

SECOND

ANTARCTIC PROTECTED AREAS WORKSHOP

Compiled and edited by José Valencia



Map of the Management Plan of SSSI N° 33 (Draft), Ardley Island. R.Jaña & Encina, L.

Workshop Report

Lima , Perú 22 - 23 May, 1999

Ministerio de Relaciones Exteriores
Instituto Antártico Chileno
Santiago - CHILE
2000

Preamble.

The Antarctic Treaty Consultative Parties at ATCM XXII held at Tromso received the report of the first Antarctic Protected Areas Workshop. After discussions and considering the need to continue the development of conservation in Antarctica, in the light of recent advances and new concepts, they decided to hold a Second Workshop on Protected Areas in conjunction with ATCM XXIII in Lima.

The recent entry into force of the Madrid Protocol of Protection of the Antarctic Environment, initiation of activities of the Committee of Environmental Protection and the imminent ratification of Annex V of the Protocol have brought to the attention of the ATCP's several issues. These are derived from the application of this new regime to the old System of Antarctic Protected Areas created in 1964. Such as the consequences of aggregation of SPA's, SSSI's and Historic Sites under a single category ASPA, application of active management, new criteria for site selection, marine protected areas, protected area size and representativeness. Other concerns arise from awareness of new threats to the Antarctic environment posed by increasing activities of tourism and fisheries. All of these concerns will require continued work by the ATCP's in the near future.

This report contains the program, the texts of a keynote address, five background presentations, reports of the discussions of items established in the terms of reference agreed by the ATCP's, conclusions, one discussion paper and the list of participants.

I would like to thank to all participants, especially to those who lent their expertise and provided the texts of their oral presentations, those that lead discussion groups, rapporteurs and to our host for providing the facilities and secretarial assistance.

José Valencia.

Santiago, July, 2000.

SUMMARY REPORT

SECOND WORKSHOP ON ANTARCTIC PROTECTED AREAS

1. Introduction

A Second Antarctic Protected Areas Workshop was held in Lima on May 22-23 1999. The CEP at ATCM XXII in Tromso, Norway provided the following Terms of Reference (ToR):

- i) Examine how the overall Antarctic protected areas framework envisioned in article 3(2) of the Protocol Annex V could be developed. This framework should:
 - a) Identify and take into account threats to the different categories and special features of protected areas listed in Article 3(2) of Annex V and thus provide priorities for protection;
 - b) Provide guidelines to identify areas needing special protection;
 - c) Propose criteria to evaluate proposals for establishing new protected areas keeping in mind that all of Antarctica has been designated as a natural reserve devoted to peace and science.
- ii) Develop better systems for categorising protected areas in Antarctica making good use of existing knowledge and methods;
- iii) Undertake a gap analysis based on the values for site protection identified in article 3 of Annex V, in order to make recommendations for new protected areas, with particular attention given to identifying:
 - a) Areas to be kept inviolate from human interference so that future comparisons may be possible with localities that have been affected by human activities;
 - b) Representative examples of major terrestrial, including glacial and aquatic, ecosystems and marine ecosystems.
- iv) Suggest how the CEP could best review draft management plans for ASPAs and assist proposers in developing plans

The Workshop attempted to address all elements of the Terms of Reference but lack of time limited the extent to which it could fully address all items. Further specialised consideration will be necessary to ensure that comprehensive guidance is provided on protected areas, their designation, management and conservation value. It would be helpful, if all Parties could ratify Annex V as soon as possible.

The workshop decided that the full proceedings of the workshop be compiled, edited and distributed, including the key note introductory address, the overview papers and the proceedings of each of the discussion groups.

2. Key points

The Workshop noted the following key points:

- The Protocol, and particularly Annex V, provides the necessary framework for a protected areas strategy but that further elaboration is needed for practical use;

- Analysis of risks to the Antarctic environment could provide a useful tool for identification of requirements for new protected areas;
- The development of a "toolbox" of criteria for assessing existing and new protected areas would offer opportunities for systematic development of the present protected area system to a more comprehensive level;
- There are several available analytical methods for determining the adequacy of representativeness of existing protected areas and risks to the environment;
- Methods for reviewing draft plans could be improved on.

3. Recommendations

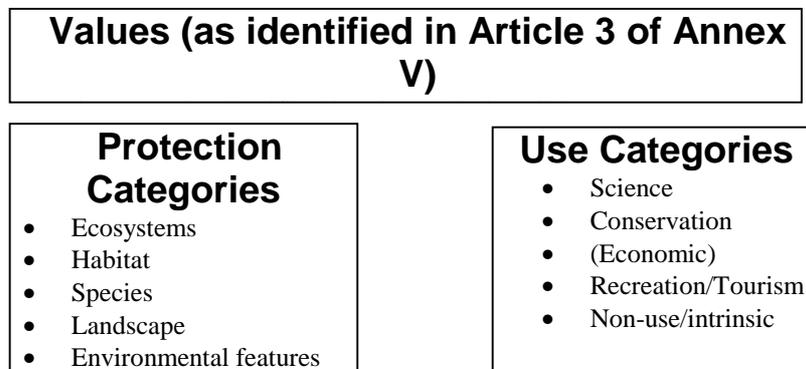
The Workshop developed five recommendations for consideration by the CEP.

Elaboration of protected areas framework (ToR i & ii)

It has become apparent in attempting to apply elements of Annex V of the Protocol that some practical elaboration of details is needed. It was for this reason that the Guide to the Preparation of Management Plans for Protected Areas was adopted at XXII ATCM. The Workshop concluded that a similar approach would facilitate the assessment of how protected areas complied with the categories in Annex V.

Recommendation 1

That the CEP elaborates the existing framework for protected areas in Antarctica, which draws on the following conceptual schema:



Since protected areas are but one element of the conservation requirements for Antarctica the Workshop further recommends:

Recommendation 2

That the CEP considers the need for further elaboration of an Antarctic conservation strategy.

Undertake a gap analysis to recommend new protected areas (ToR iii)

The Workshop heard the results of a gap analysis and considered the opportunities afforded by other analytical tools recommended by SCAR. It was agreed that while gap analysis was useful it did not provide all the answers. More systematic and integrating approaches are needed. In order to calibrate the importance of threats to the Antarctic environment as a tool for prioritising a protected areas strategy, the value of environmental risk analysis was explored.

Recommendation 3

That in selecting new protected areas, a range of tools be used, including analysis of environmental risk, quality and feasibility.

QUALITY	ENVIRONMENTAL RISK	FEASIBILITY
<ul style="list-style-type: none">· representativeness· uniqueness/rarity· biodiversity· geodiversity	<ul style="list-style-type: none">· human activities/impact· natural variability· species vulnerability/fragility· locality	<ul style="list-style-type: none">· boundaries· conflicts· size· possible tools
<ul style="list-style-type: none">· naturalness· amount of existing damage· education potential· scientific importance	<ul style="list-style-type: none">· non-Antarctic threats· urgency/time over which additional protection/need for rapid action	<ul style="list-style-type: none">· time period/duration· accessibility/logistics· acceptability to others· fits categories of
<ul style="list-style-type: none">· aesthetic quality		

Annex V

Complementarity assessment would provide an indication of how well existing protected areas provide protection for values not declared in the existing management plan. The workshop therefore recommends:

Recommendation 4

When preparing and periodically reviewing protected area management plans, the Party compile inventories of the values found in those areas, and assess the effectiveness of protection for the designated assemblages. In addition consider whether there is inappropriate duplication between areas, and whether there are other assemblages which need inclusion in the protected area.

Review of draft management plans (ToR iv)

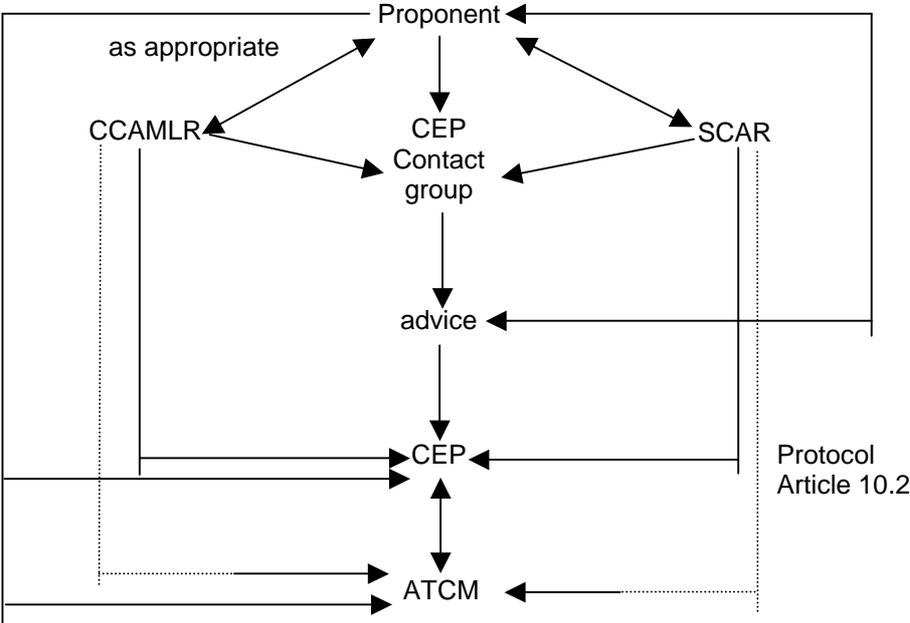
The workshop noted a need to consider the content and effectiveness of existing management plans in a consistent manner as well as how the CEP could best review draft management plans for ASPAs and assist proposers in developing plans. It is recommended that:

Recommendation 5

A Contact Group should be established by the CEP, in accordance with Rule 9 of the CEP Rules of Procedure with the following functions:

- *Provision of advice to proponents and the CEP on new management plans.*
- *Reminding proponents when revisions to existing plans are due.*
- *Provision of advice on such revisions.*
- *Monitoring the operation of plans and advising the CEP / Parties accordingly.*

The following flow diagram is proposed for the submission of, and the provision of advice to the ATCM on, Protected Area Management Plans.



[dotted lines are routes provided for in the Protocol but as yet unused]

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Suárez, Gustavo “Conservation Values for Areas of Special protection”

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C.Harris (U.K.) Issues in the development and management of Antarctic Protected Areas.

List of Participants

Agenda

Antarctic Protected Areas Workshop

Centro Cultural Pontificia Universidad Católica

Lima, Perú 22 - 23 May 1999

Workshop Chair: *Dr. Ronald Woodman*

Workshop Secretary: *Dr. José Valencia*

Time May 22

08:45	Registration
09:10	Welcome and introduction (Workshop format) Dr.R.Woodman (Perú)
09:20	Key note introductory address Mrs. Y. Kakabadse (IUCN)
10:00	1-A Overall framework for Antarctic Protected Areas. Dr. D.Walton (U.K)
10:20	1-B Conservation values for areas of special protection. Mr. G. Suárez (Perú).
10:40	Coffee
10:55	2 New Areas, gap analysis and conservation values. Dr. J.Acero (Argentina)
11:15	3 Guidelines for the development of a system of categorisation of Antarctic Protected Areas. Ms. Gillian Wratt (N. Zealand)
11:35	4 Procedures to review management plans, by CEP. Dr. M.Richardson (U.K)
11:55	Planning for discussion groups: Aim - Role and purpose of discussion groups.- Identify members of discussion groups J.Valencia (Chile)
12 :05	ASPAs Discussion Groups (Five)
12 :45	Lunch
13 :45	Working session of discussion groups
15 :00	Coffee
16 :30	Elaboration of conclusions and recommendations by each Group
17 :00	Plenary for Presentations of "Summary and Conclusions" by Leaders of Discussion Groups
18 :00	Close for the day.

May 23 ONLY MORNING SESSION

09 :00	Preparation of the draft final report by each Discussion Group
10 :30	Coffee
10 :45	Plenary, discussion and approval of final report and recommendations
12 :30	Closure

Discussion Groups, Themes and Leaders

- 1.- Overall framework for Antarctic Protected Areas. Dr. Tony Press (Australia)
- 2.- New Areas, gap analysis and conservation values. Dr. Alan Hemmings. (New Zealand)
- 3.- Guidelines for the development and management of a system of Antarctic Protected Areas. Mrs. Joyce Jatko.(USA)
- 4.- Development of criteria for identification of new protected areas. Dr. Inh Young Ahn (Korea)
- 5.- Procedures to review protected areas management plans by CEP. Mr. Herman Verheij (Netherlands)

The Antarctic Protected Areas System: Challenges and practice

Yolanda Kakabadse

I. Introduction

The present workshop derives its mandate from ATCM XXII, held at Tromso, Norway, in 1998. It follows on from the first workshop on Antarctic Protected Areas, held preceding that Antarctic Treaty Meeting (ATCM).

