

The role of the protected area concept in protecting the world's largest natural reserve: Antarctica

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1. Introduction

Most continents of this world are strongly influenced by human development.¹ Satellite images and maps show the last existing relatively untouched natural areas as 'green islands' surrounded by agricultural areas, cities, industrial areas and infrastructural facilities. These remaining natural areas are of crucial importance for the conservation of the world's biodiversity, which explains why the designation of protected areas is one of the main pillars of the Convention on Biological Diversity² and various other nature protection conventions.

'Protected areas are essential for biodiversity conservation. They are the cornerstones of virtually all national and international conservation strategies, set aside to maintain functioning natural ecosystems, to act as refuges for species and to maintain ecological processes that cannot survive in most intensely managed landscapes and seascapes. (...) Today they are often the only hope we have of stopping many threatened or endemic species from becoming extinct.'³

However, there is still one continent that may largely be regarded as a relatively untouched wilderness: Antarctica. 'As a result of its extreme isolation from human settlements, Antarctica has remained the last great continental wilderness.'⁴ In view of the relatively unspoiled character of this region, including an article on Antarctica in this special issue on protected areas raises the question of what should be the subject of debate: the protected status of Antarctica or the instrument for designating protected areas within Antarctica? The authors decided to discuss both concepts. Discussions first focus on the protected status of the entire Antarctic continent and surrounding islands. Section 2 provides an overview of a number of important steps in environmental protection within the Antarctic Treaty System (ATS) since the adoption of the Antarctic

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1 See Kormos & Locke, 'Introduction', in: C.F. Kormos (ed.), *A Handbook on International Wilderness Law and Policy*, 2008, p. 16. Based on four studies that all 'attempted to define how much of the world is in an indisputable wild condition', Kormos and Locke state with regard to the terrestrial environment: 'Taken together, these assessments indicate that very roughly one-third of the planet remains undisturbed in large areas of wilderness.'

2 1992 United Nations Convention on Biological Diversity (CBD), 1992 *International Legal Materials*, p. 818.

3 N. Dudley (ed.), *Guidelines for Applying Protected Area Management Categories* (World Conservation Union/IUCN, Gland), 2008, p. 2, available at < <http://data.iucn.org/dbtw-wpd/edocs/PAPS-016.pdf>>.

4 T. Tin *et al.*, 'Pressures on the Wilderness Values of the Antarctic Continent', 2008 *International Journal of Wilderness*, no. 3, pp. 7-12, p. 7.

Treaty in 1959.⁵ Attention is focused on general developments of environmental protection in Antarctica and fundamental statements in agreements, recommendations and declarations, rather than on the details of environmental regulations.⁶ In Section 3 this overview is compared with the components of the 2008 definition of the term ‘protected area’ by the International Union for Conservation of Nature (IUCN).⁷ Next, Sections 4 and 5 discuss the issue of ‘specially’ protected areas in Antarctica. In Section 4, the instrument for designating areas as Antarctic Specially Protected Areas (ASPAs) is introduced. Unlike most other Antarctic instruments, this instrument is legally binding and has the protection of specific Antarctic values as its primary purpose. To provide a better understanding of the main characteristics of the ASPA instrument, Section 5 contains the outcome of a quick scan of 42 management plans of existing ASPAs. Section 6 contains the main conclusions of this paper and reflects on the relationship between the ‘protected status’ of the entire Antarctic continent and the ASPA instrument, particularly taking into account the continuous increase in human activities in Antarctica. Although various Antarctic instruments and declarations (discussed in Section 2) also apply to the marine environment, discussions in this contribution focus primarily on the Antarctic continent and the surrounding islands.⁸

