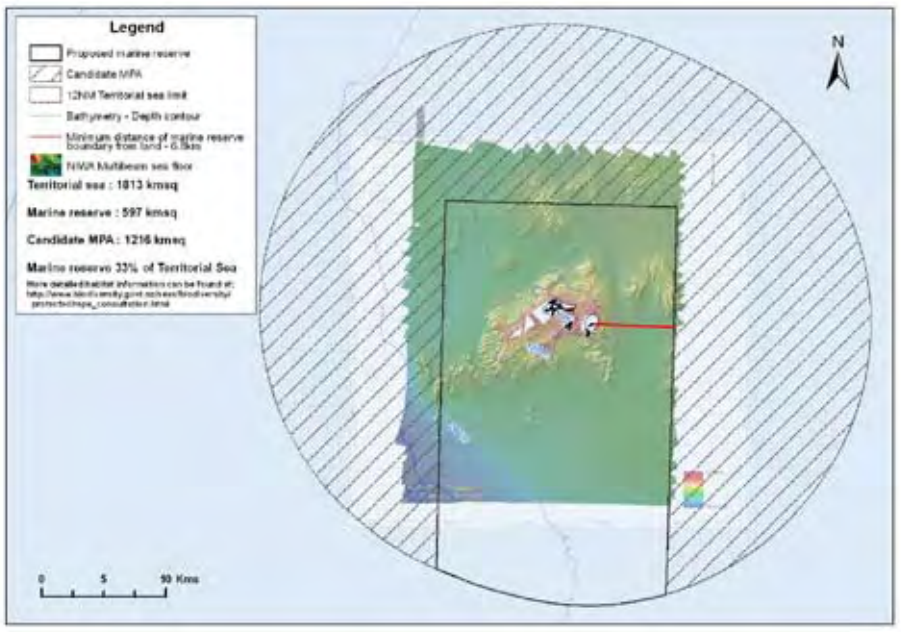
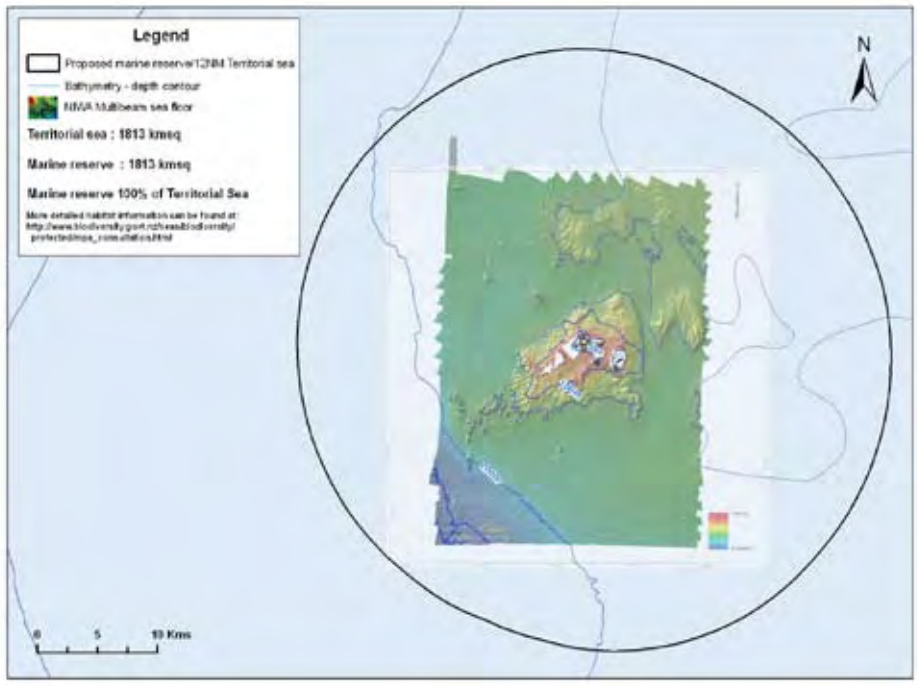
Option B1: Part of the territorial sea in a marine reserve and the remainder of the territorial sea subject to fisheries prohibitions	Option B2: The entire territorial sea in a marine reserve
	
Description of option This option proposes the protection of a large part of the territorial sea through the use of a single marine reserve that extends to the edge of the territorial sea to the south. The orientation of the proposed marine reserve enables the coverage of all habitats from the high water mark at the shore to the deeper parts of the territorial seas located to the south within a single reserve. The boundaries also consider existing use of the territorial seas for ling fishing. The remainder of the area is protected by Fisheries Act prohibitions on Danish seining in addition to existing BPA prohibitions on bottom trawling and dredging to create a candidate MPA.	**Description of option** This option proposes the protection of the entire territorial sea as a marine reserve.
Representation This option provides protection through a marine reserve to all intertidal to shallow subtidal habitats and a large area which contains representative examples of all known deep subtidal and deepwater habitats in the Bounty Islands territorial sea, including those not known to be present at the Auckland Islands Marine Reserve. Fisheries prohibitions across the remainder of the area will provide protection of the remaining benthic habitats.	**Representation:** This option provides protection of all nearshore habitats and ecosystems in the territorial sea, including shallow and deep water, seabed and water column.
Outstanding, rare or distinctive features, and national or international importance This option acknowledges the distinguishing factors and international importance of the habitats and ecosystems of the Bounty Islands territorial sea (isolation, endemism etc.) by proposing protection through a marine reserve that contains the full known range of habitats and ecosystems at each island group, rather than proposing protection only for under-represented habitats and ecosystems on a regional scale. Management measures through fisheries prohibitions will apply across the remainder of the territorial sea.	**Outstanding, rare or distinctive features, and national and international importance** This option recognises that all of the marine habitats and ecosystems of the territorial seas around the Bounty Islands meet the policy criteria of being "outstanding, rare, or distinctive", while also being both "internationally (World Heritage site status) and nationally important". Many of the plant and animal species and communities that make up the unique ecosystems of these islands and the surrounding seas are found nowhere else. This list of unique features is considered certain to grow as further surveys take place. The distinctive features of the Bounty Islands are detailed in appendix 4.2.
Land and sea relationships This option provides protection through a marine reserve of a corridor to the edge of the territorial sea and provides coverage of the full range of habitats for a land–sea continuum. The proposed marine reserve extends for a minimum of 6.8 km from the island group. The remainder of the area is protected through regulations to reduce impacts of fishing on benthic habitats and through the requirement of the Fisheries Act to avoid, remedy or mitigate the adverse effects of fishing on the aquatic environment, and to take into account that biological diversity of the aquatic environment should be maintained.	**Land and sea relationships** This option reflects the isolation of the Bounty Islands from the mainland and the other subantarctic islands (700 km to the mainland; 210 km to Antipodes). The Bounty Islands are vital for marine mammals and seabirds that need to return to land to feed, breed and moult. Many of these are endemic to the island, and threatened. The marine reserve provides for a land-sea continuum across the entire territorial sea.