The issue of Antarctic protected areas goes back to the sixties, and equally does IUCN's involvement. The seventh IUCN General Assembly members urged that the proposed Antarctic Treaty should set aside protected areas for the conservation of fauna, flora and their natural environment. IUCN has contributed to the negotiations of the Protocol on Environmental Protection to the Antarctic Treaty and in co-operation with SCAR promoted a workshop to analyse protected area management (Lewis Smith *et al* 1994). The IUCN workshop on Antarctic cumulative impacts (De Poorter and Dalziell 1997) also has relevance to protected areas.

The Terms of Reference of today's workshop include:

- Examine how the overall Antarctic protected areas framework could be developed
 - Provide priorities for protection
 - Provide guidelines to identify areas needing special protection
 - Propose criteria to evaluate proposals for establishing new protected area
- Develop better systems for categorising protected areas in Antarctica, making good use of existing knowledge and methods. This refers to the requirement for a revised system, taking further the ideas of the Scientific Committee for Antarctic Research (SCAR) ecosystem classification matrices.
- Undertake a gap analysis (based on Art3, Annex V, of the Environmental Protocol) in order to make recommendations for new protected areas with particular attention to
 - Areas kept inviolate from human interference so that future comparisons may be possible with localities that have been affected by human activities
 - Representative examples of major terrestrial and marine ecosystems (including glacial and aquatic)
- Suggest how the CEP (Committee for Environmental Protection) could best review draft management plans for Antarctic Specially Protected Areas (ASPAs) and assist proponents in developing plans.

II. Holistic View of Antarctica as a Protected Continent

Those of you that participated in last year's workshop may remember that Martin Holdgate's presentation (Holdgate 1998) created a bit of a controversy. Because he stated that designation of protected areas in Antarctica to date appears to measure up badly when compared with what has been done elsewhere. As you remember, he also noted, that this depends what angle is taken to look at the matter. I would like to go into this a little bit further:

The authoritative view of the state of things regarding protected areas world-wide is the United Nations List of National Parks and Protected Areas which IUCN has prepared under mandate from the General Assembly since 1962. In the 1993 UN list (IUCN 1994), the totals in Antarctic Biogeographical Realm were set out in the table represented here:

Table 1: Protected Areas in the Antarctic Realm (IUCN 1994)

Neozelandia	205 areas	6,147,634 ha	22.77 % of land area
Maudlandia	9 area	216,195 ha	0.02 % of land area
Marielandia	4 areas	1,330 ha	0.00 % of land area

Insulantarctica	24 areas	1,327,426 ha	69.12 % of land area
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"Maudlandia" is broadly "Greater" or "East" Antarctica and "Marielandia" is "Lesser" or "West" Antarctica (Holdgate 1998).

Note the discrepancy in the number of areas due to the fact that the UN list only includes areas above a certain size – 1000 hectares except for offshore Oceanic islands which are included where they exceed 100 hectares and where the whole island is protected. However, this will not make much difference to the percentages (Holdgate 1998). Based on this comparison, it looks as if Antarctica is sadly lagging behind the rest of the world. However, as was already pointed out there is also another way to look at this picture.

First, lets revisit the categories developed by IUCN, used in the UN list, and recognised worldwide:

- I. Strict Nature Reserve/Wilderness Area
 - IAA. Strict Nature Reserve/protected area managed mainly for science
 - Ib. Wilderness Area: protected and managed mainly for Wilderness protection
- II. National Park: protected area managed mainly for ecosystem protection and recreation
- III. Natural Monument: protected area managed mainly for conservation of specific natural features
- IV. Habitat/Species Management Area: protected area managed mainly for conservation through management intervention
- V. Protected Landscape/Seascape: protected area managed mainly for landscape/seascape conservation and recreation
- VI. Managed Resource protected Area: protected area managed mainly for the sustainable use of natural ecosystems

ASPAs would fit into category I, but it is unclear where Antarctic Specially Managed Areas (ASMAs) would fit: maybe somewhere in category V, though without implying that science is a form recreation.

Given the special status given to all of Antarctica under the Environmental Protocol, designated as a "natural reserve", devoted to "peace and science", one could consider the whole area as a zone akin to category II but without implying any "national" status of course. If looked at it this way, the continent would have one of the best statistics!

It would be useful to have a discussion between the Antarctic Treaty System and the IUCN system, to investigate whether the status of the whole continent (under the Protocol) could be classified as one of the existing IUCN categories, even if it were to be a bit of a special case (after all Antarctica is special in many ways).

However, it is more important to look at the challenges that would need to be met in order to obtain proper continent-wide holistic protection, and to do away with as much of the piece-meal approaches as possible. Some of this has also been touched upon in the 1996 IUCN workshop on cumulative environmental impacts in Antarctic (De Poorter and Dalziell 1997). Such steps are certainly not limited to matters covered by Annex V, but cover the Protocol as a whole, including all Annexes.

Challenges:

1. Abandoning the national-based or project based Environmental Impact Assessments (EIAs) and moving towards joint EIAs covering large geographical areas, including all actors involved in that area. A start has been preparation of a joint EIA, or an overall EIA prepared by one Programme for a joint effort. Examples include the joint Argentine/Dutch EIA for the salvaging of the Bahia Paraíso, and the EIA for the international Cape Roberts drilling project. Also IAATO's (International Association of Antarctic Tour Operators) effort to provide a joint EIA for several of its member-companies is a step in the right direction. However, the next step in the necessary process to avoid cumulative impacts should be a move towards joint EIAs for separate Programmes and projects. For example, an overall EIA for activities in the Dry Valleys, covering science, tourism, other activities, US, New Zealand and other nations... covered in one overall assessment and mitigation effort. Depending on the circumstances, this may be on a yearly basis, or at longer intervals.

2. The establishment and maintenance of an Antarctica wide database on Protected Areas. Conceivably this could be effectively done by WCMC (World Conservation Monitoring Centre) which already houses then secretariat for BCIS – the Biodiversity Conservation Information System. It is based in Cambridge, UK, the same city where the SCAR Secretariat and the Scott Polar Research Institute are housed.

3. Finding a solution for two contradicting needs: i) to limit numbers of visitors at those sites where pressure on the environment may become too high - and ii) to maintain freedom of access, freedom of science, and accountability to the public at large.

In other words, how to ensure, continent-wide that human numbers stay within regions, or sites “carrying capacity” without resorting to unfair or undesirable exclusion of access.

4. How to ascertain that Antarctic science remains within reach for “all humankind” in a world where commercial ownership of scientific data is increasing greatly. How can this trend be prevented from harming Antarctic science, and the overall community’s right of access to knowledge? Note: I am not talking about sharing financial profits or anything similar, but about the need to safeguard very strictly the ideas of freedom of scientific research, and freedom of access to data. These concepts are enshrined in the Antarctic Treaty, but in the rest of the world the trend is towards increasingly concentrating knowledge and information solely in the hands of those that can pay the price demanded for it. If that attitude were to be applied in the Antarctic, science would suffer, and the community as a whole would suffer. Much globally important information comes out of the Antarctic, resulting for instance from research on ozone levels, global warming or monsoon patterns, and in the future maybe even from research on lifeforms that have developed in thousands of years of isolation. Such philosophical issues may not generally be associated with “Protected Areas”, yet in the Antarctic context, my assertion is that they will have to be, as they go to the core of Antarctica’s value for science, as well as the moral obligation to manage Antarctica in the best interest of all mankind. Both of these are part of the Continent’s “intrinsic” values.

5. The need to have relatively untouched areas as a safety net, to compare and use as controls with other areas, as well as to make sure that future generations still have as many options as possible for their own decision making.

With all the above points, the aim of this workshop should be not to delve into legal aspects or semantic interpretations, but to be inventive and keep an open mind.

III. Putting Into Practice Annex V

When talking about different reasons for designation, the question of ranking of the different types of ASPAs in Annex V Art 3) 2) came up at last year’s workshop. No agreement was reached, as some thought there should be priorities and some categories are more important than others, while other participants felt it is impossible to agree on the relative value of one category compared to another. Whereas it is clear that priorities must be established for designation of sites, based on the potential threat an area or site is under, it is at the same time necessary to work towards representative examples of all the different types of ASPAs mentioned in Article 3.

Hence, we of course support the identification of “areas kept inviolate” as a priority, as well as the “representative examples of major terrestrial (including glacial and aquatic ecosystems) and marine ecosystems” which were identified as priorities at last year’s workshop, and which are mentioned specifically in the Terms of Reference. However, we also have to keep in mind the bigger picture, and some of the general challenges.

Challenges:

1) How to protect Antarctica’s non-material and non-science values? What are these values to start with? Some examples from other areas in the world include

Spiritual value:

Those aspects of natural areas that inspire humans to relate to the being or force that has created all and to revere all forms of life

Existence value:

The satisfaction derived from knowing that outstanding natural and cultural landscapes have been protected and exist as physical and conceptual spaces where all forms of life and culture are held sacred. (Note that this very definitely applies to people that will never be in the Antarctic themselves)

Aesthetic value:

Appreciation of the harmony, beauty, and profound meaning found in nature

In the Environmental Protocol, Aesthetic, Wilderness and Intrinsic values are identified by name (the first two in Article 3 of Annex V, the latter in Article 3 of the “body” of the Protocol). How can they best be protected? This could well be an even greater challenge in the Antarctic, an area that is managed by many countries with different

cultures and values - yet this also makes for very interesting and satisfying problem solving. It is worth keeping in mind that these questions have been dealt with outside the Antarctic area, and it is important to use those efforts as much as possible. IUCN and WCMC have a definite role to play here. It is pleasing to see this issue will be visited in more detail later in the workshop.

Please note: The important issue is the protection - not the semantics. It is more important to get experience in designating appropriate areas and develop as wide an understanding as possible by acting, rather than delaying actual designations until consensus on words for definitions is reached.

1 Microorganisms – one of the biggest contributors to biodiversity as far as number of species is concerned. Yet, and this is not limited to Antarctica, compared to higher taxa there is very little knowledge on their distribution, let alone on the habitats that may need protection.

2 What about the Lake Vostok drilling possibilities? Agreement exists to not penetrate the lake for the time being. However, what should be the criteria, if any, to allow this to happen eventually? What protection status should this area receive? Who should decide, and how wide should the consultation be?

3 Last year's workshop and this one as well, are limited in their terms of reference to talking about ASPAs. It is of course a very good start. But it is also obvious, that the discussion needs to widen, and that ASMAs need to be tackled. Without them it will be very difficult to manage large areas – where access may need to be regulated but not restricted. ASMAs also are especially relevant and likely one of the best tools in the management of tourism.

4 Basic knowledge for managing tourism visits is still lacking. Note: tourism here refers to any recreational or even educational visits, especially to areas rich in wildlife. The participants can be paying passengers on bigger vessels, private citizens on yachts, VIPs from nearby bases, or scientists on an R&R trip. The main, unanswered, question is whether minimising cumulative impacts on the environment is achieved through spreading such visits as much as possible over different sites, or by "lumping" them into a small number of sites. We don't know at this stage. The research needs to be carried out. Where will the funds come from? And in the meantime, how do we put into practice the precautionary approach? Preventing further increase in numbers and in sites until further knowledge is obtained seems one solution for now – but how would the ATS go about doing this? Temporary ASMAs maybe with ASPAs embedded in them may offer a solution.

5 This opens the issue of "temporary" designations. Of course, the requirement that a designation needs to be well thought out and that supporting information to justify the designation should be supported. However, what if there is a concern that a certain area or areas may be at risk, but we do not know for sure? Would not the precautionary approach lead us to give some kind of preliminary protection in the form of an ASPA or an ASMA, while further information is collected?

6. I think that it becomes clear that continued work is required. It would be ideal if intersessional work can be initiated – maybe by using email in first instance. Some kind of sub-group of the CEP should be considered, reporting to the CEP, and with terms of reference set by the CEP. This could tackle tasks identified at the previous workshop as well as those identified by this present workshop. Such work would include further development of classification systems and criteria for designation. It would definitely have to include ASMAs as well as ASPAs in its consideration. The Parties, as well as SCAR, COMNAP (Council of Managers of National Antarctic Programmes), AEON (Antarctic Environmental officers Network), IUCN, WCMC, ASOC (Antarctic and Southern Ocean Coalition) and other observers or experts should collaborate on this, to get sufficiently wide ranging expertise.

7. However, the CEP also needs to move beyond the development of merely criteria for designation or discussions on types of areas. Article 5 of Annex V clearly provides the opportunity for the CEP (or SCAR) to actually propose an area for designation as an ASPA or ASMA. While Parties will always continue to propose certain areas for designation, and rightly so, it seems to us that true continent-wide and holistic protection will require the CEP to take up this additional role that is provided for it under Annex V, Article 5.

