Subantarctic Regional Marine Protection Planning Forum

Analysis of Protection Tools

Paper for Second Meeting 26 March 2008 (Department of Conservation Paper)

Purpose

1. This paper was requested by the Forum at its first meeting. The paper draws attention to the outline of tools available in the Marine Protected Areas (MPA) Policy. The outline provides an inventory of those tools already used directly or indirectly that achieve some measure of protection for marine biodiversity in the Subantarctic Region. Some guidance is provided on whether the tools satisfy the MPA Policy requirements for the nearshore marine environments of the Islands.

Tools Potentially Available for Implementation of the MPA Policy

2. The MPA Policy published in December 2005 contains a section commencing on page11, entitled 'Integrating Marine Management Tools to Build an MPA Network'. While a wide array of potential tools is discussed it should be appreciated that none of these tools have been designed to have the principal purpose of providing protection for marine biodiversity over the entire marine environment. Even marine reserves are primarily for the purpose of scientific study and are limited to the territorial seas. Some tools are very constrained in the extent that they can cover the marine environment and others provide for marine biodiversity protection only indirectly and subject to other primary purposes.

3. The tools likely to be of main significance for the Subantarctic Region are marine reserves, and tools established under the Fisheries Act. The Policy notes that special legislation might also be considered. Marine mammal sanctuaries also have a potential for use providing they are combined with other tools. The Nature Reserve status of the Subantarctic Islands (SAI) provides strong protection landward to mean low water springs (MLWS) but no further. There are no Cable Protection Zones.

4. The other tools discussed in the Policy may be used to achieve additional protection in conjunction with other more direct tools. The Minister of Conservation is the RMA authority for the SAI, although there is no regional coastal plan. Voluntary agreements may be considered as potential tools for

MPA designation but would need to meet the MPA Policy requirement for security and compliance by some contractually enforceable mechanism.

Inventory of Tools Already Established in the Subantarctic Region

5. Table One attached provides an inventory of existing tools in the nearshore (Territorial Sea) and offshore (EEZ) areas of the subantarctic region. Nearshore marine environmental protection is provided by a marine reserve (superimposed on an earlier marine mammal sanctuary), comprising the territorial sea around the Auckland Islands. The territorial sea around the other three island groups is covered by Fisheries Regulations[1] as benthic protection areas (BPAs). The only other relevant influence in the nearshore is the 46 metre rule i.e that no vessel longer than 46 m shall trawl in the territorial sea (R72 1986). Foreign charter vessels are also prevented from fishing within the territorial sea. All four island groups' territorial seas are subject to World Heritage Site status.

6. In the offshore, Fisheries Act Regulations provide further BPAs east of Campbell, around the Antipodes Islands and in the deep south of the EEZ. Seamounts closed to trawling also through Fisheries Act Regulations, include the large Bollons area east of the Antipodes and a smaller closed seamount feature SE of Campbell.

Which tools meet the Protection Standard for the SAI Nearshore?

7. Reference should to be made to the discussion on the protection standard set out in the paper released by Ministers in February 2008[2]. The outcome sought in the MPA Policy is for the maintenance or recovery of the particular MPA site's biological diversity at the habitat and ecosystem level. Marine reserves are considered to meet the requirements of the protection standard (MPA Policy, Planning Principle 2). The marine mammal sanctuary may be considered to add alternative protection specifically for marine mammals, though its provisions are also generally encompassed by the Marine Reserves Act.

8. For tools other than marine reserves the approach to the protection standard is first to consider whether the seabed in an MPA is protected from physical damage. Potential tools for Type Two protection (refer to Table 2[2]) include prohibitions through regulations under the Fisheries Act 1996. In considering

[1] Fisheries (Benthic Protection Areas) Regulations 2007

[2] Section 2.6, page 12, 'Marine Protected Areas Classification, Protection Standard and Implementation Guidelines' Ministry of Fisheries and Department of Conservation, February 2008.

the inventory of tools these comprise principally the benthic protection areas (BPAs) established in 2007, through fishing industry initiative and agreement with the Government, promulgated as regulations which prohibit dredging and trawling below 100 m from the seabed. However, trawling may occur to a depth of 100 m above the seabed if specific monitoring and compliance requirements are observed. There is no prohibition on Danish seining.