*Figure 2 : Marine Protected Area options in the territorial sea around the **Bounty Islands***

Option B1: Part of the territorial sea in a marine reserve and the remainder of the territorial sea subject to fisheries prohibitions	Option B2: The entire territorial sea in a marine reserve
Planning and design principles This option meets Network Design Principle 1 by providing additional protection to examples of the full range of natural habitats and ecosystems based on the national classification approach. Selecting a combination of a marine reserve and fisheries prohibitions provides a high level of protection. This option assumes that the nature of actual or foreseeable threats to the habitats and ecosystems in the territorial sea is low because of the very remote location of the islands and the proposed fishing prohibitions. Therefore the use of two management tools is proposed. A single large marine reserve, rather than a series of smaller reserves, further helps ensure ecosystem processes across different habitat types; the maintenance of plants and animals; resilience to edge effects; and simplification of boundaries for compliance monitoring and enforcement.	**Planning and design principles** This option meets Network Design Principle 1 by providing protection to the full range of natural habitats and ecosystems based on the national classification approach. Selecting a marine reserve as the management tool gives a high level of protection to ensure viability. This option assumes that the nature of actual or foreseeable threats to the habitats and ecosystems in the territorial sea is low because of the very remote location of the islands and the existing fishing regulations. Therefore full protection of the territorial sea which contains the range of habitats and ecosystems is proposed. A single, large marine reserve, rather than a series of smaller reserves, further helps ensure ecosystem processes across different habitat types; the maintenance of plants and animals; resilience to edge effects; and simplification of boundaries for compliance, monitoring and enforcement.
Minimising Impacts on existing users This option closes part of the territorial seas to all fishing activity. The boundaries have been selected to help minimise impacts on existing users of the Bounty Island ling fishing grounds. Based on the recent fishing effort, this would retain approximately 67 % of the recently fished area. This option makes provision for any future potential fishing activity in the area outside the proposed marine reserve subject to existing regulations, thereby minimising impacts on the exercise of existing rights and the value of quota.	**Minimising impacts on existing users** This option closes the territorial sea to all fishing activities. During the period 2003–08 there were approximately 100 fishing events reported within the Bounties territorial sea (an average of 20 lines set a year). Over the same period, the ling long-line catch taken from the whole of the huge Bounty Plateau amounted to about 400 t per year on average; between 0% and 40% of this catch has been taken from within the territorial sea of the Bounty Islands. The ling fishery on the Bounty Plateau is part of the larger LIN6 stock. The proportion of the LIN6 stock that is taken on the Bounty Plateau has fluctuated considerably; between 10 – 100% of the larger LIN6 bottom long line catch. The latest Ministry of Fisheries stock assessment for ling on the Bounty Plateau in LIN6 (2008) concludes that current stock size is estimated to be well above the biomass that would support the maximum average yield. The average landings of ling from the LIN6 fishery since 2003 have been a third less than the allowable catch. For these reasons, whilst a marine reserve covering the entire territorial seas around the Bounty Islands will have an impact on existing users in the commercial fishery, that impact is dependent on the feasibility of moving fishing effort elsewhere on the Bounty Plateau or within the wider LIN6 fishery.
Impacts on Treaty settlements This option, by allowing some fishing within the territorial sea, explicitly enables the Crown to meet its Treaty obligations to Ngāi Tahu Whānui (and fisheries settlement obligations to other iwi) for Māori fishing to be able to develop.	**Impacts on Treaty settlements** With this option there should not be any undue adverse impact to fisheries settlement rights including fishing development rights given the remoteness of these islands. This option will provide some protection for many species of seabird and marine mammal identified in the Ngāi Tahu Claims Settlement Act as taonga species.

Figure 3 : Marine Protected Area options in the territorial sea around ***Campbell Island***

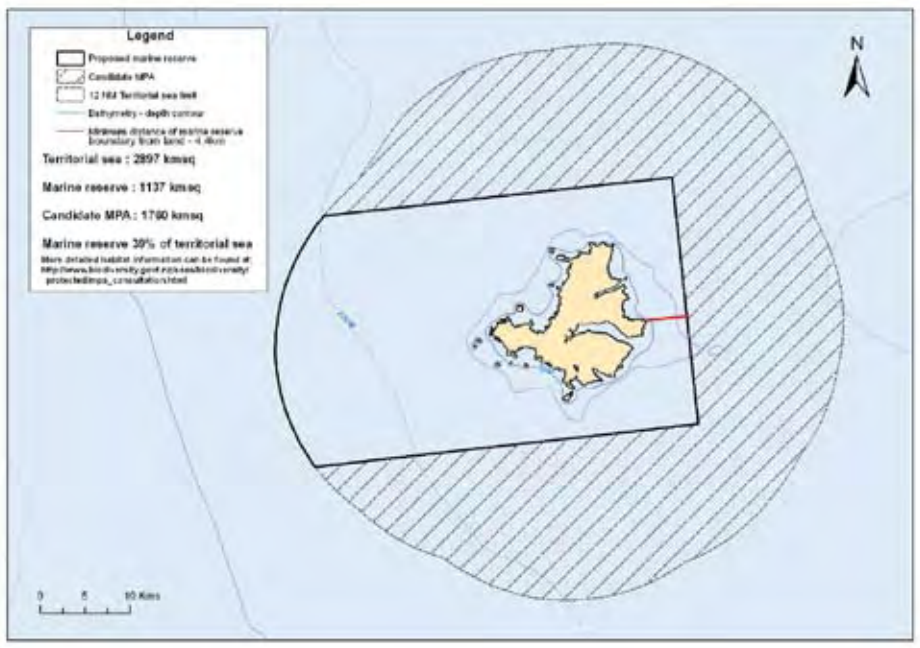
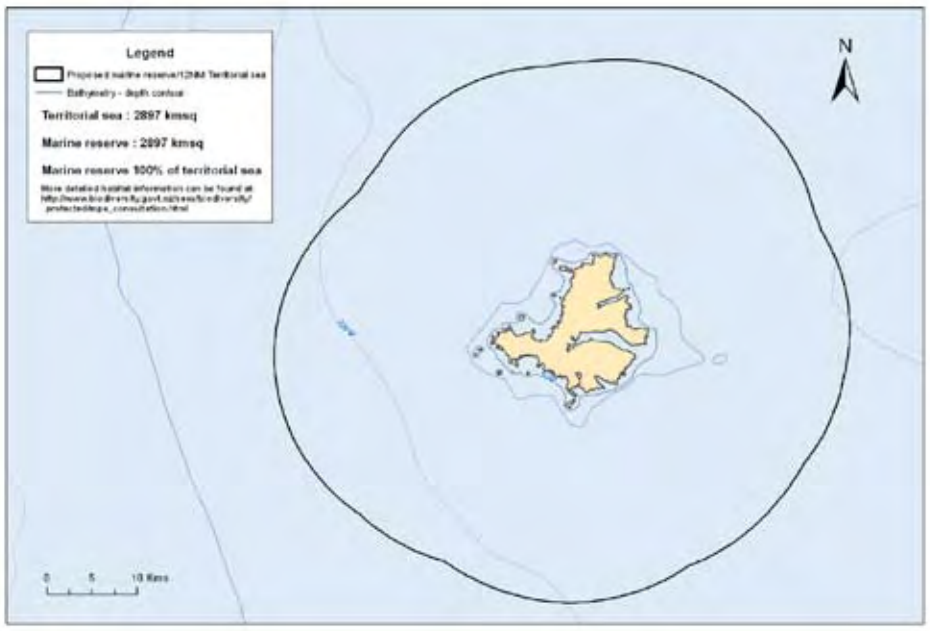
Option C1: Part of the territorial sea in a marine reserve and the remainder of the territorial sea subject to fisheries prohibitions	Option C2: The entire territorial sea in a marine reserve
	