2. Environmental protection in Antarctica: an historical overview

The Antarctic Treaty

When the Antarctic Treaty was signed in 1959, the Parties did not yet consider Antarctica as a natural reserve. The Treaty includes various provisions with high relevance for the protection of the Antarctic environment; however, environmental protection is not clearly reflected as one of the primary aims.⁹ In the Treaty and in declarations by Contracting Parties from 1959, attention focused on the safeguarding of peace in the Antarctic region and the continuation of the freedom of scientific research and cooperation in Antarctica. This is understandable as there was a serious risk that disputes over sovereignty rights in Antarctica would result in conflicts between states or would affect scientific research in Antarctica. During the first half of the 20th Century, seven states (Argentina, Australia, Chile, France, New Zealand, Norway and the United Kingdom) claimed parts of the continent, but the legitimacy of these claims was disputed. In 1959, the seven claimant states and five other states involved in Antarctic research during the International Geophysical Year of 1957/58 signed the Antarctic Treaty, which entered into force in 1961. A central element of the Treaty is the ‘agreement to disagree’ in Article IV regarding the legitimacy of the sovereignty claims: the positions of all states in respect of the legal status of Antarctica are

5 1959 Antarctic Treaty, Washington, 1 December 1959, 12 UST 794, 402 UNTS 71, available at <http://www.ats.aq/documents/recatt/att005_e.pdf>.

6 The discussions build on previous research and publications by one of the authors (see <http://papers.ssrn.com/sol3/cf_dev/AbsByAuth.cfm?per_id=617336>) and an additional desk-study of important ATS documentation and the literature.

7 See Dudley (2008), *supra* note 3.

8 The inclusion of the marine environment would expand the scope of this contribution substantially; it would require a discussion of various global and regional international agreements that provide legal protection to the Antarctic marine environment, as well as the instruments for the spatial protection of marine environmental values provided by these agreements. The Southern Ocean is subjected to provisions of globally applicable agreements (e.g. the United Nations Convention on the Law of the Sea (1833 UNTS 396 and IMO instruments) as well as the 1980 Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR Convention; 1980 *International Legal Materials*, p. 837). The protection of marine areas in the Southern Ocean is becoming the subject of strengthened international cooperation within the ATS and may become one of the priorities of the CCAMLR Commission and ATCM in the near future.

9 However, as noted in the literature, the Antarctic Treaty contains certain prohibitions that are also important from an environmental perspective: See Art. I, Para. 1 (prohibition of ‘any measures of a military nature’) and Art. V, Para. 1 (prohibition of ‘any nuclear explosions in Antarctica and the disposal there of radioactive waste material’). See also Art. IX, Ssubsection (f); according to this provision recommendations may include ‘measures regarding preservation and conservation of living resources in Antarctica’.

reserved and the Contracting Parties agree to manage Antarctica collectively. Since 1961, other states have succeeded in showing a substantial scientific interest in Antarctica, and today 28 'Consultative Parties' are involved in the Antarctic decision-making process, which is based on consensus. Since the Treaty was promulgated, several other conventions and many recommendations have been adopted. This set of instruments for the international governance of the Antarctic is often referred to as the Antarctic Treaty System (ATS).¹⁰

1960s: recognizing Antarctica as a 'Special Conservation Area'

Soon after the adoption of the Treaty, the Parties started to develop an environmental policy in respect of the Antarctic. For instance, at the first Antarctic Treaty Consultative Meeting (ATCM) in 1961, Recommendation I-VIII was adopted. Through this recommendation, the representatives 'recommend to their Governments that (i) they recognize the urgent need for measures to conserve the living resources of the Treaty areas and to protect them from uncontrolled destruction or interference by man.'¹¹ With this recommendation, the ATCM also adopted – as an interim measure – the 'General Rules of Conduct for Preservation and Conservation of Living Resources in Antarctica.'¹²