9. There has been no analysis as to whether benthic netting or potting might be damaging to fragile biogenic habitats, although it is clear that at the Bounty Islands at least there are habitats which are calcareous and therefore biogenic in nature.

10. The second consideration arising from Planning Principle 2 is to ensure any activity in a potential MPA does not unduly disturb ecological systems, natural species composition and trophic linkages. When considering the effect of fishing activity it is difficult to set a level of extraction that would ensure the MPA protection standard is met. Because of this difficulty in considering the effect of fishing activity, fishing methods themselves have been used as a proxy for extraction from potential MPAs.

11. Trawling may occur in BPAs subject to certain reporting and compliance requirements and no trawling can occur below 100 m above the seabed. There are no other limitations in BPAs on trawling above 100 m, nor are there prohibitions on purse seining, or midwater gill netting, for which these methods will 'probably not be permitted within an MPA'[3].

12. Methods such as benthic longlining, potting, pelagic longlining and hook and line fishing would need to be considered on a case by case basis.

13. The Forum should note that, as BPAs provide only for limited protection for marine habitats through prohibition of only two fishing methods, these tools may be considered not to meet the protection standard for 'other MPAs'. Whether or not any limitations on fishing methods can or should be imposed, including adding to limitations already in place, is ultimately a matter for Ministers to decide.

Classification of Nearshore Habitats and Ecosystems and Gaps Analysis

[3] Refer first paragraph Section 2.6, page 12, 'Marine Protected Areas Classification, Protection Standard and Implementation Guidelines' Ministry of Fisheries and Department of Conservation, February 2008.

14. The data maps provide as much information as officials have been able to define for the SAI nearshore marine environment. These maps indicate that the elements of depth, exposure and substrate are only imperfectly known for these areas. Depth contours are conflicting, exposure is only subjectively estimated for the islands, and substrate levels are not well-established other than on a very broad and unreliable scale.

15. It is difficult to establish on the basis of information presently available to officials whether the elements of the classification approach are identifiable with sufficient reliability to determine if the array of habitats representative of the island nearshore environments is, or is not adequately represented in the marine reserve at the Auckland Islands. The Forum may, with its collective knowledge of or access to information for these areas, know whether there are other data sources that would provide reliable and consistent guidance here.

16. On a crude scale it would appear that the Antipodes Islands sit apart from the other islands in being separate from the Campbell-Bounty Plateau, with depths plunging to 200 m and beyond well within the territorial sea area. Exposure estimates show only limited areas at best of medium and low exposure at Campbell, similar to those areas captured in the Auckland Islands MR, and even less at the Antipodes. The low lying Bounty Islands are crudely exposed.

17. Substrate information is only available consistently for the whole SAI at general levels. While hard substrates derived from the parent rock of the islands themselves certainly exist in unmapped reef formations associated with the islands, the bulk of the territorial seas appear to be characterised in their substrates with calcareous gravels and sands.

18. The island groups are characterised by their differences, geologically speaking[4]. The oldest formations on the Campbell-Bounty Plateau appear to be the Jurassic granitic remnants of the Bounty Islands, at c. 180 million years. The Auckland and Campbell formations are dated at 6-11 million years, as remnants of shield volcanoes, with adequate topography and weathering to produce peaty soils. The Antipodes Islands at the edge of the Plateau are basaltic volcanic cones, vents and breccias of much more recent origins.

19. It may be that the geological origins of the parent substrate, as well as the isolation and position of the Islands in the oceanic currents, all conspire to create differences at the ecological level that should be recognised. Rather than consideration of 'representative' habitats and ecosystems it would be as

[4] 'Marine Protection for the New Zealand Subantarctic Islands: A Background Resource Document'. Department of Conservation, June 2006

well to consider the elements that are known of the very high levels of diversity in inshore ecology and speciation, and high endemism between the islands[5]. Given that the islands themselves have such a high recognition in terrestrial protective status it is apparent that the marine environments surrounding each island should be considered in the same light.