Description of option This option proposes the protection of a large part of the territorial sea through the use of a single marine reserve that extends to the edge of the territorial sea to the west. The orientation of the proposed marine reserve allows for coverage of all habitats from the high water mark at the shore to the deeper parts of the territorial seas in the south within a single reserve. The western orientation was selected to include a larger percentage of habitats at depths greater than 200 m (as opposed to an eastern orientation) The northern boundary is selected to transect the 200 m bathymetric contour at the edge of the territorial sea. The remainder of the area is protected by Fisheries Act prohibitions on Danish seining in addition to existing BPA prohibitions on bottom trawling and dredging to create a candidate MPA.	**Description of option** This option proposes the protection of the entire territorial sea as a marine reserve.
Representation This option provides protection through a marine reserve to all intertidal to shallow subtidal habitats and a large area which contains representative examples of all known deep subtidal and deepwater habitats in the Campbell Island territorial sea including those not known to be present at the Auckland Island Marine Reserve. The bathymetry and sediments of the Campbell Island territorial sea appear relatively uniform. Fisheries prohibitions across the remainder of the area will provide protection of the remaining benthic habitats.	**Representation** This option provides protection of all the habitats and ecosystems in the territorial sea, including shallow and deep water, seabed and water column.
Outstanding, rare or distinctive features, and national or international importance This option acknowledges the distinguishing factors and international importance of the habitats and ecosystems of the Campbell Island territorial sea (isolation, endemism etc.) by proposing protection through a marine reserve that contains the full known range of habitats and ecosystems at each island group, rather than proposing protection only for underrepresented habitats and ecosystems on a regional scale. Management measures through fisheries prohibitions will apply across the remainder of the territorial sea.	**Outstanding, rare or distinctive features, and national or international importance** This option is based on the recognition that many of the marine habitats and ecosystems of the seas around Campbell Island meet the policy criteria of being "outstanding, rare or distinctive", while all are both internationally (World Heritage site status) and nationally important. The overall species diversity of the seas around Campbell Island is high. Many of the plant and animal species and communities that make up the unique ecosystems of these islands and the surrounding seas are found nowhere else. The level of endemism is likely to grow as further surveys take place. The distinctive features of Campbell Island are detailed in appendix 4.3.
Land and sea relationships This option provides protection through a marine reserve of a corridor to the edge of the territorial sea and provides coverage of the full range of habitats for a land-sea continuum. The proposed marine reserve extends for a minimum of 4.4 km from the island group. The remainder of the area is protected through regulations to reduce impacts of fishing on benthic habitats and through the requirement of the Fisheries Act to avoid, remedy or mitigate the adverse effects of fishing on the aquatic environment, and to take into account that biological diversity of the aquatic environment should be maintained.	**Land and sea relationships** This option reflects the isolation of Campbell Island from the mainland and the other subantarctic islands (260 km to Auckland Islands; 760 km to Antipodes Island). Campbell Island is vital for marine mammals and seabirds that need to return to land to feed, breed and moult. Many of these are endemic to the island, and threatened. The marine reserve provides for a land-sea continuum across the entire territorial sea.

*Figure 3 : Marine Protected Area options in the territorial sea around **Campbell Island** (contd.)*

Option C1: Part of the territorial sea in a marine reserve and the remainder of the territorial sea subject to fisheries prohibitions	Option C2: The entire territorial sea in a marine reserve
Planning and design principles This option meets Network Design Principle 1 by providing additional protection to examples of the full range of natural habitats and ecosystems based on the national classification approach. Selecting a combination of a marine reserve and fisheries prohibitions provides a high level of protection. This option assumes that the nature of actual or foreseeable threats to the habitats and ecosystems in the territorial sea is low because of the very remote location of the islands and the proposed fishing prohibitions. Therefore the use of two management tools is proposed. A single, large marine reserve rather than a series of smaller reserves further helps ensure ecosystem processes across different habitat types; the maintenance of plants and animals; resilience to edge effects; and simplification of boundaries for compliance monitoring and enforcement.	**Planning and design principles** This option meets Network Design Principle 1 by providing protection to the full range of natural habitats and ecosystems based on the national classification approach. The selection of a marine reserve as the management tool gives a high level of protection to ensure viability. This option assumes that the nature of actual or foreseeable threats to the habitats and ecosystems in the territorial sea is low because of the very remote location of the islands and the existing fishing regulations. Therefore, full protection of the territorial sea which contains the range of habitats and ecosystems is proposed. A single, large marine reserve rather than a series of smaller reserves further helps ensure ecosystem processes across different habitat types; the maintenance of plants and animals; resilience to edge effects; and simplification of boundaries for compliance, monitoring and enforcement.
Minimising impacts on existing users This option closes part of the territorial sea to all fishing activity. This option makes provision for any future potential fishing activity in the area outside the proposed marine reserve to be subject to existing regulations, thereby minimising impacts on the exercise of existing rights and the value of quota. The relatively shallow seas around Campbell Island make this area suitable for crab potting. Deep sea crab quota holders have registered an interest with the Forum in exercising their current rights to explore the potential for a crab fishery in the territorial sea.	**Minimising impacts on existing users** This option would close the territorial sea to all fishing activities. There is no current fishing in the territorial seas around Campbell Island. Quota owners for the giant spider crab have expressed an interest in exploring the potential for a spider crab fishery within the territorial sea. A marine reserve covering the entire territorial seas around Campbell Island would remove this area for giant spider crab fishery exploration.
Impacts on Treaty settlements This option, by allowing some fishing within the territorial sea explicitly enables the Crown to meet its Treaty obligations to Ngāi Tahu Whānui (and fisheries settlement obligations to other iwi) for Māori fishing to be able to develop.	**Impacts on Treaty settlements** With this option there should not be any undue adverse impact to fisheries settlement rights including fishing development rights given the remoteness of these islands. This option will provide some protection for many species of seabird and marine mammals identified in the Ngāi Tahu Claims Settlement Act as taonga species.

APPENDIX 1: SUBANTARCTIC REGIONAL MARINE PROTECTION PLANNING FORUM

Terms of Reference

1. Forum Name

Subantarctic Regional Marine Protection Planning Forum (Forum).

2. Planning Area

Planning for marine protection in the region of the Subantarctic Islands will be carried out in two phases:

- Phase One will consider protection options for the territorial seas (within the 12 nautical mile limits) of the Campbell/Motu Ihupuku, Antipodes and Bounty Islands.
- Phase Two will look at the remainder of the Region. The area of the Phase Two will incorporate the area of the EEZ out to the 200 nm limit to the east and south, and will be bounded by Class 178 of the Marine Environment Classification (2005) to the north and west. The approximate area is attached at the end of these terms of reference (bounded by EEZ and red lines to west and north).

3. Purpose

The Forum has been set up to develop options for marine protection and provide recommendations to Ministers in accordance with the Marine Protected Areas Policy and Implementation Plan (2006) (MPA Policy).