In 1964, Recommendation III-VIII was adopted, entitled the 'Agreed Measures for the Conservation of Antarctic Fauna and Flora' (the Agreed Measures). The preamble to these Agreed Measures states: 'Hereby consider the Treaty Area as a Special Conservation Area and have agreed on the following measures.' In line with this consideration, Article VII(1) of the Agreed Measures states that 'Each Participating Government shall take appropriate measures to minimize harmful interference within the Treaty Area with the normal living conditions of any native mammal or bird, or any attempt at such harmful interference, except as permitted under Article VI.' Furthermore, the Agreed Measures also prohibited activities within designated 'Specially Protected Areas' (Art. VIII, see below) and the introduction of non-native species (Art. IX) except in accordance with a permit. Thus, the Agreed Measures of 1964 constituted the bases for the permit systems included in Annex II and Annex V to the 1991 Protocol on Environmental Protection to the Antarctic Treaty.¹³

In the 1960s, the possible adverse effects of tourism also received attention. With the adoption and approval of Recommendation IV-27 (Santiago, 1966), a recommendation which took effect on 30 October 1968, the governments recognized 'that the effects of tourist activities may prejudice the conduct of scientific research, conservation of fauna and flora and the operation of Antarctic stations'.¹⁴

1970s: strengthening legal protection of the Antarctic environment and natural resources

During the 1970s, attention for the protection of the Antarctic's natural resources was further strengthened, particularly through the development and adoption of two separate international conventions. Based on recommendations on sealing which had been adopted since 1964,¹⁵ in

10 For a comprehensive discussion of the Antarctic Treaty System (ATS), see, among others, L.M. Elliott, *International Environmental Politics, Protecting the Antarctic*, 1994 and O.S. Stokke & D. Vidas (eds.), *Governing the Antarctic, the Effectiveness and Legitimacy of the Antarctic Treaty System*, 1996. See also generally the website of the Antarctic Treaty Secretariat available at <<http://www.ats.aq/>> and H.K. Cohen (ed.), *Handbook of the Antarctic Treaty System* (9th ed.), U.S. Department of State 2002, available at <www.state.gov/g/oes/rls/rpts/ant/>.

11 Final Report of the first ATCM (Canberra, 1961), p. 8. The Final Reports of all ATCMs are available at <http://www.ats.aq/devAS/info_finalrep.aspx?lang=e>.

12 *Ibid.*, p. 9.

13 1991 Protocol on Environmental Protection to the Antarctic Treaty, 1991 *International Legal Materials*, p. 1461.

14 Recommendation IV-27, Final Report of the 4th ATCM (Santiago, 1966). The texts of all recommendations adopted by ATCMs are available at the website of the Antarctic Treaty Secretariat, <<http://www.ats.aq/>>.

15 Recommendations III-11, IV-21, IV-22, V-7 and V-8, available in the Final Reports of the relevant ATCMs.

1972 the Convention for the Conservation of Antarctic Seals (CCAS) was signed.¹⁶ Based on Recommendation IX-2 ('Interim Guidelines for the Conservation of Antarctic Marine Living Resources') the Convention on the Conservation of Antarctic Marine Living Resources (the CCAMLR Convention) was adopted on 11 September 1980 and it entered into force on 7 April 1982.¹⁷

In parallel, attention for the protection of the continent's environment was strengthened as well. In the 1970s the ATCMs adopted several recommendations on the issue of 'man's impact on the Antarctic environment'. Many of these recommendations include general statements on the vulnerability of the Antarctic ecosystem and the scientific values of Antarctica to human interference.¹⁸ Furthermore, the Consultative Parties agreed:

'that in considering measures for the wise use and protection of the Antarctic environment they [the Parties to the Antarctic Treaty] shall act in accordance with their responsibility for ensuring that such measures are consistent with the interests of all mankind.'¹⁹

1980s: advocates of the designation of Antarctica as a 'World Park' and a 'Wilderness Park'

The ATS policy on the protection of the Antarctic environment and natural resources was further developed during the 1980s. Parallel to efforts to ensure the implementation of CCAMLR and other agreements, the further development of instruments such as environmental impact assessment (EIA) and the system of Specially Protected Areas (see below) received attention. However, in an Antarctic context the 1980s are particularly remembered as the decade of the mining debate. Between 1983 and 1988, the Consultative Parties developed the Convention on the Regulation of Antarctic Mineral Resource Activities (CRAMRA).²⁰

