

# Standardisation of zones within specially protected and managed areas under the Madrid Protocol

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## Abstract

Many countries are revising management plans for protected areas so they comply with Annex V to the Protocol on Environmental Protection to the Antarctic Treaty. Annex V allows for “identification of zones ... in which activities are to be prohibited, restricted or managed”. The many countries could use a wide range of terms to meet site-specific zoning needs. If let develop *ad hoc*, a confusing and inconsistent set of zones would likely evolve. This could be avoided by a coordinated and pro-active approach to identifying the zones needed. Based on field observations and examination of current and proposed management plans, a simple, standardised, model of six types of zone is proposed: Restricted, Sensitive, Scientific, Tourist, Facilities and Historic. Their application, where needed, would meet the full range of management needs within specially protected and managed areas in Antarctica.

## Introduction

The Protocol on Environmental Protection to the Antarctic Treaty (the Protocol) was agreed with five annexes by Antarctic Treaty Consultative Parties (ATCPs) in 1991 (SCAR 1993). Annex V on “Area Protection and Management” provides for the designation of Antarctic Specially Protected Areas (ASPAs) and Antarctic Specially Managed Areas (ASMAs), which, when the Protocol comes into force, will together replace the five existing categories of Sites of Special Scientific Interest (SSSI), Specially Protected Areas (SPAs), Specially Reserved Areas (SRAs), Multiple-use Planning Areas (MPAs), and Areas of Special Tourist Interest (ASTI). While the Protocol is not yet in force (and will not be until it has been ratified by all countries party to its agreement), in the interim ATCPs have agreed to begin implementing its provisions on a voluntary basis. At present a number of countries are revising the management plans for Sites of Special Scientific Interest (SSSI) and Specially Protected Areas (SPAs) so that they comply with the terms of Annex V to the Protocol.

Article 5.3(f) of Annex V allows for the “identification of zones .... in which activities are to be prohibited, restricted or managed for the purpose of achieving the aims and objectives” of the management plans required for ASPAs and ASMAs. Management plans in Annex V format agreed at the XVIIth Antarctic Treaty Consultative Meeting (ATCM) (ATCPs 1993), and plans currently in draft form, indicate that the zoning provision may often be employed to meet particular land-use and activity planning needs within the new ASPAs. Few examples exist of ASMAs, but it is probable that zoning will also be used where there are needs to identify clearly particular sites that have special management requirements.

## **The Problem**

At present there are no common or agreed guidelines on how to apply the zoning tool within ASPAs or ASMAs. If allowed to develop in an *ad hoc* way, a scenario can be envisaged of (e.g.) 40+ ASPAs and a number of ASMAs, each with their own set of “zones” to manage and protect sites. Scientists, support staff, tourists, and Treaty inspection teams visiting a number of areas would be confronted with a new set of zones for each ASPA or ASMA visited. Moreover, nations involved in the operation of ASPAs and ASMAs in different parts of Antarctica might have to use one set of terms and criteria at one location, and another set elsewhere. In the long term, the rationalisation and simplification of protected area categories sought in Annex V would be destroyed, and a more confusing system than that replaced by the Protocol would emerge.

A coordinated and pro-active approach to management zoning is needed in order to avoid the confusion that is likely to result if a wide range of zoning terms is allowed to develop on an *ad hoc* basis. This paper argues that agreement on a simple and practical set of zones, perhaps to be adopted as a set of SCAR guidelines, is desirable before a large number of management plans are adopted in Annex V format.

## **Existing “zones”**

With many sites and countries, there has emerged a number of terms to describe what are essentially equivalent to the management zones envisaged under Article 5.3(f). An MPA proposal for Arthur Harbour, Southwest Anvers Island (ATCPs 1992: 327), contains within its designation of a site of Long Term Ecological Research (LTER) — terminology not recognised in the Protocol but used for LTER sites in the US (Quetin and Ross 1992). Within LTER Sites there may be areas with special management needs to which the zoning tool could be applied. A draft MPA for Ross Island planned designations of Station Zones, Scientific Zones and Restricted Zones, the latter two co-existing with ATS protected area categories within them. While this plan has not been taken further by the programmes operating in the region, it was the first draft plan in Antarctica to propose use of the zoning tool. Rakusa-Suszczewski and Krzyszowska (1991) refer to a ‘protected’ zone close to Arctowski station. Specific ‘zones’ are not defined in the draft ASMA proposal for Admiralty Bay, but areas and sites requiring special management measures are identified (Walton, pers. comm., 1993).

An existing protected area, SSSI-33 on Ardley Island, King George Island, contains a “Tourist Area” along its northern shore (ATCPs 1992). SSSI-11 at Tramway Ridge, Mt. Erebus, was split into Zone A (restricted) and Zone B (less restricted) (Heap 1990). The management plan for Tramway Ridge is currently being re-drafted in Annex V format: the approach being proposed is to define Zone A as a Restricted Zone within the ASPA, and the need for a Zone B is removed since it is simply the remainder of the area. It is proposed that all access be prohibited from the Restricted Zone for an indefinite period in order that it be preserved as a reference site for future studies, a provision that would be subject to review at least once every five years and could be changed by mutual agreement as the need is identified. The zone would be marked on the ground and on site maps. SCAR has yet to approve this proposal. A plan recently drafted as a result of a proposal for a protected area at Granite Harbour (Schroeter, Green and Seppelt 1993) provided for a Zone A (restricted), Zone B (less restricted) and Zone H (historic). The plans agreed at the XVIIth

ATCM for SPAs 1, 2 and 3 (Taylor Rookery, Rookery Islands, and Ardery Island/Odbert Island respectively) all have made use of “restricted zones”, although they are not formally called by this name, nor are they marked on management plan maps as such (ATCPs 1993). It might be helpful if these areas were simply declared Restricted Zones and clearly marked on site maps.