4. Background

The Subantarctic Islands are World Heritage Nature Reserves. The Department of Conservation's (DOC) Subantarctic Islands Conservation Management Strategy (1998–2008) was initiated to contribute to managing these Islands. Part of that Management Strategy includes considering the provision of marine protection to the waters surrounding the Subantarctic Islands.

Marine habitats and ecosystems associated with the islands are also subject to the NZ Biodiversity Strategy (2000), which has a goal of establishing a comprehensive network of protected marine areas representative of the full range of natural marine habitats and ecosystems by 2020.

In 2003 the Subantarctic Marine Protection Project was initiated as a scoping exercise to consider protection of the marine environment within the Subantarctic Bioregion, in particular the Territorial Seas around the Bounty, Antipodes and Campbell/Motu Ihupuku Islands.[18]

Although this project was initiated well in advance of the MPA Policy, the Minister of Conservation and the Minister of Fisheries (the Ministers) agreed that the process should continue as an advanced planning process, to be aligned to the fullest extent possible with the MPA Policy.

18 Marine protection around the Snares Islands/ Tini Heke is not being considered here as The Snares Islands group is located in the Snares Island Marine Biogeographic Region which lies atop the Snares Shelf and drops to the Campbell Plateau in the south and the Solander Trough in the west. This region is influenced and surrounded by the Subtropical Front and the cool Southland Current. Marine protection for Snares Island Marine Biogeographic Region will be undertaken as part of the Offshore Marine Protected Area Planning process. The Auckland, Campbell, Antipodes and Bounty islands are located in the Subantarctic Islands Marine Biogeographic Region, an area influenced by cold water from the Subantarctic Front. That part of the region to 12 nm has been approved by Ministers in January 2008 as a coastal biogeographic region for the purposes of nearshore planning. Source: 'Coastal and Marine Habitat and Ecosystem Classification', Annex to 'Marine Protected Areas: Classification, Protection Standard and Implementation Guidelines', DOC/MFish December 2007

In line with the MPA Policy, the Forum is tasked to provide recommendations for area-based marine protection for the full range of habitats and ecosystems present using appropriate tools.

The overall goal of this process is to ensure lasting protection to the biodiversity resident within the Subantarctic waters of New Zealand. In doing so, the Forum should give due consideration to the implications and interests of all who use, care for and hold mana moana for these marine environments while minimising the impacts of protection on existing users.

5. Subantarctic Regional Marine Protection Planning Forum

The Forum is a non-statutory body set up to consider how marine protection can be achieved within the respective area. The Forum will comply with the MPA Policy, the Marine Protected Areas Classification and the Protection Standard.

Its scope, membership and conduct will be guided by the Implementation Guidelines section of the 'Marine Protected Areas: Classification, Protection Standard and Implementation Guidelines' (DOC/MFish, February 2008) ('the MPA Guidelines') and be consistent with the frameworks provided by that entire paper unless otherwise directed by Ministers.

These Terms of Reference have been approved by the Ministers of Fisheries and Conservation as the written brief to the Forum and the terms of reference.

6. Forum Objective

The forum is tasked to provide a report to ministers that recommends areas for marine protection consistent with the MPA policy. Specifically the forum will:

- Consider the classification and inventory information
- Consult with existing users and interests in the area
- Identify sites and potential tools for area-based protection of biodiversity
- Seek to establish consensus on proposed areas to be set aside as protected areas
- Consult on protection options and make written recommendations to Ministers

7. Scope

Protected area planning has the principal objective of biodiversity protection. The forum is limited to protected area planning, and should not be diverted by RMA, aquaculture, or fisheries management issues.

8. Phased Approach

The forum will be conducted in two phases. The timetable for phase one is outlined in section 20 of this paper. Phase two will follow directly after recommendations are made to ministers about marine protection for phase one.

Any recommendations for marine protection using the fisheries act can be implemented as part of phases one and two. However, given the inability to implement marine reserves in the EEZ, the forum may make interim recommendations for phase two that could be implemented when the necessary statutory tools become available or be referred to the offshore expert panel that will consider marine protection in the EEZ from 2013.

9. Forum Chair

The Forum Chair will lead the Forum to a successful outcome. Ministers have approved Mr Paul Beverley, of Buddle Findlay, Wellington, to chair the Forum. The main role of the Chair is to convene and facilitate meetings to ensure the brief provided by Ministers is met and to oversee the development and delivery of recommendations to Ministers.

10. Key Expected Outcome

Proposed marine protected areas that meet the requirements of the MPA Policy, and any other tools which provide some marine protection, are recommended to the Ministers for their consideration by August 2008. Completion of Phase One will be by August 2008 as detailed below.

Phase Two will commence after recommendations are made to Ministers in Phase One.

11. Role of Agencies

DOC and MFish will provide national policy guidance, planning and technical advice, and participate *ex officio* in support of the forum. The MPA policy states that doc and MFish will service the forum with information, advice, provision of facilitation and guidance where needed.

12. Forum Membership/Roles

The forum is to contain 14 people, including the chair. Forum members are expected to have strong links to the region, be able to negotiate, compromise and work well with other people, and have the capacity to engage where necessary with their sector of interest to bring that sector's views forward to the forum.

13. Proposed Forum Membership (Subject to final selection of names and endorsement by Ministers)

- Deepwater Group Ltd – Richard Wells
- Scampi Quota representative – Andrew Bond
- Crab Co. – Andy Smith
- SeaFIC – Kate Bartram
- TOKM – Tania McPherson
- Ngai Tahu – Nigel Scott
- Southland Kaitiaki Roopu – Gail Thompson (Awarua Runanga)
- WWF – Rebecca Bird
- Forest and Bird – Kevin Hackwell
- Southland Conservation Board representative – Viv Shaw
- NIWA representative – Don Robertson
- Marine Science – John Booth
- Environment and Conservation Organisations (ECO) – Barry Weeber

All members of the Forum will have collective responsibility for its decisions and have equal status in discussions. Forum members must be able to attend meetings regularly, engage actively in information sharing, and be actively involved in decision-making. Proxy members are not permitted. Members resigning from the Forum should be replaced from the same sector of interest.

All Forum members must disclose their interests at the time of application, including who they represent, so that it is clear where they may have any conflicts of interest. Forum members must also work to build consensus to meet the MPA Policy objectives for the Subantarctic region.

14. Remuneration of Forum Members

The DOC and MFish will reimburse the reasonable and actual expenses incurred for attendance at these meetings.

15. Consultation

The forum will constructively involve and engage with tangata whenua, regional councils, marine biodiversity interest groups, and the users and stakeholders whose interest in marine areas may be affected by protected areas.

The forum will customise plans for regional engagement considering the best tools to build links with the community and within associated budgetary constraints. However the forum must undertake written consultation (allowing a minimum of 40 working days for submissions) on the recommendations being made to ministers.

The Crown must also meet its obligations under the treaty of waitangi, through direct discussion and consultation with iwi where necessary. Formal consultation with tangata whenua will also occur as part of implementing proposed new protected areas through subsequent statutory processes.

16. Report for Ministers

The forum is tasked to produce a report for ministers recommending areas for various levels of marine protection, i.e. Protected areas and management tools.

Recommendations must be underpinned by a commitment to minimise the impact of new protected areas on existing users of the marine environment and treaty settlement obligations where there are options for alternate locations to achieve protection of particular habitats. Matters to consider in choosing between minimum impact sites are: accessibility for management and enforcement requirements; and benefits such as educational, diving and tourism opportunities.