IV. Other Conventions

Last year, several presentations mentioned that sites in Antarctica were of a quality to merit designation under international Conventions: the RAMSAR Convention on Wetlands of International Importance, and the World Heritage Convention. The possibilities of having a designation as Biosphere reserve were also mentioned. The problem of course is that these conventions require nomination by a State. For RAMSAR, nomination is all that is

needed to secure enrolment. For World heritage it is more complicated, as an international Committee approves nominations. However, these are not insuperable obstacles. It is desirable that Antarctic protected areas and worldwide schemes can dovetail as much as possible. We should all see each other as allies rather than look at each other with suspicion.

V. Large Marine Protected Areas

Another challenge lies in the vast Southern Ocean: Marine protected Areas can play a critical role in protecting marine biodiversity, including ecosystem structures and functions. The coming into force of the Environmental Protocol is an appropriate time for Treaty Parties to look at developing a network of marine protected areas. These could include both Antarctic Specially protected Areas and Antarctic Specially Managed Areas in the Treaty Area. Designation of Marine Protected Areas should also be seriously considered in the CCAMLR area. IUCN has developed criteria that could be applied in identifying suitable areas as candidates for marine protected areas, including.

- Biogeographic importance, including rare or representative biogeographic qualities
- Ecological importance, for example the variety of habitats, the presence of nursery areas for juvenile fish or diversity of species
- Degree of naturalness, the extent to which the area has been subjected to human induced change
- Scientific importance for research and monitoring
- **International or national significance of the area**

IUCN believes that it would be desirable to assess how marine areas might be protected, to meet the objectives of Annex V of the Protocol, to develop criteria that could be used to identify marine areas that might be appropriately set aside as marine ASPAs or ASMAs, and to develop mechanisms and procedures for even closer cooperation with CCAMLR on this matter.

VI. Conclusion

In summary, to achieve holistic protection of Antarctica as a continent-wide protected area, many challenges need to be met:

- 1) The whole of the Protocol needs to be applied to the protection of areas, not just Annex V
- 2) When putting into practice Annex V, a balance needs to be reached between prioritising on one hand, and reaching full representativeness on the other hand.
- 3) It is clear that discussion and action will need to include ASMAs.
- 4) Several larger issues have ramifications for the management of Antarctic Protected Areas:
 - Increasing global trends towards ownership rather than sharing of scientific data
 - Non-material values
 - Tourism management in the Antarctic
 - The CEP's ability to work intersessionally
 - Harmonising ATS and other conventions (e.g. World Heritage, Biodiversity, RAMSAR)
 - The ability to develop large marine protected areas in the CCAMLR zone.

This keynote presentation strayed beyond the Terms of reference of this workshop on purpose – to try and provoke debate and try and identify challenges. This workshop will not be able to solve the remaining problems, but with all the experience and goodwill present, we can be certain that meaningful progress will be made.

VII. References

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Overall Framework for Antarctic Protected Areas

D. W H Walton

The recognition of the need for protected areas arose in 1964 with the original circumscription of Specially Protected Areas (SPA). These were clearly limited to sites of biological importance and were meant to ensure the conservation of representative communities in each Antarctic ecosystem. In due course, it was realised that protection was needed not just for conservation but also for scientific reasons and especially in areas where scientific monitoring or experiments were undertaken. These areas needed to be more widely available than just for biological science and the description of Sites of Special Scientific Interest (SSSI) was developed. Later recognition of other landscape protection categories lead to Special Reserve Areas (but this category was not formally adopted). Meanwhile historic sites were designated for protection as Historic Monuments.

Throughout this period, there was no systematic attempt to organise the conservation of representative ecosystems since the initiatives for proposing protection were at the whim of individual Parties with no definitions or framework to follow. The development of the SCAR matrices for the first time allowed an analysis of coverage, which was seen to be inadequate on almost all grounds.

Further confusion has since arisen by the aggregation of SPA, SSSI and Historic Monument into the ASPA category. Now the only way to distinguish the purpose of sites is by careful examination of their management plan. The development of the ASPA category has focussed almost exclusively on how to write the new management plans with no constructive developments of a logical and consistent conservation framework.

The presentation will aim to illustrate this confusion caused by using only a single category of protected area to cover several different tasks, consider why a framework is needed and, drawing on experience from elsewhere in the world, outline some of the key features that need to be included in this framework to achieve the long-term conservation management needed for Antarctica.

Conservation values for Areas of Special Protection

Gustavo Suárez de Freitas¹

1. Introduction

Protected areas are one of the clearest and most successful responses to the need to conserve biological diversity, as well as species and their populations, in today's world. Also, to safeguard ecological processes and the environmental services that nature provides to mankind. The basic idea is to grant protection to an area by legal and other means, against uses contrary or inconsistent with its conservation objectives.

Therefore, "Protected" does not imply untouchable. Nor is it true that the only possible objective of protected areas is to maintain biological diversity. Now, on the contrary, there is a whole range of objectives very clearly defined, which can be assigned to protected areas. These include not only the maintenance of strictly protected samples, of the natural diversity of our planet, unaltered by man. Also the sustainable use under controlled conditions, of specific natural resources. The objectives of protected areas can also include recreation, and the maintenance of historical and religious sites, as well as adherence to ethical principles, like respect for all forms of life.

We recognise the difficulties of the issue of protected areas objectives, and justifications for their establishment. To such extent, that it is necessary to define different categories of protected areas, classified according to main conservation objectives. IUCN recommends the use of six categories covering all necessary options.

The objective of this presentation is to draw attention to values that justify the establishment of Antarctic protected areas, and their management objectives. An additional aim is to contribute to the ongoing discussion about biodiversity conservation, and the biological implications for Antarctic representative ecosystems, This was widely debated in May 1998 workshop in Norway.

2. Some Preliminary Reflections

As a professional recently acquainted with the subject of Antarctic protected areas and reviewing the relevant documents, I could not fail to be surprised by the proposition to establish natural areas, under special management regimes, within a region--the whole area South of 60° latitude--which is already itself a special management area. Antarctica is considered an important natural reserve, used only for peaceful purposes and scientific research. The signatories of the Treaty are committed to the comprehensive protection of the Antarctic environment and its dependent and associated ecosystems.

However, a well-known difficulty in the management of protected areas is the need to reconcile different conservation objectives. Some management plans are more restrictive than others regarding levels of direct and/or indirect use of natural resources, within the same area. This has led to the development of the concept of zoning protected areas, to provide greater protection to certain portions or zones within the protected area, where the use of resources is seriously restricted or prohibited altogether. In some cases, scientific research can be restricted or even prohibited.

Nevertheless, zoning is not to be understood only as an accumulation of restrictions, or exclusion of potential resource use. Zoning is positive and proactive, and involves identification of areas most suitable for different possible uses. In the case of tourism, for example, the selection of zones should not be done by simple subtraction of areas set-aside for strict protection or other uses. It is better to identify the values, attractions and circumstances that make an area suitable for tourism development.

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In the zoning process we need to consider the factors related to biodiversity and conservation values of the area, also its objectives regarding conservation and human use. This involves the management of large amounts of information, and requires an inter-disciplinary approach; it is by no means a simple task. However, today advances of information technology and computer aided cartography, using satellite images, make possible detailed work unthinkable a few decades ago.

In contrast to protected areas categories, there is no "standard" of precise definitions for zoning within protected areas. Each country manages areas in its own way. It is frequent to have a gradient of options, ranging from strict protection to direct use of specific resources under conditions ensuring sustainability. This usually includes one or more zones set aside for tourism and recreation.

The establishment of "protected areas" in Antarctica, that is already a special use area, legally established by the Antarctic Treaty; thus has more resemblance to the process described above for zoning, within protected areas than with the establishment of a protected area system.

Since, there is no single model for protected area zoning; these are defined by local authorities of each country in accordance with specific objectives for conservation and use. Moreover, within each country, different zoning options are usually selected for each protected area category within the system. For example, a National Park (IUCN Category II) has no direct use zone, but has zones for tourism and recreation. A managed resource reserve (IUCN Category VI) has a direct use zone and sometimes a tourism zone as well. A Strictly Protected Reserve (IUCN Category I) has neither direct use zone or tourism zone. This confirms that the definition of options for zoning within areas is determined by its conservation objectives.

In Antarctica, we have an ideal situation that many protected area proponents and managers would like to be able to start out from a practically pristine region, to establish "protected areas". Where internal zoning can be made according to strict scientific criteria, without having to take into account the rights of third parties with a prior claim to sectors of the protected area. The Antarctic Treaty provides the ideal framework for this process.

The logical way to proceed would be the identification and designation of "areas" (Specially Protected Areas SPA's; Sites of Special Scientific Interest SSSI's; Historic Sites and Monuments HSM's; CCAS Seal Reserves; and Ecosystem Monitoring Sites CEMP's, already used for Antarctica) about which we have enough information. Then decide uses and activities to which they should be dedicated. These include scientific research and application of specific conservation measures; but also tourism and extractive activities legally permitted in Antarctica. There would however be no place in this system for uses defined by default, only for activities explicitly assigned to determined areas. This would allow strict control over uses, of potential conflict with conservation objectives, such as tourism.

3. Conservation Values For Specially Protected Areas

The process described for zoning this large protected area, Antarctica, into areas with different objectives for the establishment of a "system protected areas", should begin with the selection of conservation objectives for the region as a whole. This selection requires consideration not only of the conservation objectives defined in the Antarctic Treaty and the Environmental Protocol, but also other values used throughout the world to determine areas or zones requiring special protection.

These values are related to diverse features not only biological but also social and economic ones. It is important to stress, that the basic aim is to obtain the harmonic interaction between Man and Nature. Ecological conservation values have been applied in the existing system of Antarctic protected areas. These include the preservation of:

- a. Representative samples of unaltered terrestrial, fresh water and marine ecosystems to ensure the integrity of ecological and evolutionary processes.
- b. Areas which provide examples of the distinct characteristics of natural communities, landscapes and species, with special emphasis on those unique to the region or threatened with extinction, and of importance for the regulation of ecological processes
- c. Genetic material and avoiding the loss of plant and animal species.

These objectives are the basis for the formulation of criteria for selection of areas, including representative portions of ecosystems. Such as sites with high degree of species complexity, areas that contain endemic or threatened species and breeding or migration grounds, etc.

The social and economic factors, determining human uses of the environment, are very closely related. However, a distinction can be made between those, that imply direct use of resources, and those, which do not.

Regarding direct use of resources, it is undeniable that natural areas have are important for the supply of goods and services to man. Therefore, for some--but not all categories of protected areas, the aim is to maintain and manage living resources for the sustainable production of food and other goods, as well as for industrial, sporting and recreational activities. The inclusion of this use option depends on the conservation objectives assigned to the area.

Other uses considered non-consumptive, that can also generate negative impacts, also need to be carefully regulated and controlled as direct ones. Opportunities and options for non-consumptive uses of protected areas include:

- a. Scientific research to improve our knowledge of the environment, capacity to conserve and sustainable use.
- b. Monitoring environmental change in natural areas, for comparison with areas under permanent human occupation.
- c. Nature based education and
- d. Nature based tourism and recreation.

There is also need to consider non-material or intangible values of protected areas. These incorporate aesthetic and ethical features, as well as the scientific and recreational already mentioned above. Ethical values, are specific for each culture or even to sub-groups within cultures, But for protected areas, the basic idea is that human beings do not live alone on planet earth, but on the contrary share it with millions of other species. Their permanent existence has an intrinsic value, and is in itself good. It is difficult to make objective judgements about an issue which is by nature subjective and cultural, especially for Antarctica that lacks its own culture, but is "inhabited" by people from a wide variety of different countries and cultures. However, ethical values are important, and it would be wrong to ignore them.

Aesthetic values, were fundamental in the development of the National Park concept at the end of the last century, are also strongly linked to different human cultural and spiritual values. Scenic beauty is an important element in recreation and the enjoyment of nature. It is increasingly understood to make an important contribution to human health, if this is understood in its widest sense and not simply as the absence of disease...

Areas of scenic beauty are often associated with important historical and cultural sites, which protected areas also help to conserve and maintain. There are many such sites in Antarctica, and these are often sites of prime importance for tourism and educational use.

Many people think that the most important non-material value of protected areas in Antarctica is for education. Since Antarctic ecosystems are relatively simple, this facilitates demonstration the fundamental principles of ecology, and specially the concept of unity that and everything is interrelated. These concepts are essential for the definition of a new vision of development that is genuinely sustainable.

4. Final Comments

All these protected area values established globally are also applicable to Antarctica. With the only difference that the whole area, as noted above, is already a special management area. To treat Antarctica as one large protected area, with different zones oriented towards specific objectives, is a completely appropriate management model.