In some areas where there is considerable pressure from human activities, and yet currently no formal management arrangements such as under an ASMA (e.g. King George Island), some scientists have unilaterally declared particular sites as “reserves”, or “sensitive”, or “protected” zones (Harris 1991a). Such sites have no status under the Treaty, and the unique terms coined may lead to confusion and inconsistencies. Scientists are currently addressing, and will continue to address, the problems using their own *ad hoc* measures unless SCAR or the Treaty take the lead and provide the range of management tools clearly sought. The availability of a standard set of zones that could be applied within an ASPA or ASMA would help to address the demonstrated needs.

### **Common management needs = standard zones**

The range of terms being used refer to essentially common management needs in these areas. Field investigation of complex multinational management problems on King George Island (Harris 1991a, 1991b, 1993), together with an examination of management plans under development, and recent practical experience in preparing Ross Sea management plans in Annex V format (on behalf of New Zealand and the United States), suggest that a simple, standardised, model can be applied to meet all current zoning needs within ASPA and ASMA sites in Antarctica.

Suggested are six types of zone which could be applied in either ASPAs or ASMAs: Restricted Zone, Sensitive Zone, Science Zone, Tourist Zone, Facilities Zone and Historic Zone (Table 1). The application of these zones would only be where needed; not all sites require specific zones and it is quite probable that within ASPAs only a few of the above types would be used. The full range, however, might be useful within ASMAs, since they are likely to show a wider range of management problems and objectives than ASPAs.

If adopted as the “zones” referred to in Annex V, Article 5.3(f), they would be available for application as the need is perceived. Consistent with present Protocol provisions, ASPAs could be designated within ASMAs, and any management zone could contain one or more other zones where necessary. For example, an ASMA Tourist Zone could contain an Historic Zone; an ASMA Facilities Zone could contain an ASPA. Zones could not, however, be designated outside of any ASPA or ASMA. While it would be true that SCAR and the Committee for Environmental Protection (when formed under the Protocol) could, and perhaps might, help to ensure some standardisation of such zones, in effect this would represent a less direct, and thus potentially more ambiguous and less efficient, approach to gaining the compatibility between protected and managed areas required.

### **Conclusion**

The model of standard management zones proposed allows for a consistent approach toward local or regional site management within ASPAs and ASMAs throughout Antarctica. The model could be adopted as part of a set of guidelines for the preparation of management plans within such areas. If, in the future,

there is a compelling case for additional standard zone(s), these could be considered as the need arises. In the meantime, the range of zones suggested — Restricted, Sensitive, Science, Tourist, Facilities, Historic — is not unduly complicated, yet it provides for the complete range of current needs in those areas where special protection or management is required in Antarctica.

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**Table 1** Proposed standardised management zones within ASPAs and ASMAs under the Protocol.

Designation	ANTARCTIC SPECIALLY PROTECTED AREA						ANTARCTIC SPECIALLY MANAGED AREA					
<b>Objectives</b>	To preserve representative and outstanding examples of the natural features and/or values, ecosystems, species and habitats of the Antarctic environment. To protect areas of value because of current, on-going or planned scientific work or because of their exceptional value as baseline reserves. To protect and manage places or features of outstanding wilderness, aesthetic or historic value.						To provide the means for local and regional planning where there is a need to manage human activities to minimise the risk of mutual interference or adverse or cumulative environmental impacts. To manage and protect features, wildlife and historic resources of local or regional significance, considered not to merit ASPA designation.					
<b>Management Plan</b>	mandatory						mandatory					
<b>Entry Permit</b>	Mandatory for entry to ASPA; entry to Zone according to conditions specified in Management Plan and Permit						not required					
<b>Management Zones</b> [see Annex V Article 5.3(f)]	Restricted Zone	Sensitive Zone	Science Zone	Tourist Zone	Facilities Zone	Historic Zone	Restricted Zone	Sensitive Zone	Scientific Zone	Tourist Zone	Facilities Zone	Historic Zone
<b>Specific Objectives</b>	To restrict or prohibit access into a particular part of the ASPA for a range of management or scientific reasons.	To ensure those who enter the ASPA are aware of the areas within that are particularly vulnerable to disturbance.	To ensure those who enter the ASPA are aware of the areas within that are sites of current scientific investigation.	To ensure tourists who enter the ASPA are aware of the areas within which they are to be restricted.	To ensure that facilities within an ASPA are restricted to designated areas.	To ensure those who enter the ASPA are aware of the areas within that are sites of historic importance.	To restrict access into a particular part of the ASMA for a range of management or scientific reasons.	To ensure those who enter the ASMA are aware of the areas within that are particularly vulnerable to disturbance.	To protect small scale, transient scientific projects from accidental or mutual interference.	To provide a means of managing the activities of tourists so their impacts may be monitored and contained.	To contain stations and facilities within pre-defined areas and provide means to control their spread.	To recognise, protect and manage historic sites of local or regional significance.
<b>Special Conditions</b>	Entry for scientific and other purposes must not conflict with the objectives of the designation, to be detailed fully in the management plan. Any special zones designated under Annex V, Article 5.3(f), are to be clearly marked on site as appropriate and on maps.						ASMA Code of Conduct exhorts compliance with management plan and zoning: not possible under Annex V to set up a permit system for entry to ASMAs or ASMA zones: if permits are required, the area must be designated an ASPA. Register of Zones to be maintained. Marking mandatory.					