The forum should recommend marine reserve MPAs or other tools that offer sufficient protection to be considered other MPAs in accordance with the approved guidelines for MPA implementation.

The forum should be mindful of the special qualities of the adjacent terrestrial areas when considering nearshore protected areas. The subantarctic islands are nature reserves, the highest level of protected area status under New Zealand legislation, with access strictly controlled. These areas are also listed under IUCN criteria as world heritage sites. The unique, rare and threatened biota of the islands has a strong relationship with coast and sea, and the nearshore habitats and ecosystems may be judged to have their own distinctive qualities.[19]

17. Decision Making within the Forum

Management actions to implement protected areas should not be postponed because of a lack of information.

The forum should try to reach consensus on recommendations. However, if consensus cannot be reached, the forum should provide a range of options for the consideration of ministers, making clear which options are favoured by which elements of the community/stakeholders and the advantages and disadvantages of each.

19 Refer to 'Marine Protection for the New Zealand Subantarctic Islands: A Background Resource Document' DOC/MFish, June 2006. NIWA has identified significant biodiversity differences in the marine environments between the islands and that all four groups have high levels of endemism.

18. Secretarial Support

Secretarial support will be provided for the organisation of meetings, preparation of the agenda in co-operation with the Forum Chair, preparation of meeting minutes and informing the Forum members of project developments through regular communication channels.

Forum meeting minutes will be distributed to Forum members and ex-officio members for review. Finalised minutes will be forwarded to members and mailing list contacts.

19. Timeline

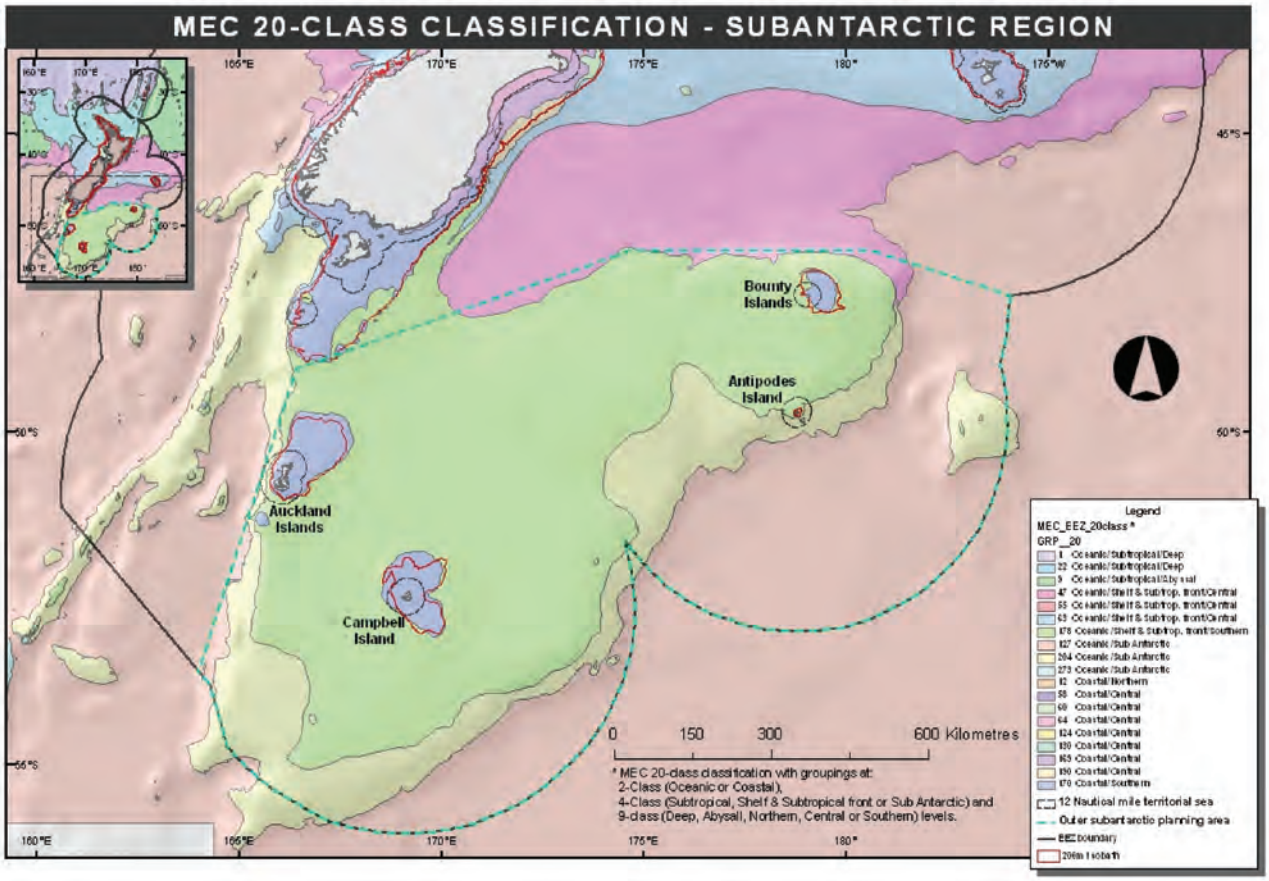
Forum meetings will be held in accordance with a prearranged schedule; the Forum process will run as detailed below.

20. Timeline

Sub Antarctic Islands Marine Protection Process – Phase One

February 2008	First meeting of Forum – Information and process outline.
March 2008	Second meeting – Marine protected area discussion
March/April 2008	Third meeting – Marine protected area site selection / development of recommendations to Ministers
April 2008	Ministerial Review of Forum progress*
May 2008 of submissions	Fourth meeting – Consultation on recommendations and Analysis
July 2008	Fifth meeting – Finalisation of recommendations report for referral to Ministers by August.
August 2008	Ministerial Review of Forum progress* This will complete Phase One.
August 2008	Meetings beyond this point will be as a when required in order to conclude Phase Two. A new timetable of meetings to implement Phase Two will be confirmed at this time.

*Ministerial reviews will be carried out periodically to ensure progress with Forum and objectives are being met.


MEC 20-CLASS CLASSIFICATION - SUBANTARCTIC REGION
Bounty Islands
Antipodes Island
Auckland Islands
Campbell Island
0 150 300 600 Kilometres
* MEC 20-class classification with groupings at:
2-Class (Oceanic or Coastal),
4-Class (Subtropical, Shelf & Subtropical front or Sub Antarctic) and
9-class (Deep, Abysall, Northern, Central or Southern) levels.
Legend
MEC_EEZ_20class *
GRP__20
12 Nautical mile territorial sea
Outer subantarctic planning area
EEZ boundary
200m Isobath

APPENDIX 2: SUMMARY OF HABITATS AND FEATURES OF THE TERRITORIAL SEAS OF EACH SUBANTARCTIC ISLAND GROUP

2.1 Antipodes Island

Island group: Antipodes Island **Location:** Southern margin of Bounty Plateau; edge of shelf

Representative:

Habitats not known to be represented at the Auckland Islands:	Map Number	Source of data
High exposure, shallow boulder reef	1	Dive survey
Upper Continental Slope, seamounts	2	Dive survey; NIWA multibeam
Upper Continental Slope, Hard nodules	3	J. Booth report
Mid Continental Slope, seamounts	4	NIWA multibeam;
Mid Continental Slope, Hard nodules	5	J. Booth report
Lower Continental Slope, Hard nodules	6	J. Booth report

Under-represented habitats[20]

Surveys of the rock wall invertebrates show different patterns of diversity than at the Auckland Islands and higher diversity than the Bounty Islands. Biological communities appear to be different between the same / similar physical habitats at other subantarctic islands.