Then it would be necessary to begin a process directed to identification of areas set aside for strict protection, tourism, educational use, or for scientific research and also long-term environmental monitoring. It may be even for sustainable use of living resources, while the rest of Antarctica, to which no zone or category whichever one prefers would be assigned, it would not be subject to any kind of use whatsoever.

This implies a continuous process of incorporation of areas with their associated values, until the zoning of the continent is completed. The great conservation value of Antarctica, added to the relatively limited knowledge of the continent that we have and the potential impacts of human activities, as well as the need to act in a highly precautionary manner, make this approach indispensable.

Guidelines for the development of a system of categorisation of Antarctic Protected Areas

*Gillian Wratt*¹

1. Background

The focus for this presentation originates from the second item on the terms of reference for the Protected Areas Workshop - “Develop better systems for categorising protected areas in Antarctica, making good use of existing knowledge and methods”. The paper outlines the approach to protected area categorisation taken in Annex 5 of the Antarctic Environmental Protocol, and guidelines used in other international protected area systems.

2. Protocol on Environmental Protection to the Antarctic Treaty, Annex V

Annex V provides a framework for any categorisation system in the statements of values and types of protected areas in articles 3.1 and 3.2 as outlined above.

Antarctic Specially Protected Areas are set up “...to protect outstanding environmental, scientific, historic, aesthetic or wilderness values, any combination of these values, or ongoing or planned scientific research.” (Protocol on Environmental Protection to the Antarctic Treaty, Annex V, Article 3.1). Article 3.2 then outlines the types of areas to be protected as, in summary:

- Areas kept inviolate from human interference
- Representative ecosystems
- Important/unusual species assemblages
- Type/only species locality
- Areas of interest for ongoing research
- Outstanding geological, glaciological, or geomorphological features
- Aesthetic/wilderness value
- Historic value
- Other areas as appropriate to protect the values set out in Article 3.1

Any further development of a system of categorisation of ASPAs should contribute to protecting the values and the types of Protected Areas outlined above. For example, by assisting in the development of categories that will contribute to identification, evaluation and selection; and management of protected areas

3. Other methods of categorisation of protected areas

3.1 SCAR ecosystem matrix

To provide further guidance on the development of Protected Areas covering representative ecosystems, the Scientific Committee on Antarctic Research (SCAR) has developed an ecosystem matrix with a total of 255 ecosystem categories:

- terrestrial – 99 categories
- marine – 60 categories
- inland water – 96 categories

These are provided in Annex 1.

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3.2 IUCN guidelines for protected area management categories

The IUCN categories relate to management objectives. The classification is defined for use by IUCN to:

- outline the way in which it is expected that sites in a class will be managed
- provide a description classification that sites managed in a particular way belong to a particular category

The categories are:

- Category I: Strict protection
 - Ia: Strict nature reserve: protected area managed mainly for science
 - Ib: Wilderness area: protected area managed mainly for wilderness protection
- Category II: Ecosystem conservation and protection (National Park)
- Category III: Conservation of natural features (National Monument)
- Category IV: Conservation through active management (Habitat/Species Management Area)
- Category V: Landscape/seascape conservation and recreation (Protected Landscape/Seascape)
- Category VI: Sustainable use of natural ecosystems (Managed Resource Protected Area)

The description of each of these area is given in Annex 2

3.3 Circumpolar Protected Area Network (CPAN) Principles and Guidelines for the Conservation of Antarctic Flora and Fauna (CAFF)

The CPAN guidelines are provided for site selection and designation, and for suggestions for common management approaches. The detailed guidelines are provided in Annex 3. In summary they are:

- Ecosystem guidelines – to sustain natural ecosystems and ensure that representative samples of each are protected
- Species and habitat guidelines – to guarantee long term survival of species in a healthy state, and maintain the environmental conditions which support them
- Physical characteristic guidelines – to maximise benefits from area protection through size, shape, linkages to other sites and maintenance of natural status
- Designation, use and access guidelines – to accommodate appropriate levels of human activity while safeguarding critical habitat, species, life functions and indigenous peoples traditional life-style
- Socio-economic and cultural values – considers indigenous peoples, recreation, economic, social, political and communal values

3.4 UNESCO – MAB Biosphere Reserves criteria

The MAB criteria are for an area to qualify for designation as a biosphere reserve. The criteria are to:

- encompass a mosaic of ecological systems representative of major biogeographical regions, including a gradation of human interactions
- be of significance for biological diversity conservation
- provide an opportunity to explore and demonstrate approaches to sustainable development on a regional scale
- be an appropriate size to serve the functions of biosphere reserves
- have appropriate zonation into core area(s), buffer zone(s), outer/transition zone
- provide for participation of local communities, business etc
- have provisions for human use, a management plan/policy, a mechanism to implement the policy/plan, and programmes for research, monitoring, education and training

4. Points for workshop consideration

The categories, guidelines and criteria outlined above are summarised in Table 1.

The approach to Antarctic Protected Areas to date has provided a broad framework of values and types of areas to be protected in Article 3 to Annex V of the Protocol, and the SCAR detailed ecosystem matrix. The categories provided in Article 3.2 are a mixture of values, features and uses.

The other international guidelines for protected areas outlined above give other approaches to categorisation that could assist in providing a mechanism for incorporating the broader Protocol categories, alongside the SCAR

ecosystem approach into the identification, evaluation and selection of Protected Areas, and in developing consistent management approaches (management plans and EIA).

For example the Annex V protected area types could be combined with CPAN & IUCN guidelines:

CPAN/Annex V categories	Proposed Protected Area				
	1	2	3	4	5
Ecosystems <ul style="list-style-type: none"> • Representative ecosystems – SCAR matrix 					
Species & habitat <ul style="list-style-type: none"> • Important/unusual assemblages • Type only species • Outstanding geological etc features 					
Physical characteristics <ul style="list-style-type: none"> • Size • Zones 					
Designation, use & access <ul style="list-style-type: none"> • Inviolable • Research • Wilderness 					
Socio-economic & cultural <ul style="list-style-type: none"> • Historic • Aesthetic 					

The workshop discussion groups might consider whether there would be value in :

- elaborating the framework for Protected Area categories provided in Annex V Articles 3.1 and 3.2.
- categorisation guidelines which more clearly separate what is being protected (eg habitat, species, geological feature) and what the area is to be used for (c/f IUCN categories) – for identification, evaluation and selection, or for the development of management plans?
- developing a database of PA's by category
- inclusion of Antarctic protected areas into other international system(s) such as World Heritage Areas or Biosphere Reserves

Table 1. Antarctic and international categories/criteria/guidelines for protected areas

Annex V (values)	Annex V (categories)	IUCN (categories)	SCAR (ecosystem matrix)	CPAN (guidelines for selection & designation)	MAB - Biosphere reserves (criteria)
Environmental	Inviolate from human interference	Nature reserve – science	Terrestrial – 99 categories	Ecosystems	Mosaic of ecological systems
Scientific	Representative ecosystems	Wilderness area – wilderness protection	Marine – 60 categories	Species & habitat	Significant for biological diversity conservation
Historic	Important/unusual species assemblages	National Park – conservation, recreation	Inland water – 96 categories	Physical characteristics	Opportunity to explore/demonstrate sustainable development
Aesthetic	Type/ only species locality	Natural monument – conservation of specific features		Designation, use & access	Size (large enough)
Wilderness	Research areas	Habitat/ species management area – conservation through intervention		Socio-economic & cultural values	Zonation into core, buffer and transition zones
	Outstanding geology, glaciology etc features	Protected landscape/ seascape – conservation, recreation			Public authority, local community etc involvement
	Aesthetic/wilderness value	Managed resource protected areas – sustainable use of natural ecosystems			Management and research mechanisms
	Historic value				

Annex 3

CPAN Guidelines for Site Selection and Designation

The Guidelines for CPAN site selection and designation are designed to be applicable at a regional, circumpolar level, to be used by each country within its own legislative framework, and are derived from, complement, supplement and enhance domestic and international criteria.

The guidelines are divided into five categories; 1) ecosystem, 2) species and habitat, 3) physical characteristics, 4) designation, use and access, and 5) socio-economic and cultural values.

***Ecosystem guidelines* are geared to sustaining natural ecosystems across their range and to ensure that representative samples of each are protected.** The network should incorporate and protect:

- representative examples of the full range of Arctic ecosystems
- sub-networks of Arctic Ramsar, MAB, World Heritage and others
- areas contributing to essential evolutionary, ecological or life support systems

***Species and habitat guidelines* are geared to guarantee long-term survival of species in a healthy state and maintain the environmental conditions which support them.**

For *flora* the network should incorporate and protect sites that:

- have a high flora diversity
- are important for marine primary production
- contain rare, endangered or unique flora
- contain flora having significant food value
- have high potential for research and monitoring

For *fauna* the network should incorporate and protect sites that:

- are important as congregating, breeding or feeding grounds
- have a high degree of fauna and species diversity
- are internationally important, especially for shared fauna populations
- are important seabird colonies and feeding grounds or for waterfowl
- are important for rare, vulnerable or endangered species or those on the *CAFF List of Species of Common Conservation Concern*
- are important specialized habitat
- are important spawning and fish migration routes and/or feeding and/or breeding grounds for marine mammals
- are important fauna habitat threatened by economic development

***Physical characteristic guidelines* are geared to maximise benefits from area protection through size, shape, linkages to other sites and maintenance of natural status.** Sites should be:

- in a state of wilderness with large, unfragmented landscapes
- shaped to promote species mobility and interchange
- sufficiently large to maintain the integrity of the ecosystem and populations and to allow for the continuing exercise of ecologically compatible practices by indigenous and/or local people
- in a cluster or situated within regional wildlife corridors and migration routes
- able to accommodate critical habitat needs of marine species

For migrating species, the size, shape and location of sites should be flexible to protect their moveable range.

Designation, use and access guidelines are geared to accommodate appropriate levels of human activity while safeguarding critical habitat, species, life functions and indigenous peoples traditional life-style.

Designation, access and use in non-core areas should be guided by:

- the purpose for which the area of protected
- seasonality
- potential for ecologically compatible usage during periods of migratory species absence
- traditional access and usage by local communities and indigenous groups
- potential for ecotourism
- research and monitoring
- resource extraction activities and for other activities (eg grazing, recreational use)
- possibility for "Multiple Use" designation (IUCN)
- potential as Ramsar, MAB, World Heritage or other international designation

Socio-economic and cultural values. *The following non-ecological values should be considered in order of priority:*

- cultural or traditional value of the site for indigenous people
- non-consumptive recreational value
- potential economic value by virtue of its protection
- social, political and communal support for protection of the site

Annex 2

IUCN Guidelines for Protected Area Management Categories

This classification is used both to outline the way in which it is expected that sites in a class will be managed and provide a description classification that sites managed in a particular way belong to a particular category

Category 1a

Strict Nature Reserve: Protected Area managed mainly for science Area of land and/or sea possessing some outstanding or representative ecosystems, geological or physiological features and/or species, available primarily for scientific research and/or environmental monitoring.

Category 1b

Wilderness Area: Protected Area managed mainly for wilderness protection Large area of unmodified or slightly modified land and/or sea, retaining its natural character and influence, without permanent or significant habitation, which is protected and managed so as to preserve its natural condition.

Category II

National Park: Protected Area managed mainly for ecosystem conservation and recreation Natural area of land and/or sea, designated to (a) protect the ecological integrity of one or more ecosystems for this and future generations, (b) exclude exploitation or occupation inimical to the purposes of designation of the area and (c) provide a foundation for spiritual, scientific, educational, recreational and visitor opportunities, all of which must be environmentally and culturally compatible.

Category III

Natural Monument: Protected Area managed for conservation of specific natural features Area containing one or more specific natural or natural/cultural feature which is of outstanding value because of its inherent rarity, representative or aesthetic qualities or cultural significance.

Category IV

Habitat/Species Management Area: Protected Area managed mainly for conservation through management intervention Area of land and/or sea subject to active intervention for management purposes so as to ensure the maintenance of habitats and/or to meet the requirements of specific species.

Category V

Protected Landscape/Seascape: Protected Areas managed mainly for landscape/seascape conservation and recreation Area of land, with coast and seas as appropriate, where the interaction of people and nature over time has produced an area of distinct character with significant aesthetic, cultural and/or ecological value, and often with high biological diversity. Safeguarding the integrity of this traditional interaction is vital to the protection, maintenance and evolution of such an area.

Category VI

Managed Resource Protected Areas: Protected Area managed mainly for the sustainable use of natural ecosystems Area containing predominantly unmodified natural systems, managed to ensure long term protection and maintenance of biological diversity, while providing at the same time a sustainable flow of natural products and services to meet community needs.