20. The MPA Policy recognises that beyond the inclusion of 'representative' habitats and ecosystems in the MPA Network, it is also required that consideration be given to 'outstanding, rare, distinctive, or internationally or nationally important marine communities or ecosystems' and natural features associated with these[6], and their protection at the highest level of status. Other requirements of the Policy will also need to be taken into consideration including viability, security and impacts on users.

International Subantarctic Marine Protection and Management

21. For the information of the Forum attached as Table 2 is a summary of information on the subantarctic islands in the South Pacific, South Atlantic and Southern Indian Oceans, defined as those southern islands north of the Antarctic Treaty limits of 60^0 South. These sources show a trend towards recognition of the natural quality and diversity of the islands, especially those that are largely uninhabited (apart from research or meteorological stations) and the extent of World Heritage Status established or sought.

22. In summary, outside the NZ subantarctic area there are 11 islands or island groups, 8 of which are nature reserves or World heritage Sites (all or in part, or subject to WHS application). Seven of the islands groups are surrounded (all or in part) by marine reserves in the territorial sea. Notably Australian subantarctic islands not only have TS components devoted to marine reserves but also extensive parts of the EEZ.

[5] 'The marine ecosystem of New Zealand's subantarctic islands and their surrounding plateaus' NIWA Client Report (Booth, J, 2004) National Institute of Water and Atmospheric Research Ltd, Wellington.
[6] MPA Policy, paragraph 30, page 12.

Table 1: Sub Antarctic Region – Inventory of Existing Protection Tools

Tool	Location	Notes	Area (sq km)	Protection Provided
Nearshore				
Nature Reserve	**All islands**	**Subject to the Reserves Act to MLWS**		
Marine Reserve				
	Auckland Islands (Motu Maha)	TS	4980	No fishing; other activities controlled or excluded
Marine Mammal Sanctuary				
	Auckland Islands	Coincides with TS boundary and marine reserve	4980	Protection for marine mammals through specific measures
Fisheries Act				
	Benthic Protection Areas	BPA 16 Campbell Heritage (TS)	2990	Illegal to trawl within 100 m of the seabed.
		Pt BPA 12 Antipodes Transect (TS)	Pt 109 740	ditto
		BPA 15 Bounty Heritage (TS)	1790	ditto
	Regulations	46 m rule and foreign charter vessels		
Offshore				
	Benthic Protection Areas	BPA 2 Campbell East	22530	Illegal to trawl within 100 m of the seabed.
		Pt BPA 12 Antipodes Transect (EEZ)	Pt 109 740	ditto
		BPA 17 Sub-Antarctic Deep	97 790	ditto
	Seamounts	15JA2 b Bollons	79 860	No trawling, dredging
		#401	354	No trawling, dredging
	Regulations	Auckland Islands		FRC 5024/5051 – no fishing to 12 nm distance from islands

Table 2: Sub Antarctic Islands in New Zealand and Other Country Jurisdiction (N of 60^0 S)

Res=Research, Met= Met station, WHS= World Heritage Site, W=Wikipedia, BPA=benthic protection area (no bottom trawling, dredging)

Island(s) Is=Islands or Archipelago	**Govt**	**Location**	**Area (km^2)**	**Inhabited**	**Land Status**	**TS/EEZ Status (Fishing/Protection)**	**Sources**
Pacific Area							
Antipodes Is	NZ	SE of NZ	62	No	Nature Res, WHS	WHS over TS,BPA	
Auckland Is	NZ	S of NZ	620	Res	Nature Res, WHS	WHS over TS,Marine Reserve (TS)	
Bounty Is	NZ	SE of NZ	1.3	No	Nature Res, WHS	WHS over TS,BPA	
Campbell	NZ	S of NZ	115	Res	Nature Res, WHS	WHS over TS, BPA	
The Snares	NZ	S of Stewart Is, NZ	3.5	No	Nature Reserve, WHS	WHS over TS	
Indian Ocean Area							
Bouvet	Nor	S Atlantic, SW of Capetown	49	No	Nature Reserve	Nature Reserve (TS)	W
Crozet	Fr	S of Indian Ocean	325	Res/Met	Nature Res, National Park	Marine reserve around all islands except Isle de la Possession (2006) Overfishing of Toothfish. The albatross population is monitored and waters are patrolled by both	W, btinternet.com,