Special considerations[21]

Outstanding
• High bathymetric complexity to the south; intertidal to abyssal depths within 12 nm, including seamount volcanic cones. Heavy band of hydrogenous manganese nodules to the southwest reaches as close to shore nowhere else in New Zealand waters.
• Unusual symbiotic relationship between the endemic Antipodes Island parakeet (*Cyanoramphus unicolour*) which forages amongst penguins for insects and waste products from breeding and moulting.
• Interdependence of terrestrial and marine species.
• Near-pristine state of terrestrial and marine ecosystems.
• One of only a small number of islands within the subantarctic latitudinal range, and one of just four island groups within this latitudinal range within the NZ EEZ. This feature and their isolation from other land masses (including the other subantarctic islands) make them vital for species such as marine mammals and seabirds that need to return to land for breeding / moulting etc. Such land masses also alter the hydrography around them, which can potentially trap plankton and create feeding "hotspots" for species such as seabirds and marine mammals.

20 Habitat types represented at Auckland Islands but displaying distinctive biota

21 Para 73 of MPA Policy; "Outstanding, rare, distinctive, or internationally or nationally important". Note all of the regional territorial seas are World Heritage sites and are therefore all of international importance.

Rare/distinctive
• Geology – the Antipodes Island group at the edge of the plateau are basaltic and volcanic cones, vents and breccias of much more recent (Pleistocene) origins than the other islands. Unique combination of habitats through oceanographic (subantarctic water), geological (rocks and their age) and physiographic (shape, size, and depth contours around the islands) setting.
• Key breeding habitat for the grey petrel (*Procellaria cinerea*). Antipodes and Gough Island are the only subantarctic breeding colonies secure from predation for this wide ranging species. Only breeding and foraging ground in the New Zealand region for the soft-plumaged petrel *Pterodroma mollis.*
Endemism characterised by: – Endemic habitat-forming bull kelp *Durvillaea* sp. to 20 m depth (deeper than other bull kelp species). Presence of *Marginariella parsonsii* (endemic with Bounty) on high density invertebrate rock walls. – Endemic Antipodean wandering albatross (*Diomedea antipodensis antipodensis*). – At least 1 seaweed known only from the Antipodes, and 19 known from only the Antipodes in the NZ subantarctic. – Invertebrates reported only here, or here and at only one other island group, include the gastropods (snails) *Calliostoma (Maurea) eminens*, *Onoba delicatul*a and *Pareuthria campbelli*, the bivalve (shellfish) *Kidderia campbellica*, the seastar *Paranepanthia aucklandensis*, the sea spiders *Ascorhynchus antipodus, Austrodecus cestum* and *Anoplodactylus laciniosus*; and the amphipod *Caprella manneringi.*
Nationally important
• Seabird diversity and abundance, e.g. key breeding and foraging area for the vulnerable eastern rockhopper penguin *Eudyptes chrysocome filholi* (known to forage in waters over 500 m depth) and the endangered endemic erect-crested penguin (*E sclateri*).
• Key breeding and foraging area for the vulnerable endemic Antipodean wandering albatross* *Diomedea antipodensis antipodensisand* for the light-mantled sooty albatross* *Phoebetria palpebrata* and the endangered black-browed albatross* *Thalassarche melanophrys.*
• Marine mammal diversity and abundance, e.g. key NZ breeding site for southern elephant seal* *Mirounga leonina*. Important visiting and foraging area for New Zealand fur seal* *Arctocephalus forsteri* yearlings and older juveniles.
• Regional endemism – e.g. at least seven species of seaweeds shared with other subantarctic islands but nowhere else in the world.
• Depauperate near-shore fish fauna (dominated by notothens) is instrumental in shaping a distinctive community of plants and animals found nowhere else.
• Regionally, the sediments reflect weak terrigenous sources and the unique (for New Zealand waters) iron-limited primary production system in the waters above them. Production is as much microbial as it is phytoplankton based, leading to low sedimentation rates. This sedimentation is strongly calcareous and leads to a unique (for New Zealand) subantarctic deposit-feeding guild of invertebrates that tend to be slow growing and long-lived.1 Given the oceanographic and physiographic setting of these islands, significant single-island endemism within this guild can be expected within the Campbell Island territorial sea.

Species formally recognised as taonga species for Ngai Tahu by Schedule 97 of the Ngai Tahu Claims Settlement Act 1998

The list for Antipodes Island includes:

Toroa	antipodean wandering albatross (vulnerable; endemic) light-mantled sooty albatross black-browed albatross (endangered)
Ihupuku	southern elephant seal
Kekeno	New Zealand fur seal

2.2 Bounty Islands

Island group: Bounty Islands **Location:** Eastern margin of Bounty Plateau

Representative:

Habitats not known to be represented at the Auckland Islands:	Map Number	Source of data
High exposure shallow sand	1	1989 NZ Oceanographic Institute (NZOI)
High exposure shallow boulder reef	2	Dive survey
High exposure shallow biogenic reef	5	Dive survey (distinctive reef-forming barnacles, with associated encrusting biota; Lion Island)
Deep cobble field	3	1989 NZOI
Upper Continental Slope deep cobble field	4	1989 NZOI

Under-represented habitats[22]

Rocky reef (wall) habitats have different diversity patterns than Auckland Islands (higher species density and species richness; lower turnover diversity). Video and researcher observations show biological community differences between the same/similar physical habitats.

Special considerations[23]

Outstanding[24]
• Interdependence of terrestrial and marine species – *all* terrestrial species, from endemic spiders, beetle, weta, through to albatross and marine mammals, are totally dependent on the marine environment; e.g. Salvins's albatross* (*Thalassarche salvini*) use moulted penguin feathers to reinforce their nests.
• Runoff of guano/seal scats is potentially very important for providing nutrients to nearshore algal communities, which in turn support species higher up the food chain, including plankton, fish and benthic invertebrates. These interactions are likely to be a particularly distinctive feature of the Bounty Islands, given their abundant marine mammal and seabird fauna, and their topography and almost complete lack of soil and terrestrial vegetation.
• Near-pristine state of terrestrial and marine ecosystems.
• One of only a small number of islands within the subantarctic latitudinal range, and one of just four island groups within this latitudinal range within the NZ EEZ. This feature and their isolation from other land masses (including the other subantarctic islands) make them vital for species such as marine mammals and seabirds that need to return to land for breeding or moulting, etc. Such land masses also alter the hydrography around them, which can potentially trap plankton and create feeding "hotspots" for species such as seabirds and marine mammals.
Rare/distinctive features
• Geology – the only granite islands within the NZ subantarctic bioregion. Unique combination of habitats through oceanographic (subantarctic water), geological (rocks and their age) and physiographic (shape, size, and depth contours around the islands) setting.