Proposed Antarctic inland water ecosystems classification matrix

Environmental variables	LAKES/PONDS										STREAMS	
	Permanent						Ephemeral				Over ice	Over rock/soil
	Fresh S<3g/l		Intermediate salinity S=3-30g/l		High salinity S>30g/l		Ice dammed		Rock or moraine dammed			
Biotic variables	a	b	a	b	A	b	Wholly (melt pools etc)	Partly (rock walls etc)	Sea influenced	Not sea influenced		
	Sterile											
Heterotrophs only												
a Annual algal communities												
o Perennial algal mat												
r Moss												
p h Phytoplankton s												
Herbivore invertebrates												
Carnivore invertebrates												

S: Salinity

a: Chemically stratified

b: Chemically non-stratified

Proposed Antarctic terrestrial ecosystems classification matrix

Environmental features Beta (locally abundant)	Seasonally ice-free substrata and associated late snow beds							Permanent Ice			
	Coastal (<10km from seasonally open sea)			Inland (>10km from seasonally open sea)				Coastal (<10km from seasonally open sea)		Inland (<10km from seasonally open sea)	
	<1000 m alt	>1000	Geo- thermal	<1000 m alt.	>1000	Geo-thermal	Adjacent to ice shelf	<500 m al.	>500	<500 m alt.	>500
Vascular plants	3		-			-					
	6		-			-					
Bryophytes	7		-	-		-	-				
	16		1	2		-	1				
Lichens	14	-	-	-	-	-	-				
	20	-	-	1	1	-	1				
Macroalgae/ Cyanobacteria	13		-	-		-	-				
Snow algae	3							1	1		
	11							-	-		
Microorganisms	? All	-	-	-	1	1	-				
	? All	-	1	3	5	2	1				
Inveterbrates	10		-	-	-	-	-				
	11		-	-	-	-	-				
Birds/seals	16	-	-	-	-		-	2			
	16	-	-	-	1		1	1			
Sterile	-	-	-	1	2	1	-	1	1	-	-
	-	-	-	2	4	2	1	-	-	1	1

Upper values : SPAs

Lower values : SSSIs (no significant biotic variables in SSSI Nos 2, 25, 26, 27, 28, 35, 36)

New Protected Areas in Antarctica: Gap Analysis and Conservation Values

J.M. Acero¹

Background

Gap analysis is not a new issue within the present Antarctic protected area system, having already been discussed at several fora within the Antarctic Treaty System.

For instance, at SCAR and IUCN Workshop, held in Cambridge in 1992, Dr. Lewis Smith proposed a list of areas which should be prioritised as new ASPAs in Antarctica in order to improve the geographic representation and designating new protected areas in those regions where human impacts may affect specific conservation values.

At the Protected Areas Workshop held in Tromsø last year, some of the presentations were related to this topic as well.

Dr. Alan Hemmings conducted a gap analysis to designate new ASPAs and also proposed some areas to be designated as Protected Areas. Finally he concluded that it would be convenient to shift to a more regional planning approach and to consideration of larger protected areas which can incorporate a number of different values or large managed areas within which ASPAs could be incorporated (eg. Ross Island, Dry Valleys, the Ross Sea region, an area of the polar plateau).

I also approached this issue by comparing the objectives of SPAs and SSSI's management plans to the requirements of Article 3, Annex V of the Protocol. There, I pointed out that not all categories established by such Article are equally represented within the present system, since some categories are covered by several designations while some others are poorly represented.

From the results of that workshop ten recommendations arose, two of which (Rec. 1 and 4) are directly related to this presentation.

Later on the CEP prepared the terms of reference for this workshop. The third of such TORs determines the need to:

“Undertake a gap analysis based on the values for site protection identified in Article 3 of Annex V, in order to make recommendations for new protected areas, with particular attention given to identifying:

- a) areas kept inviolate from human interference so that future comparisons may be possible with localities that have been affected by human activities;*
- b) representative examples of major terrestrial, including glacial and aquatic, ecosystems and marine ecosystems.”*

Since the main issue of this presentation is related to designation of new Antarctic protected areas, it seemed important to me to firstly consider (revisit - review) discussions that, on this particular item, took place in different Antarctic Treaty System fora, after the elaboration of such terms of reference.

Taking into account that the purpose of designation of most Antarctic protected areas is to preserve biological values, I looked through (revisited) some of the conclusions of the latest Meeting of SCAR Working Group on Biology, held in Concepción, Chile. Concerning this particular subject, the final report of the Group expresses that:

It is premature to develop a new system for categorising protected areas based on biological criteria, although it may be pertinent for other disciplines. The Working Group on Biology encourages the development of a bottom-up approach for identifying areas in need of conservation based on biological data from Antarctica before any form of categorisation.

The WGB notes that a gap analysis approach is not the most effective nor most efficient means to identify areas in need of conservation. Rather, area selection techniques using complementarity should be adopted.

In relation to the same subject, the final report of the X Th. Meeting of SCAR's GOSEAC (September, 1998) expresses that:

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“Gap analysis is not necessarily the best possible tool to help in the development of the Protected Area System, because identifying Protected Areas mechanistically (filling gaps) may not result in scientifically adequate system; it was noted that the Working Group on biology had suggested more sophisticated analytical tools for this.”

It is then obvious that the CEP, the Biology WG and GOSEAC support the idea that improving criteria for Antarctic Protected Areas designation is a necessary issue. However, differences appear when considering how to improve such criteria.

One must bear in mind that the main purpose of a gap identification is to detect what regions or what values are poorly represented when new Antarctic protected areas are to be designated.

Therefore, and taking into account the variety of opinions on this subject, I think it is necessary to pose a question before conducting any gap analysis: *Is a gap analysis always useful to identify values for designation new protected areas?*

The goal of this presentation, apart from an attempt to conduct a gap analysis for the two categories requested by this workshop's terms of reference, is to generate a debate on its usefulness and on some other likely alternatives to identify needs for Protected Areas designation.

1. Gap Analysis

As I previously stated, the terms of reference for this workshop request conducting a gap analysis for two of the nine categories established under Art. 3.2. Annex V.

i. Areas kept inviolate from human interference so that future comparisons may be possible with localities that have been affected by human activities.

I wish to emphasise that this requirement does not refer to any area kept inviolate but just to those that allow comparison to other areas already disturbed by human presence. In order to identify such areas, three key items should be clearly defined:

- *where can disturbed areas be found?*,
- *what key environmental parameters should be used as a basis of comparison through monitoring? and, lastly,*
- *where are those inviolate areas to be designated as future protected areas?*

Such a procedure would allow identification of new protected areas in which key environmental parameters can be compared to those of disturbed areas.

At this respect I think that the Antarctic Treaty System is making progress to identify such new Protected Areas:

First, a monitoring handbook is being prepared by SCAR and COMNAP, which will provide elements to identify key parameters of human impacts in Antarctica; and secondly, the “State of Antarctic Environment Report” (SAER) will be a very useful tool to identify those disturbed areas requiring comparison through an adequate diagnostic of the Antarctic environment.

I think these tools (SAER and monitoring handbook) are essential to make recommendations on the designation of new areas kept inviolate from human interference. In addition, I consider that an integration of efforts from different groups of the Antarctic Treaty System for concrete goals is very valuable. Designation of new Protected Areas could be one of such goals.

Therefore, the decision to use a gap analysis to achieve such a goal seems to be still premature and not very useful. Using gap analysis some punctual disturbed areas as well as some areas for comparison might be identified, but I think that not all the sufficient elements are yet available so as to make recommendations in a continental level.

ii.- Representative examples of major terrestrial, including glacial and aquatic, ecosystems and marine ecosystems.”

In this case, the information given by a gap analysis may be useful, depending on the criteria used to carry it out.

One of these criteria could be based on how represented is each type of ecosystems within the present Protected Areas system in Antarctica. I think that such analysis provides useful statistical information, but its usefulness is limited from an environmental point of view.

If SCAR's matrix of ecosystems is used, to conduct a *representation analysis*, more detailed information on how represented the different components of the Antarctic ecosystems within the present system is to be obtained.

Besides the SCAR's matrix of ecosystems, some other matrices of terrestrial ecosystems classification have also been proposed, as, for instance, that presented by Discussion Group II at Tromso Workshop.

If more matrices containing not only biological values but also glaciological, geological, aesthetical, etc were created, then we would be very close to obtain all the necessary information to determine how represented the different Antarctic values to be protected are within the present system.

However, representation should not be the only criteria used to determine what areas are to be protected in the near future.

Another important factor to be considered is the *geographic distribution* of such areas in the different zones of Antarctica.

Concerning this factor, Dr. Lewis Smith considers that distribution of Antarctic Protected Areas is not uniform. Rather, it is concentrated in two main regions: the Antarctic Peninsula and the Ross Sea region. No matter whether such a concentration reflects the real needs for protection or not, analysis of this kind could provide complementary criteria -in addition to those of *representation* - which would allow achieving more valuable results from the environmental point of view.

It would then be important to identify some system of "Antarctic environmental units or regions" so as to determine what kind of protected areas (and how many of each kind) should be designated.

At Tromso Workshop some ideas were proposed so as to distribution of Protected Areas be associated to biogeographical criteria.

At this respect, Dr. Lewis Smith pointed out in 1993 that "... All authoritative accounts of the biogeographical divisions of the Earth have failed to give adequate recognition to the southern polar and sub-polar regions" and also expressed that "the distribution patterns of the biota of the dry coastal ecosystems throughout the Antarctic biome are, for most taxa, very uncertain and misleading". Recently, Dr. Lewis Smith informed me that, considered as a whole, this situation has not changed since then. Therefore, the main inconvenient is that no biogeographical studies at a proper scale are yet available.

When marine ecosystems are considered, the diagnostic of the situation is simpler, due to the almost lack of marine Protected Areas. Until now, just one entirely marine protected area has been designated while some terrestrial Protected Areas include narrow marine "buffer" zones.

In the particular case of marine Protected Areas, it seems that neither the *representation* nor the *distribution* have been taken into consideration. But, independently of the present scarcity of marine Protected Areas, such areas should be also designated on the basis of environmental -and not only statistical- criteria, since some marine ecosystems classifications are already available. For instance, that presented by Trèguer and Jacques in 1992.

After presenting all these considerations I think that - in order to achieve an adequate protection of the major ecosystems of the Antarctica - we should be able to answer three basic questions:

- *What should be protected?*
- *How many Protected Areas are necessary to guarantee an adequate protection of the terrestrial and marine Antarctic ecosystems?*
- *Where should these Protected Areas be designated?*

The first question can be answered, for instance, using SCAR's matrix of ecosystems, the matrix proposed by Tromso Workshop's Discussion Group II, or any other marine or terrestrial ecosystems classification considered as appropriate.

However, to answer the last two questions I think a debate would be necessary, where not only the gaps of the present system but also other likely environmental and regional approaches are considered

2. Other ways of approaching

I would like to discuss this issue using a hypothetical example. Let's suppose that an operator proposes designating a Protected Area as an attempt to protect an Adelie penguin rookery, given that either it is very important for the ecosystem's stability or that scientific projects undertaken in that rookery should not be disturbed.

Considering the information derived from a gap analysis, one could conclude that a designation on such basis would not be necessary since there already exist several protected Antarctic Adelie penguin rookeries. A gap analysis would then prevent over representation. But, does this position avoid or minimise potential impacts on this particular rookery? Probably not.

In this case, the use of other approaches could be more helpful. A "bottom-up approach" and/or a "complementarity analysis", both proposed by the SCAR WG on Biology, could be likely alternatives.

A “bottom-up” approach can be defined as an approach where management decisions are based on the experience of those daily involved with Antarctic activities who, therefore, may have a more realistic idea on the actual needs of environmental protection (these people would then represent “the bottom”). This concept differs from that of “top-down” approach, where decisions are made at a higher level and then are directed to be implemented on the ground (or “down”) level.

These two concepts are not incompatible and it is often possible to work with both approaches at the same time. However, gap analysis already being conducted so far look like more a top-down than a bottom-up approach.

For the example of the Adelie penguin rookery, conclusions stemmed from a bottom-up approach could then differ from those from a gap analysis.

Another alternative approach proposed by the SCAR WG on Biology is the *area selection techniques using complementarity*, which is a concept related to the possibility of protection provided to certain values even though there has not been any specific action to protect them. In the example of the Adelie rookery, all values associated to it, such as vegetation, freshwater bodies, limnological values, etc., represent complementary values that will turn out to be protected just because of the fact of being physically associated to the value specifically protected (in this case, the rookery). That means that, on certain occasions, underrepresentation estimated through a gap analysis may not be so, if a complementarity approach is considered.

Lastly, and no matter which approach is adopted to designate new Protected Areas, it is important to bear in mind what the CEP final report stated, in relation to the status of protection provided by the Protocol and its four annexes currently in force to the whole Antarctic continent. At this respect, this report expresses:

Several members noted that a strategy for the protection of the Antarctic environment should take into account that the Protocol and its four Annexes in force provide protection to the whole Antarctic area. Protected areas categories used in more polluted parts of the globe could thus be inapplicable. Nevertheless, it was noted that the use of Annex V is necessary.