						French Gov and Greenpeace.	
Heard and McDonald Islands	Au	SW of Australia	368 2.5	Res	WHS	HIMI Marine Reserve (2002) (TS+) 65 000 km^2	W, heardisland.aq,
Kerguelen	Fr	S Indian O, W of Heard	7215	Res 50 - 100	Nature Reserve	Marine Reserves on about 50% of coastline, on NE and SW coasts and outliers (2006). A small number of vessels are licensed to fish elsewhere within the archipelago's territorial waters.	W, taaf.fr
Macquarie	Au	S of Aus, SW of NZ	128	Res/Met	WHS, Tasmanian State Reserve	State Marine Reserve to 3 nm, Commonwealth MR to 12 nm and 5.8.million ha of EEZ	W, parks.tas.gov.au, environment.gov.au
Prince Edward Is	SA	SE of SA, W of Crozet	335	Met/Res	Special Nature Reserve 1995	No fishing in between islands, or longlining out to 8 nm. IUCN Category 1a proposed for as TS, 13% of EEZ, Conservation Zones 21%.	W, btinternet.com,
Saint Paul	Fr	Indian Ocean	6	No	Nature Reserve	Marine reserve in TS; TAC 390 tonnes of lobster outside	W, taaf.fr,
South Atlantic Area							
Diego Ramirez	Ch	S of Chile	1	Met			W
Ildefonso Is	Ch	SW of Chile	Nine rock stacks	No			W
South Georgia Is and South Sandwich Is	UK	S Atlantic, N of Weddell Sea	3903 (none on SSIs)	2000+	SG nominated WHS	Fishing takes place around South Georgia ; Patagonian toothfish, icefish and krill. CCAMLR, MSC cert.	W, sgisland.com

Tristan Da Cunha	UK	S Atlantic, W of S Africa	180	269	Gough and Inaccessible Islands are WHS, with nature reserve status for land and territorial waters. Allows domestic fishing.	Fishing factory was completely destroyed by a fire (Feb 2008) The Tristan Rock Lobster farmers work for the South African company Ovenstone which sells crayfish to the United States and Japan. Recently - decline in interest in the United States.	W, tristandc.com

Other References:

J. Cooper, T. Akkers, R.J.M. Crawford, & D.C. Nel 2004, 'Conserving Albatrosses andPetrels at Sea: Towards the Creation of a Marine Protected Area Around South Africa's Sub-Antarctic Prince Edward Islands', Scientific Meeting, Hobart


Port Elizabeth
SOUTH AFRICA
South Atlantic Ocean
Bouvet Island (Bouvetøya)
Prince Edward Islands
South Georgia and South Sandwich Islands
Crozet Islands
Southern Ocean
Falkland Islands
South Orkney Islands
South Shetland Islands
Queen Maud Land
Kerguelen Islands
Weddell Sea
Ronne ice shelf
Graham Land
SOUTH AMERICA
Amery ice shelf
Heard Island and McDonald Islands
South Pole
Peter I Island
Shackleton ice shelf
South Indian Ocean
Marie Byrd Land
Amundsen Sea
Ross ice shelf
Wilkes Land
Southern Ocean
Ross Sea
Victoria Land
Scott Island
Balleny Islands
South Pacific Ocean
Macquarie Island
Campbell Island
Auckland Islands
Adelaide
NEW ZEALAND
Snares Islands
Melbourne
Chatham Islands
AUSTRALIA
Christchurch
Sydney
Wellington