22 Habitat types represented at Auckland Islands Marine Reserve, but displaying distinctive biota

23 Para 73 of MPA Policy; "Outstanding, rare, distinctive, or internationally or nationally important". Note all of the regional territorial seas are World Heritage sites and are therefore all of international importance.

24 See *The Marine Ecosystem of New Zealand's Subantarctic Islands and their Surrounding Plateaus and Marine Protection for the New Zealand Subantarctic Islands: A Background Resource Document* for further examples.

- Endemism – characterised by:
  - Bounty Island shag (*Phalocrocorax ranfurlyi*), the world's rarest cormorant, classified as vulnerable (500–600) – dependent on endemic *Marginariella parsonsii* for nesting material (due to lack of terrestrial vegetation).
  - Limited foraging range for smaller seabirds (e.g. Antarctic tern (*Sterna vittata bethunei*) and endemic Bounty Island shag (*Phalocrocorax ranfurlyi*), penguins and nesting albatross species in seas close to islands.
  - At least three locally endemic seaweed species (found only on the Bounty Islands) and nine seaweeds only known from Bounty Islands in the subantarctic bioregion.
  - Significant endemism among invertebrates, with species found only on these islands, or on these islands and only one other subantarctic island group, including the *gastropods Calliostoma* (Maurea) simulans and *Paxula* subantarctica subantarctica.

Nationally important

- Seabird diversity and abundance, e.g. key breeding site for Salvin's albatross (*Thalassarche salvini*) and endangered endemic erect-crested penguin (*Eudyptes scateri).*
- Breeding and foraging area for Snares cape pigeon (*Daption capense australe*), Fulmar prion (*Pachyptila crassirostris crassirostri*, Antarctic tern* (*Sterna vittata bethunei*), and southern black backed gull* (*Larus dominicanus dominicanus*).
- A depauperate near-shore fish fauna (dominated by notothens) instrumental in shaping a distinctive community of plants and animals found nowhere else.
- Regional endemism – five species of seaweeds shared with other subantarctic islands but nowhere else in the world.
- Marine mammal diversity and abundance; e.g. the Bounty Islands have the largest colony of New Zealand fur seals* (Arctocephalus forsteri) in the world.
- Separated from the rest of the region by the Pukaki Trough.
- Regionally, the sediments reflect weak terrigenous sources and the unique (for New Zealand waters) iron-limited primary production system in the waters above them. Production is as much microbial as it is phytoplankton based, leading to low sedimentation rates. This sedimentation is strongly calcareous and leads to a unique (for New Zealand) subantarctic deposit-feeding guild of invertebrates that tend to be slow growing and long-lived1. Given the oceanographic and physiographic setting of these islands, significant single-island endemism within this guild can be expected within the Campbell Island territorial sea.

Species formally recognised as Taonga species for Ngai Tahu by Schedule 97 of the Ngai Tahu Claims Settlement Act 1998.

The list for the Bounty Islands includes:

Toroa	Salvin's albatross (vulnerable, endemic)
Tara	Antarctic tern
Kararo	southern black-backed gull
Kekeno	New Zealand fur seal (the world's largest colony).

2.3 Campbell Island

Island Group: Campbell Island **Location:** Southernmost group; Campbell Plateau

Representative:

Habitats not known to be represented at the Auckland Islands:	Map Number	Source of data
High exposure gravel beach	1	J Booth report; scientists' observations
High exposure cobble beach	2	J. Booth report; scientists' observations
Low exposure shallow mud	3	Dive survey
Low exposure shallow sand	4	J Booth report; scientists' observations
Low exposure shallow cobble	5	Dive survey
Low exposure shallow boulder field	6	Dive survey
High exposure shallow sand	7	Dive survey
High shallow cobble field	8	Drop camera
High exposure shallow boulder reef	9	Dive survey
Deep boulder field	10	Dive/drop camera
Deep biogenic reef	11	Dive/drop camera

Special considerations[25]

Outstanding
• Perseverance Harbour – glacially formed fiord with estuarine habitats. One of only two islands within the subantarctic bioregion that has large, sheltered inlets.
• Breeding and feeding ground for southern right whale* Eubalaena australis.
• Vulnerable Campbell Island shag (*Phalacrocorax campbelli*) (1000 breeding pairs) endemic – lives and forages only here.
• Zone of submarine columnar basalt – off NE coast from deep water .
• Interdependence of terrestrial and marine species.
• Near-pristine state of terrestrial and marine ecosystems.
• Marine mammal diversity and abundance; e.g. second largest colony of world's rarest sea lion* (*Phocarctos hookeri*) – forages from intertidal to 300 m; dependent on shallow foraging when lactating.
• Breeding populations of southern elephant seal* (Mirounga leonine) and New Zealand fur seal* (*Arctocephalus forsteri*).
• Critically threatened Campbell Island teal (*Anas nesiotis*) live and forage only here.
• One of only a small number of islands within the subantarctic latitudinal range, and one of just four island groups within this latitudinal range within the NZ EEZ. This feature and their isolation from other land masses (including the other subantarctic islands) make them vital for species such as marine mammals and seabirds that need to return to land for feeding, breeding or moulting. Such land masses also alter the hydrography around them, which can potentially trap plankton and create feeding "hotspots" for species such as seabirds and marine mammals.

25 Para 73 of MPA Policy; "Outstanding, rare, distinctive, or internationally or nationally important". Note all of the regional territorial seas are World Heritage sites and are therefore all of international importance.

Rare/distinctive
• Geology – the Auckland and Campbell formations are dated at 6–11 million years, as remnants of shield volcanoes, with adequate topography (glaciated features) and weathering to produce peaty soils. Unique combination of habitats through oceanographic (subantarctic water), geological (rocks and their age) and physiographic (shape, size, and depth contours around the island) setting1.
• Species of grass reliant on guano in grey-headed albatross (*Thallasarche chrysotomama*) colonies.
• Endemism characterised by: – Vulnerable endemic Campbell albatross (*Thassalarche impavida*). This species relies on foraging for southern blue whiting in the surrounding seas when nesting. – Six albatross* species breed on and forage around Campbell, making it the world's second most important centre of diversity for albatrosses. Species include the largest population of vulnerable endemic southern royal albatross (*Diomedea epomophora*) and vulnerable antipodean albatross (*D. Antipodensis antipodensis*).
• Endemic Campbell Island shag (*P. campbelli*) – forms rafts of birds in sheltered waters.
• At least two seaweed species locally endemic (found only around Campbell Island) and 18 seaweeds only known from Campbell Island in the subantarctic bioregion.
• Significant island endemism among invertebrates; for example, the chiton *Callochiton mortenseni*, the gastropods (snails) L*aevilitorina antipodum* and *Nacella terroris*, the sponges *Esperiosis glaber* and *Hymeniacidon conica*, the amphipod Gondogeneia dentata, the brittle star Amphiura praefecta, and the tunicate Alloeocarpa affinis have not been reported anywhere else in the world.
Nationally important
• Campbell Island has the bulk of the world's southern royal albatross (*D. epomophora*)
• Regional endemism – five species of seaweeds shared with other subantarctic islands but nowhere else in the world.
• Seabird diversity and abundance; e.g. the only breeding population of grey-headed albatross (*Thalassarche chrysostoma*) in NZ waters. Main breeding colony of yellow-eyed penguins* (*Megadyptes antipodes*), known to forage up to 160 m depth (about 10 km offshore) (P. Moore pers. comm.); Campbell albatross (*Thalassarche impavida*) breeds only here.
• Endemic Campbell Island shag (*P. campbelli*) – forms rafts of birds in sheltered waters. Important breeding colony of eastern rockhopper penguins (*Eudyptes chrysocome filholi*); chick diet is known to comprise dwarf cod, juvenile southern blue whiting and hake. Population strongly tied to marine environmental conditions, particularly food availability.
• Main breeding and foraging area of the New Zealand tern* (*Sterna vittata bethunei*).
• Breeding and foraging site for vulnerable eastern rockhopper penguin (*E.chrysocome filholi*).
• Large numbers of vulnerable white-chinned petrels Procellaria aequinoctialis and sooty shearwaters* (*Puffinus griseus*).
• Depauperate near-shore fish fauna (dominated by notothens) is instrumental in shaping a distinctive community of plants and animals found nowhere else.
• Regionally, the sediments reflect weak terrigenous sources and the unique (for New Zealand waters) iron-limited primary production system in the waters above them. Production is as much microbial as it is phytoplankton based, leading to low sedimentation rates. This sedimentation is strongly calcareous and leads to a unique (for New Zealand) subantarctic deposit-feeding guild of invertebrates that tend to be slow growing and long-lived1. Given the oceanographic and physiographic setting of these islands, significant single-island endemism within this guild can be expected within the Campbell Island territorial sea.