The Committee acknowledged that Antarctic protected areas should be examined in the wider context of the protection given to Antarctica by the Environmental Protocol and Annexes I - IV, as well as the protection provided by Annex V. Particular attention needs to be given to protecting areas where there are fauna, flora and other values at high risk of being damaged by human activities. There are also gaps in the system with some protected areas categories as set out in Article 3(2) of Annex V being very poorly represented or not represented at all.

I believe that, at this point, intensifying a debate on what type of analysis should be carried out to identify future Protected Areas would be more convenient than trying to identifying them immediately, having into account that the Protocol and its four annexes in force provide an adequate frame of general protection, plus an important number of terrestrial Protected Areas has already been designated.

Conclusions

I think that solutions to these matters cannot arise from a single presentation like this, and that it should not be regarded as a one-person task. These topics, among others, should be discussed during this present workshop and, eventually, at the CEP and within the different SCAR groups to find multiple alternative answers to these questions.

Therefore, the most important topics that I wish to point out are:

- Future Protected Areas to be used for comparison to those already disturbed should be analysed in concert to a sound diagnostic of the actual human effects on the Antarctic environment and to appropriate monitoring techniques so as to rely on clearer data and criteria to designate such areas. At this respect, the SAER and the SCAR/COMNAP Monitoring Handbook will turn out to be important tools for such purpose in the near future.
- Most terrestrial ecosystems are currently represented in the present Protected Area system, either through Protected Areas designation or through complementarity effects.
- Since there are almost no marine Protected Areas, a debate with CCAMLR should be co-ordinated so as to designate new ones.
- Representation tends to a more *collector* (so as to say) approach, rather than to a comprehensive environmental approach of the problem.
- In addition to gap analysis, there also exist other likely approaches to determine a sound strategy for designation of new Protected Areas. Among them, those having into account regional characteristics should be considered.

- When implementing such regional approaches, the STA groups of specialists should consider alternative proposal such as the “bottom-up” approach and the “complementarity analysis” in order to determine the current scenario and to define designation criteria of future Protected Areas.
- When considering any designation strategy for new Protected Areas, the fact that the Protocol and its four annexes in force already provide a frame of general protection to the whole Antarctic continent has to be taken into account. For that reason, designation of new Protected Areas -apart from not being a matter of urgency- should only apply to particular cases where a need for protection is clearly justified.

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Procedures to Review Management Plans, by the CEP

*M G Richardson*¹

The role of the CEP in respect of Protected Areas is sketched out generically in Article 12(g) of the Protocol and in Annex V, particularly its Articles 5 and 6 (1).

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Issues of procedure in relation to adjudication of draft or revised Management Plans were spelt out at the Tromso Workshop by Walton (p 48-50) who described the existing procedures of GOSEAC (SCAR), and Moncur (p 51-58) who set out the perceived remit of the CEP.

This paper builds on that earlier work. In the light of Recommendations 6-10 from Tromso, it addresses two key issues. The procedures needed by the CEP to review:

- draft/revised Management Plans submitted by proponents (under Article 6(1); and
- existing Management Plans within the 5 year periodicity set out in Article 6(3).

In addition, some thoughts are given as to how site designation based on aesthetics and wilderness qualities might be addressed, recognising that considerably more work yet needs to be done in this area of site protection.

Draft/Revised Management Plans

The basic concept of site designation is set out in Article 5 of Annex V, viz. that a proponent* of a protected area should submit a draft Management Plan to the ATCM. Such a procedure by itself is deficient insofar as it incorporates no adjudication process. That process is to some extent articulated in Article 6(1), whereby draft Management Plans are forwarded to the CEP, SCAR and, as appropriate, CCAMLR and, under Article 12(2) of the Protocol, "other relevant scientific, environmental and technical organisations". Thereafter the CEP shall provide advice on draft plans, taking into account the comments of those organisations. Draft plans may be adopted through a Measure of an ATCM and come into effect 90 days following adoption unless an extension or rejection of the Measures is made by any one Party. This is a fast track mechanism which does not require the normal approval mechanism of Article IX of the Antarctic Treaty to be implemented.

However, Article 6(3) is not explicit as to who should forward a proposed plan to SCAR or CCAMLR and the processes and time-lines whereby comments should be sent to the CEP. Nor is it clear who should decide on whether it is appropriate to consult CCAMLR.

A number of possible options could fit this general scenario. The principal two being:

Option (i) the status quo, whereby SCAR maintains the role of primary adjudication of draft Management Plans and the CEP is only engaged once a final draft has been submitted for consideration to the ATCM;

Option (ii) that the CEP itself takes over the primary role of adjudication, but recognises both the expertise on Protected Areas that SCAR can provide both to the Committee (or to any sub-group set up by the Committee), and the mechanism of Article 10 of the Protocol whereby SCAR maintains the opportunity to advise the ATCM directly.

The Protocol's Articles 11 and 12 clearly envisage that primacy for environmental advice in relation to the implementation of the Protocol resides with the Committee. Under Article 12(j) that advisory role extends to the Antarctic Protected Area System. The Protocol does, however, recognise that SCAR should maintain a key advisory role both independent of, and integral to, the Committee.

* a proponent is either a Party, the CEP, SCAR or CCAMLR

In view of this, Option (ii) above would appear to fit more closely this approach. However, to move away from what for some considerable time has been established practice whereby SCAR (GOSEAC) acts in an advisory capacity to the ATCM pre-supposes three key elements:

- political will to adopt an adjudication process based on the CEP;
- the provision of adequate resources, and

- technical expertise.

To move in this direction Recommendations 8 and 9 from the Tromso Workshop would need to be implemented. It is suggested that the CEP should indeed form a Protected Areas Sub (contact)-Group to advise the Committee both on proposed Management Plans (draft or revised) and the five yearly review of Management Plans.

The Terms of Reference for such a Group would need to be agreed by the CEP, but might be along the following lines:

- In accordance with Rule 9 the CEP should establish a Contract Group on Protected Areas;
- the Group should be composed of individuals with appropriate technical expertise from Parties, SCAR, and CCAMLR (as appropriate);
- consideration should be given to the size of the Group to ensure effective operation (maximum 10 persons?);
- the Group may correspond with, or co-opt, individuals/organisations to address particular areas of expertise (aesthetics, wilderness/historic attributes etc);
- a lead should be chosen to co-ordinate/chair the Group. The lead should serve for a period not exceeding [3 years?]. Membership of the Group should be for a set period, but renewable;
- the Group, on receipt of a proposed Management Plan from a proponent, should circulate the plan to SCAR, to all Parties and, as appropriate, to CCAMLR* and other experts. The Group taking into account comments received, should advise the proponent of the Group's either endorsement or suggested amendments for the Plan. The Group should recommend to the CEP at its Annual Meeting action to be taken on the Plan.
- the Group should also review existing plans within the timetable specified in Article 6(3) of Annex V and advise the CEP accordingly;
- members of the Group should correspond intersessionally amongst themselves, and with other experts as appropriate. The Group will meet immediately before the Annual Meeting of the CEP to agree its recommendations, and prepare a report on its findings to the Committee accordingly.

Timelines

Precision on an overall timetable for the adjudication of plans is not possible. The time taken may vary considerably depending on the scale of revision of a draft; 3-18 months is possible.

Three elements of timetabling can however be identified:

- (i) The Plan once received by the Contact Group lead should be circulated to all interested Parties within one month. Thereafter, the initial views of the Group should be collated within three months, and transmitted to the proponent.
- (ii) In respect of Plans requiring review by CCAMLR these should be sent to the CCAMLR Secretariat by 1 September, i.e. received by the lead no later than 1 August.
- (iii) Draft Final Plans should be submitted to the host state of an ATCM within the specified guidelines for CEP/ATCM Working Papers. At the same time they should be submitted to the lead for electronic transmission to the Group. The views of the Group on Draft Final Plans will be finalised at a meeting immediately prior to the Meeting of the CEP.

* Article 6(2) of Annex V, coupled with the definition on marine areas adopted both by ATCM XXII and CCAMLR XVI determine whether a draft plan should be forwarded to CCAMLR. The lead should determine, in conjunction with the Group as appropriate, whether CCAMLR need be involved in the process.

Language and Translation

Notwithstanding Article XIV of the Antarctic Treaty and Article 27 of the Protocol, and to ensure rapid and efficient handling of documents, draft plans submitted by proponents to the Contact Group should be in English. The schematic illustration of a Protected Areas Contact Group and its relationship with other bodies is shown in Figure 1.

Review of Existing Plans

Article 6(3) indicates that designations shall be for an indefinite period but that a review of each Plan shall be initiated at least every five years. There is perhaps some ambiguity here insofar as the reference to the five year cycle is not to the adoption of a possibly revised Plan following the review, but to the initiation of a review. In terms of process and timelines this has some bearing on the review process, which particularly if it involves on-site inspection, may span 18 months.

Other issues which require consideration are who should initiate the review process and who should implement the review itself. It is recommended that the CEP Sub-Group should draw up and maintain a database of when each Management Plan is due for revision. The lead of the Group should inform each original proponent of the need for review on the due date (that would then constitute the initiation of the review process). Thereafter, the review should be carried out by the original proponent in association with any other Party with an interest in the area. The Plan following review should be submitted back to the Contact Group within 12 months. Thereafter, the reviewed Plan should follow the procedures as for draft Plans, though the length of adjudication will reflect the complexities of the revisions of the Plan (which indeed may be minimal).

Elements which should be considered in reviewing a Plan are:

- whether the area continues to meet criteria for which it was originally designated;
- if it does not whether nevertheless it merits protected area status on other values;
- whether the boundaries are still appropriate;
- whether the prescribed management regime is still relevant;
- whether there are other factors which influence the site's designation, or the content of the Management Plan.

Aesthetic, Wilderness and Historic Values

Although Article 3(1) indicates that areas may be designated to protect the above values, in the Antarctic (or Polar) context little has been done to develop methodologies for selecting or designating aesthetic/wilderness sites. The degree of expertise in this area remains limited. In light of this it is perhaps premature to proceed with site selection and designation.

Instead it is proposed that further elaboration of aesthetic and wilderness values be undertaken by setting up a small ad hoc specialist group which can (i) review pertinent work in this field and (ii) elaborate criteria and methodologies relating to aesthetic and wilderness sites.

Conclusion

Following the entry into force of the Environmental Protocol in January 1998, and the formation of the CEP at ATCM XXII there is a need for the Committee to demonstrate that it is addressing effectively the functions ascribed to it by Article 12 of the Protocol, and in doing so is enhancing its profile as the principal advisory body on environmental issues to the ATCM.

A key area where the CEP has a clearly defined role is on "the operation and elaboration of the Antarctic Protected Areas System". Procedures are proposed whereby the CEP could subsume the adjudication and review of both proposed Management Plans, and the five-yearly review of the existing Plans. The success of such procedures requires, however, a political commitment to establish the CEP's advisory role. That commitment also needs to be backed up by adequate resources and the Committee and its Contact Group would need to be staffed with adequate expertise.

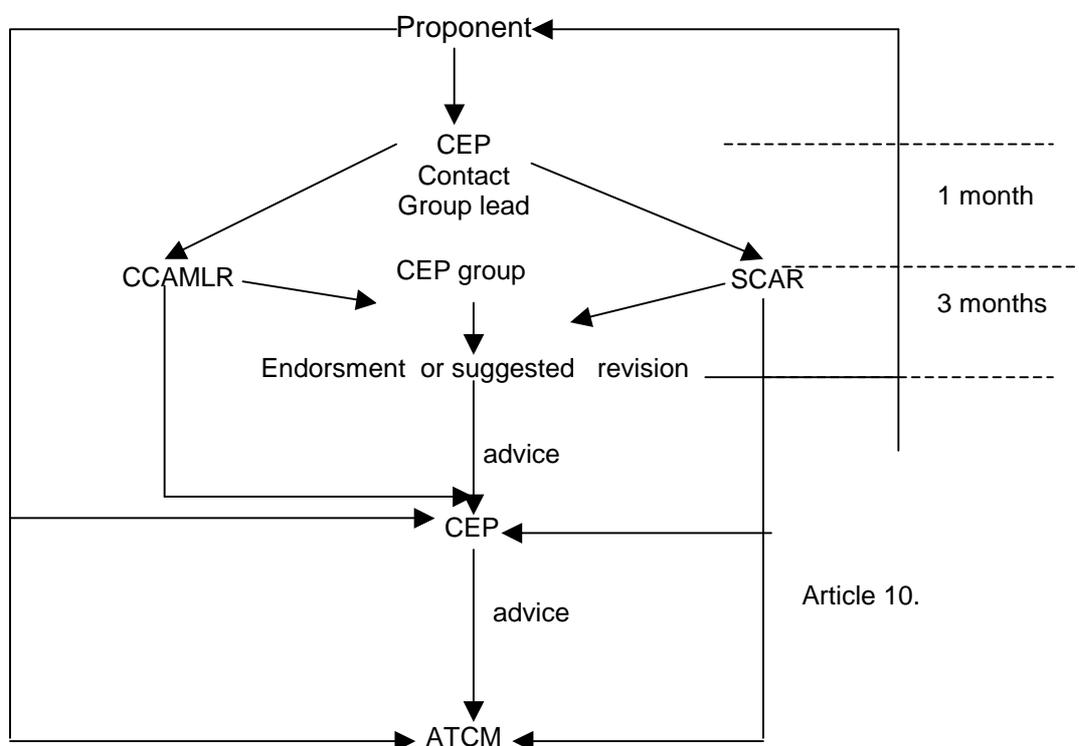


Figure 1: The schematic illustration of a CEP contact group on Protected Areas.

DISCUSSION GROUPS PARTICIPANTS

Discussion Group 1: Overall Framework for Antarctic Protected Areas.

Discussion Group Leader: Tony Press

Rapporteur: Birgit Njaastad

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Discussion Group 2: New Areas, gap analysis and conservation values

Discussion Group Leader: Alan Hemmings

Rapporteur: Karen Bell

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Discussion Group 3: Guidelines for the development of a system of categorisation of Antarctic Protected Areas

Discussion Group Leader: Joyce Jatko

Rapporteur: Tom Maggs

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Discussion Group 4: Development of criteria for identification of new Protected Areas.

Discussion Group Leader: Dr. Inh Young Ahn.

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9. Shears John (UK)

Discussion Group 5: Procedures to review Protected Areas Management Plans

Discussion Group Leader: Mr. Herman Verheij

Rapporteur: Peter Clarkson

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Report of Discussion Group 1

Overall framework for Antarctic Protected Areas

Discussion Group Leader: *Dr. Tony Press.*

Rapporteur: *Birgit Njaastad.*

The group focused its discussion on the following topics:

- Is there already a framework for protected areas in Antarctica?

- Is it deficient?
- What are the threats to Antarctica and its component parts that could be used to help prioritise the identification, evaluation and selection of protected areas?
- Recommendations

1. Is there already a framework for protected areas in Antarctica?

The group considered that Annex V, read in conjunction with the entire Protocol, provides a broad framework for protected areas in Antarctica. It includes provisions for values to be protected, types of areas to be protected, instructions on how to elaborate management plans, etc.

All the elements of a framework are present in the Protocol, but these elements could be elaborated to assist the ATCPs to implement Annex V, and to assist the CEP to advise the ATCM.

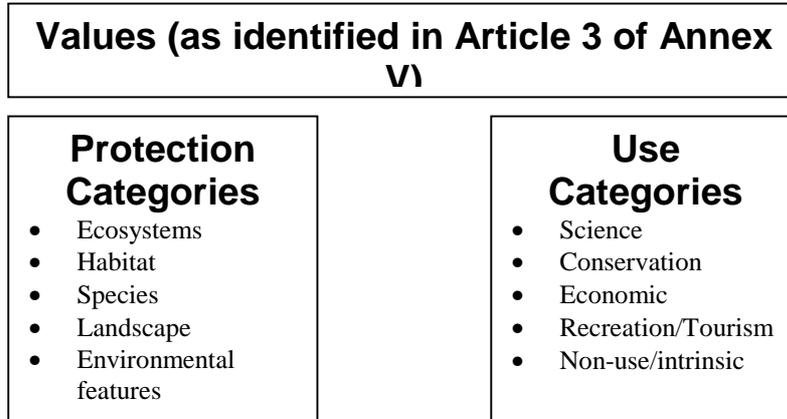
2. Is it (the existing framework) deficient?

The group concluded that an elaboration of the existing framework would provide for consistency of approach to protected areas by ATCPs within the existing framework. The group considered that there is a need to develop a methodology that more clearly defines what is being protected and why, i.e. the methodology should give clarity to the purpose of protection.

The group discussed whether this implies a need to amend Annex V or the Protocol itself. It was concluded that this is not necessary. What is needed is an elaboration that facilitates the implementation of the provisions of Annex V. Already existing examples of such elaborations include the guidelines for developing management plans and the guidelines for the EIA process to be discussed at CEP II. The group considered it essential that the CEP adopts an elaborated framework in order to assist in the implementation of the area protection provisions in the Protocol.

The group looked further at what could be done in order to correct the existing deficiencies. Other international models, such as the IUCN Guidelines for protected areas management, CPAN - Circumpolar Protected Areas Network Principles and Guidelines, etc. were considered, as well as the presentations given in the workshop plenary. Based on these, the group produced an elaborated framework for protected areas in Antarctica that takes into account both values to be protected (as provided in the Protocol), “protection categories” and “use categories”. The approach uses elements from other models. It is emphasised that the framework will fit, for example, with the IUCN framework, but that the specific approach is made to suit the Antarctic Treaty System and the Madrid Protocol.

Elaborated Framework



The group noted that putting in place an Antarctic protected area system is one part of an overall Antarctic conservation strategy. The group noted the existence of such a strategy that was drawn up before the Protocol. The group noted further that the Protocol provides the legal basis for an Antarctic conservation strategy. However, as with the elaboration required for implementation of the protected area framework provided by the Protocol, there may be a need to treat other elements of a conservation strategy in the same manner.

3. What are the threats to Antarctica and its component parts?

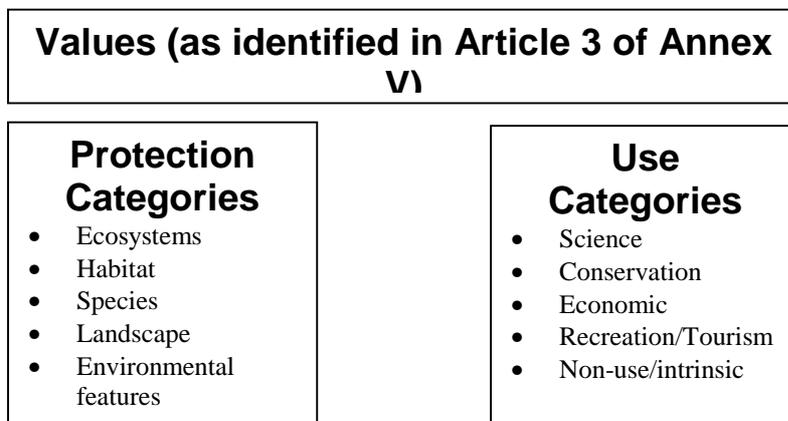
The group acknowledged the usefulness of considering threats, sensitivities, uniqueness, rarity and endemism in helping set priorities for area protection. The group furthermore identified that these would need to be identified specifically, and that targeted research may be a useful tool.

The group noted the efficacy of considering a precautionary approach as a tool in the selection of protected areas.

4. Recommendations

As a tool to help the ATCM implement the Madrid Protocol, Discussion Group 1 recommends:

- a. That the CEP considers adopting an elaborated framework for protected areas in Antarctica based on the suggestion from the group:



- b. That the CEP, upon the adoption of an elaborated framework for protected areas, consider the need for further elaboration of an Antarctic conservation strategy.

Report of Discussion Group 2

New protected areas, gap analysis and conservation values

Discussion Group Leader: *Dr. Alan Hemmings*.

Rapporteur: *Karen Bell*.

Introduction

Group discussion was based on three areas: values, gap analysis and environmental risk analysis.

Values

The Protocol and Annex V provide the necessary framework and set of values for protected areas selection.

Gap analysis

Based on the advice from the SCAR working groups, it was concluded that gap analysis had been a useful tool to assess representativeness of ecosystems (*sensu* Annex V, Article 3(2)(b)); but it did not adequately assess human interference (*sensu* Annex V, Article 3(2)(a)). To give effect to the Protocol, it was concluded that other tools were needed.

Environmental risk analysis

It was recognized the need to use a range of tools to select new protected areas. Both bottom-up and top-down approaches were required. It was also concluded that it was important to look beyond approaches like single matrices to more integrative approaches such as *complimentarity* (as recommended by the SCAR Working Group on Biology).

An issues-based analysis is a useful tool that might lead to a decision, for example, to protect all colonies of a particular species or sites of particular geological formations.

The group concluded that environmental risk analysis offers a useful additional tool. It provides a systematic and integrative approach, that may be used at a number of levels (regions to localities and sites), to select new protected areas.

Recommendations from group 2

1. That a systematic/integrative methodology be used in the selection of new protected areas.
2. That in selecting new protected areas, a range of tools be used, including:
 - a) environmental risk analysis (a useful systematic/integrative tool); and
 - b) issues-based and other types of analysis.
3. That in the process of reviewing protected area management plans, the responsible Party compile inventories of the values found in those areas.

Report of Discussion Group 3

Guidelines for the development of a “Better” system of categorisation of Antarctic Protected Areas

Discussion Leader: *Mrs. Joyce Jatko*

Rapporteur: *Dr. Tom Mags*

The group looked at the various international approaches to categorisation, including those discussed in the presentation provided by Gillian Wratt. The group also considered the categories listed in Annex V, Article 3, para 2. After some discussion the group decided that the categories provided in Annex V include all categories of areas possibly meriting special protection in Antarctica. However the group decided that additional elaboration is needed to provide adequate guidance to effectively use these categories for proposing and managing areas and reviewing the management plans.

After discussion of the original remit, the group defined objectives of the guidelines as:

- To expand on the categories in Article 3, para 2 to further conservation goals and protection of scientific research.
- To ensure that the selection and management of new areas and the evaluation of existing protected areas are dealt with in a consistent manner.

The group then examined each of the categories of Article 3, para 2 in turn with the aim of identifying main issues, questions, and details required to further elaborate the categories. The group recommends that the steps set forth below be implemented.

Recommendation 1

That the steps set forth for each of the categories, as elaborated below, should be implemented.

(a) areas kept inviolate from human interference so that future comparisons may be possible with localities that have been affected by human activities.

An area might be designated to be maintained inviolate as a control site in which there was no previous human disturbance; or it might be designated for use as a control site to be maintained in an undisturbed condition henceforth. It will be necessary to gather appropriate baseline information on the area to ensure a thorough understanding of previous activity prior to proposal for designation as an area to be kept inviolate.

Before proposing an area for inviolate protection, the following questions must be answered in the affirmative:

Does it have characteristics that would enable suitable monitoring and comparison against an impacted site, even where the specific parameters to be monitored may not be fully defined at the time of nomination?

Is the control area sufficiently proximate and similar to the activity site so that it is subject to the same natural influences, but not so close that it is affected by human activity. It may be appropriate to propose inclusion of a buffer area adjacent to the protected area to ensure its isolation?

The time period of designation must allow for the environmental effects or natural processes to be manifested.

(b) representative examples of major terrestrial, including glacial and aquatic ecosystems and marine ecosystems

The matrices developed by SCAR have been useful in identifying the general categories of areas meriting special protection. The task now is to identify specific areas/ecosystems possibly meriting special protection. Toward this end, these questions should be referred to SCAR and CCAMLR as appropriate before any area is proposed under this category. The questions are:

- What are the major terrestrial and marine ecosystems in the Antarctic Treaty Area?
- What are the critical uncertainties associated with bounding the ecosystems?
- What research is required to resolve those uncertainties?

(c) areas with important or unusual assemblages of species, including major colonies of breeding native birds or mammals

The group noted that the term “assemblage” should be interpreted to include “communities”, such as may be found in the marine environment.

Recommendation 2

That the CEP with SCAR and CCAMLR as appropriate undertake a review of all existing management plans related to this category to ascertain whether they are working to protect the designated assemblages, whether there is inappropriate duplication, and whether there are other assemblages which need protection.

(d) the type locality or only known habitat of any species

For vertebrate species and flora this category appears to be well developed, however its applicability to invertebrate and microbiological communities needs to be kept under review as the knowledge of the biology of these communities increases.

(e) areas of particular interest to ongoing or planned scientific research

Existing areas need to be kept under review to ensure that they are not protecting values for which protection is no longer required.

(f) examples of outstanding geological, glaciological, or geomorphological features

Proposals for areas under this category should be encouraged and should include the input from the appropriate working group or groups within SCAR.

(g) areas of outstanding aesthetic and wilderness value

The group noted that Antarctica is the largest wilderness area on earth and that the Protocol designates Antarctica as a special reserve dedicated to peace and science. The group also noted that certain areas in Antarctica might merit special protection because of their wilderness or aesthetic values. At present, however, there is insufficient information to determine what and how human activities may be affecting the wilderness and aesthetic values of Antarctica. More work is needed to identify potential areas possibly meriting special protection for their wilderness or aesthetic values and how that protection should be afforded.