Species formally recognised as Taonga species for Ngai Tahu by Schedule 97 of the Ngai Tahu Claims Settlement Act 1998

The list for Campbell Island includes:

Hoiho	yellow-eyed penguin
Toroa	southern royal albatross Antipodean wandering albatross (vulnerable, endemic) Campbell albatross (vulnerable, endemic) grey-headed albatross (vulnerable, endemic) black-browed albatross (endangered) light-mantled sooty albatross
Titi	sooty shearwater
Tara	Antarctic tern

2.4 Auckland Islands

Island Group: Auckland Islands **Location:** Western margin of Campbell Plateau

Representative:

Habitats known to be represented at the Auckland Islands:	Source of data
Low exposure mud flat	Dive/ROV/drop-camera survey
Medium exposure sandy beach	Other source (including anecdotal)
Medium exposure gravel beach	Other source (including anecdotal)
Medium exposure cobble beach	Other source (including anecdotal)
Medium exposure boulder beach	Other source (including anecdotal)
Medium exposure rocky platform	Other source (including anecdotal)
High exposure sandy beach	Other source (including anecdotal)
High exposure boulder beach	Other source (including anecdotal)
High exposure rocky platform	Other source (including anecdotal)
Medium exposure shallow sand	Other source (including anecdotal)
Medium exposure shallow gravel field	Other source (including anecdotal)
Medium exposure shallow boulder reef	Dive/ROV/drop-camera survey
Medium exposure shallow rocky reef	Dive/ROV/drop-camera survey
High exposure shallow gravel field	Other source (including anecdotal)
High exposure shallow rocky reef	Dive/ROV/drop-camera survey
Deep mud	Dive/ROV/drop-camera survey
Deep sand	Other source (including anecdotal)
Deep gravel field	Other source (including anecdotal)
Deep rocky reef	Other source (including anecdotal)

Special considerations[26]

Outstanding
• Carnley Harbour – glacially formed inlet, with a range of habitats. One of only two islands within the subantarctic bioregion that has large, sheltered inlets.
• Breeding and feeding ground for southern right whale, *Eubalaena australis* – Port Ross is the main breeding ground for this species in the southwest Pacific.
• The world's population of New Zealand sea lions, *Phocarctos hookeri*, is centred on the Auckland Islands, with 95% of the total population breeding at the Auckland Islands.
• Interdependence of terrestrial and marine species.
• Near-pristine state of terrestrial and marine ecosystems.
• One of only a small number of islands within the subantarctic latitudinal range, and one of just four island groups within this latitudinal range within the NZ EEZ. This feature and their isolation from other land masses (including the other subantarctic islands) make them vital for species such as marine mammals and seabirds that need to return to land for breeding / moulting etc. Such land masses also alter the hydrography around them, which can potentially trap plankton and create feeding "hotspots" for species such as seabirds and marine mammals.
• Auckland Islands teal, *Anas (aucklandica) aucklandica*, classified as vulnerable, found only here.

26 Para 73 of MPA Policy; "Outstanding, rare, distinctive, or internationally or nationally important". Note all of the regional territorial seas are World Heritage sites and are therefore all of international importance.

• Auckland Island banded plover, *Charadrius bicinctus exilis*, found only here.
• The Auckland Island shag, *Leucocarbo colensoi*, is found nowhere else in the world, and comprises less than 1000 pairs.
• Marine mammal diversity and abundance.
• 30% of the world's yellow-eyed penguins, *Megadyptes antipodes*, are found at the Auckland Islands.
Rare/distinctive
• Geology – the Auckland and Campbell formations are dated at 6–11 million years, as remnants of shield volcanoes, with adequate topography (glaciated features) and weathering to produce peaty soils. Unique combination of habitats through oceanographic (subantarctic water), geological (rocks and their age) and physiographic (shape, size, and depth contours around the island) setting1.
• The Auckland Islands support the southern-most population of spiny lobsters in the world (*Jasus edwardsii*) and is a stronghold for the giant spider crab, *Jacquinotia edwardsii*.
• Endemism, characterised by: – Diverse seabird fauna, including the endemic vulnerable Gibson's albatross, *Diomedea gibsoni* and vulnerable white-capped albatross, *Thalassarche steadi*. – Significant island endemism among marine invertebrates, for example, the sea spider *Austrodecus sinuatum*, the sea star *Diplodontias robustus* and an undescribed sponge species *Latrunculia* sp are found nowhere else in the world. There is also an Auckland Island subspecies of the white-footed paua, *Haliotis virginea*.
Nationally important
• Regional endemism - many species shared with other Subantarctic islands, but nowhere else in the world.
• Most diverse seabird fauna within the Subantarctic bioregion e.g. Disappointment Island supports most of the world's population of white-capped albatross, *Thalassarche steadi*; Auckland Islands (in particular Adams Island) supports the world's largest breeding population of Gibson's albatross, Diomedea gibsoni.
• Endemic Auckland Island shag, *Leucocarbo colensoi*.
• Important breeding colony of yellow-eyed penguins (*Megadyptes antipodes*), eastern rockhopper penguins (*Eudyptes chrysocome filholi*) and erect-crested penguins (*Eudyptes sclateri*).
• The Auckland Island shelf is an important recruitment and spawning ground for a range of species, including southern blue whiting, *Micromesistius australis*, and arrow squid, *Nototodarus sloani*.

Species formally recognised as Taonga species for Ngai Tahu by Schedule 97 of the Ngai Tahu Claims Settlement Act 1998

The list for the Auckland Islands includes:

Rapoka/Whakahao	New Zealand sea lion
Tohora	Southern right whale
Hoiho	Yellow-eyed penguin
Titi	Sooty shearwater
Toroa	Gibson's albatross White-capped albatross Southern royal albatross Northern royal albatross Light-mantled sooty albatross
Rimurapa	bull kelp