(h) sites or monuments of recognized historic value

The group considered that areas under this category are best proposed by the Treaty Party or Parties wanting to afford special protection to an area or structure which in their view merits protection.. In

proposing areas proponents should consider whether protection of the site or monument is best accomplished as an ASPA or if an ASMA may be more appropriate.

Recommendation 3

That procedures be developed for conducting the periodic review of all existing management plans, with the proponent assuming primary responsibility in consultation with appropriate advisory bodies.

Report of Discussion Group 4

Development of criteria for identification of new protected areas

Discussion Group Leader: Dr. In-Young Ahn

Rapporteur: Dr. John Shears

Group examined the following issues: a) systematic environmental geographical framework, and b) criteria for identification of new protected areas. This led to the development of a conceptual model and recommendation.

Systematic Environmental Geographical Framework

It was agreed that the Protocol, particularly Annex V would form the basis for the framework, as well as the existing SCAR Ecosystem Classification. Other guidelines such as the IUCN Guidelines and the CPAN (Arctic) Guidelines were considered. The group also agreed that abiotic factors needed to be taken into better account.

Criteria for Identification

Three criteria needed to be assessed in identifying a new area, which were:

- **QUALITY** "outstandingness"
- **ENVIRONMENTAL RISK** "vulnerability and threat"
- **FEASIBILITY** "achievability"

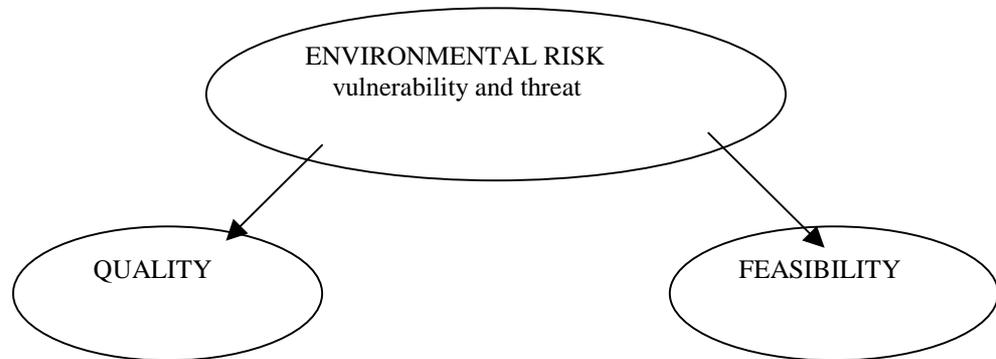
Refer to the following list of examples of factors associated with each criterion.

List of factors associated with each criterion

QUALITY	ENVIRONMENTAL RISK	FEASIBILITY
<ul style="list-style-type: none">• representativeness• uniqueness/rarity• biodiversity• geodiversity• naturalness• amount of existing damage• education potential• scientific importance• aesthetic quality	<ul style="list-style-type: none">• human activities/impact• natural variability• species vulnerability/fragility• area• non-Antarctic threats• urgency/time over which additional protection/need for rapid action	<ul style="list-style-type: none">• boundaries• conflicts• size• possible management tools• time period/duration• accessibility/logistics• politics• ability to satisfy different categories of Annex V (complementarity)

The framework and criteria could be drawn as a conceptual systematic environmental geographical framework as shown below.

SYSTEMATIC ENVIRONMENTAL GEOGRAPHICAL FRAMEWORK



Conceptual model for identifying new protected areas

Both the framework and criteria need further development and would require input from: Parties, SCAR, CCAMLR, CEP, COMNAP, and others such as IUCN, ASOC, IAATO, CAFF, and wilderness experts.

RECOMMENDATION

- **Establish an open-ended contact group on protected areas. The contact group would assess the suitability of criteria for identification and report back to CEP 3.**

Report of Discussion Group 5

Procedures to review Protected Area Management Plans

Discussion Group Leader: Mr Herman Verheij

Rapporteur: Peter Clarkson

Group discussions were based on the four key points from the paper, "Procedures to review management plans by the CEP" as follows:

- establishment of a sub-group of the CEP with responsibility for reviewing and for providing advice on protected area management plans;
- the assessment procedure for management plans;
- establishment of a group of "specialists" to advise on aesthetic, wilderness and historic values; and
- consideration of tools to be used for the assessment process.

Initial consideration was given to whether or not there should be a sub-group of the CEP established for this purpose. A sub-group would have to be established if the CEP is to achieve its aims because decisions will be difficult or impossible to reach in plenary.

It was agreed that the sub-group should have the following attributes:

- it will be an open-ended contact group;
- preferably only one member per Party with observers from SCAR and, as appropriate, from CCAMLR;
- members will be expected to have appropriate expertise;
- the group should seek advice from outside experts as required; and
- it will be a long-term group because there will be continuing work to be done on protected areas and their management plans.

A possible procedure examining management plans was considered. The flow diagram taken from the above-mentioned paper was used as a basis for discussion with general acceptance given to the revised version (attached). It was agreed that same procedure would be used whether a management plan was being assessed for a proposed new protected area or a revised plan was being assessed for an existing protected area. The only difference being, that the Contact Group would remind the original proponent that the existing plan was due for review.

The Contact Group may advance the review process by advising the proponent, and/or the CEP, if the group was aware of material changes to the protected area that might affect the values of the area or the aims of the plan. In this case, the Contact Group might monitor the operation and effectiveness of such a plan and advise the proponent, and/or the CEP accordingly, if so tasked by the CEP. Tools suggested specifically for this purpose were: monitoring; use of an SAER, if one was available; reference to the status of the site provided by visits or other available sources.

Advice that might be needed in respect of aesthetic, wilderness and historical values that the area might be proposed to protect was considered. It was concluded that the Contact Group would draw on external expertise in these areas as required.

Proposal for a Contact Group under the CEP to be established in accordance with Rule 9 of the CEP Rules of Procedure.

- Functions:*
1. Provision of advice to proponents and the CEP on new management plans.
 2. Reminding proponents when revisions to existing plans are due.

3. Provision of advice on such revisions.
- (4. Monitoring the operation of plans and advising the CEP / Parties accordingly.)

Composition:

1. Members of the Contact Group to have appropriate expertise.
2. One member of the Contact Group per Party.

Contact Group can draw on external expertise as required, particularly with respect to aesthetic, wilderness and historical values.

Establishment of this Contact Group will have resource implications.

This proposal anticipates Annex V having entered into force and would happen then.

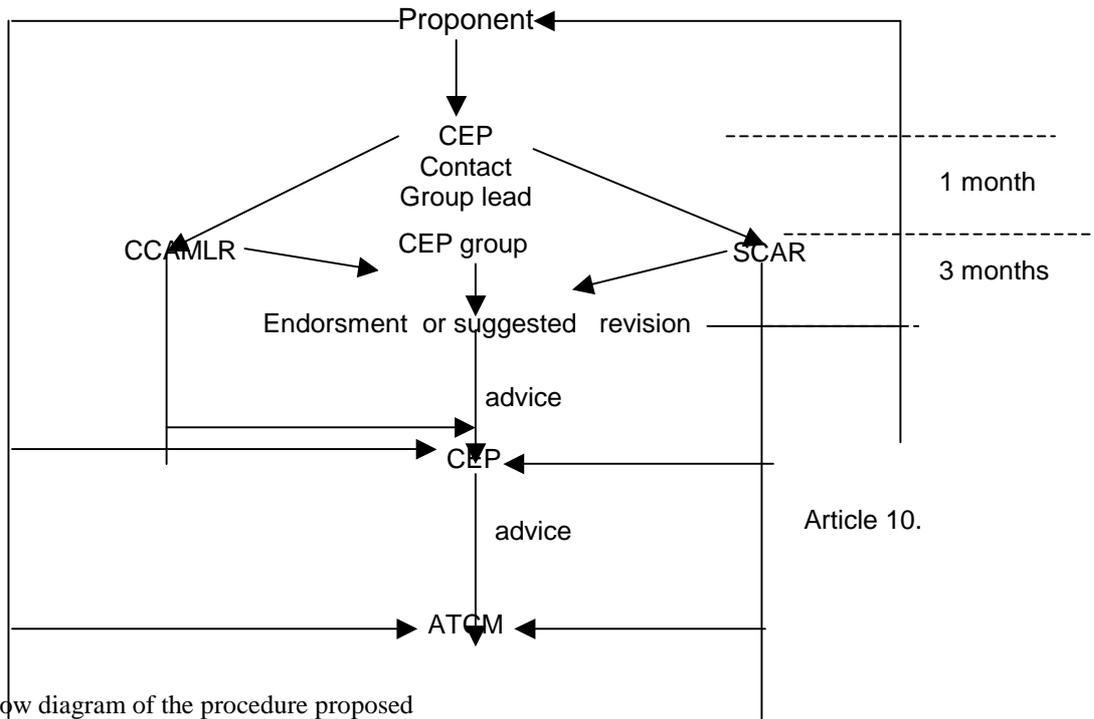


Figure 1: Flow diagram of the procedure proposed

It should be noted that participation in this proposal was considered by some to be subject to Annex V entering into force.

Discussion Paper

Issues in the development and management of Antarctic Protected Areas

Collin Harris

1. Introduction

In the course of revising plans to meet the requirements of Annex V, The United Kingdom has recognised a range of generic issues that need to be examined as the Antarctic protected area network is further developed and managed. This paper highlights some of these issues, organising these as questions for possible consideration by the Discussion Groups under the themes provided in the Workshop Outline. An additional theme dealing with more practical plan preparation issues is also included. The UK welcomes the opportunity of the workshop to make progress on these issues.

2. Issues in Antarctic Protected Area Development and Management

2.1 Overall framework for Antarctic Protected Area

- How adequate are present frameworks for assessing and developing protected areas?
- What other frameworks are available in other regions, and how applicable are these to Antarctica?

2.2 New Areas, gap analysis and conservation values

- Is a gap analysis required of the Antarctic protected area system, and if so, how should this be carried out? How might such a study be funded?
- Adequacy of data to describe protected area: does a baseline survey need to be conducted before a site can be specially protected, and in particular called a “reference area”?

2.3 Guidelines for development and management of a system of categorisation Antarctic Protected Areas

- Active management: under what circumstances is management intervention justified? What levels of certainty are required before management may/should step in?
- Problem of management intervention requiring international approval, yet in the meantime the values may be compromised - is there a problem of lack of responsiveness/slowness of the system?

Aircraft overflight restrictions: the need for consistency, practicality, and yet protection for all species. Different species have different tolerance; birds may also become habituated; etc. Different aircraft have different effects. A vertical limit of 750 m was adopted by the ATCM at Beaufort (SPA-5). What is the most appropriate vertical limit, and is there a need for different heights for fixed-wing aircraft and helicopters? What about horizontal limits?

2.4 Development of criteria for identification of new protected area

- What criteria should be used to develop the Antarctic protected area system in a methodical way?

2.5 Procedures to reviews protected area management Plans

- Should there be provision for “interim designation” of an area to afford protection while the required data are gathered and the management plan proposal is reviewed?
- How effective are present systems of reporting on activities in protected areas, and how can this information be used most effectively for the management plan reviews required every 5 years? Particularly how can this information be made accessible internationally?
- In what circumstances should the Parties seek to exchange information of the activities they propose to conduct within protected and managed areas? (Annex V, Article 5.3 (K)). How can this be made consistent with Article 10?
- Article 10.1 (c) also requires establishment of common forms in which records and information shall be submitted by Parties in accordance with the times specified in Article 10.2 What form should these common records take and what should be included?

2.6 Practical issues in the preparation of management plans

- Referencing within the body of plans: is this desirable, and if so how much? Where, if referencing is included, should a bibliography be placed?
- How can “supporting documentation” noted in Annex V Article 5.3 (h) best be incorporated into protected area plans?
- Length of descriptions of features of the Area in the plan: should there be a maximum length? How can available data be made more accessible? Currently it is very labor intensive to draw together information on a particular protected area.
- Use of place names: should only formally recognised names be used? If a particular feature is important to the description of the Area (e.g. a prominent peak on the boundary), should this feature be justified for an official name?
- Mapping issues: under what circumstances should a map of a particular scientific theme (e.g. geology, limnology, vegetation: should an accurate topographic survey be required for the management plan maps to be considered acceptable?
- Geographical coordinates: should the center point of the Area be used to define the Area, or the coordinates of the named feature most closely associated with the Area?

Two draft plans presently under development by the UK (SPA N° 14 Lynch Island and SPA N° 19 Lagotellerie Island) are provided as working examples where several of the questions posed above have arisen.

There are no doubt countries preparing Antarctic protected area plans encountered many other issues that have, and the UK would welcome their inclusion in discussion. This paper is intended simply as a catalyst, and prompt a prioritisation of issues and development of a procedure by which they might be addressed.

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