It appears that the mining debate – influenced by other factors (*e.g.*, the worldwide debate on environmental protection) – was a strong stimulus for a more fundamental discussion on the future of Antarctica and the question of what human activities should be allowed. While the Agreed Measures and other instruments focused particularly on protecting biodiversity (species, habitats, ecosystems) and the scientific values of the Antarctic, the mining debate broadened the scope of the environmental debate. Various stakeholders emphasized the importance of protecting Antarctica as one of the last unspoiled wilderness areas of the world. Codling notes that during the 1980s the need to protect the Antarctic wilderness received attention in various documents of the Scientific Committee on Antarctic Research (SCAR) and the World Conservation Union (IUCN).²¹ The concept of wilderness protection was also included in the preamble to and the various provisions of CRAMRA. In the preamble the Consultative Parties note 'the unique ecological, scientific and wilderness value of Antarctica and the importance of Antarctica to the global environment.' Furthermore, '[i]n relation to Antarctic mineral resource activities, should they occur, the Parties acknowledge the special responsibility of the Antarctic Treaty Consultative Parties for the protection of the environment and the need to: (...) d. respect Antarctica's scientific value and aesthetic and wilderness qualities (...).'²²

16 1972 Convention for the conservation of Antarctic seals, 1972 *International Legal Materials*, p. 251.

17 1980 CCAMLR Convention, *supra* note 8. For an in-depth discussion of the CCAMLR regime, see E.J. Molenaar, 'CCAMLR and Southern Ocean Fisheries', 2001 *The International Journal of Marine and Coastal Law*, no. 3, pp. 465-499.

18 See, for instance, Recommendations VI-4, VIII-13, IX-5 and XII-3.

19 See Recommendation VIII-13.

20 1988 Convention on the Regulation of Antarctic Mineral Resource Activities, 1988 *International Legal Materials*, p. 859.

21 R. Codling, 'Wilderness and aesthetic values in Antarctica', 1998, doc. ATCM 22/IP 2, pp. 32-33.

22 CRAMRA, *supra* note 20, Art. 2, Para. 3; see also the preamble and Art. 4, Para. 2.

It was that same concept of wilderness protection that was one of the arguments of those lobbying for a total ban on mining in Antarctica and for the rejection of CRAMRA. In the late 1980s international NGOs advocated the establishment of an 'Antarctic World Park',²³ a concept which excluded the possibility of commercial mining: "'World Park Antarctica" calls for the protection forever of our last great wilderness continent from all environmentally destructive human activities, including all mining activities.'²⁴

In 1989, it became clear that CRAMRA would not enter into force. Australia and France – soon joined by other countries (*e.g.* Belgium, India and New Zealand)²⁵ – decided not to sign and ratify CRAMRA. Wilderness protection constituted one of the arguments for Australia not to sign and ratify CRAMRA:²⁶ 'Antarctica should be preserved in a near pristine state while still being available for scientific research as envisaged under the Antarctic Treaty.'²⁷ From the declaration adopted in 1989 to celebrate the 30th anniversary of the Antarctic Treaty, it may be concluded that all Consultative Parties agreed that Antarctica's environmental and scientific values should be protected for the benefit of all mankind:

'Antarctica is the largest unspoiled continent on Earth and the Treaty parties have committed themselves to its study and to protecting its unique environment. The Antarctic Treaty provides an example to the world of how nations can successfully work together to preserve a major part of this planet, for the benefit of all mankind, as a zone of peace, where the environment is protected and science is pre-eminent.'²⁸

The 1990s: designating Antarctica as 'a natural reserve, devoted to peace and science'

The World Park concept, CRAMRA and various recommendations adopted in respect of the protection of the Antarctic environment (*e.g.*, Recommendation XV-1) were important sources of inspiration for the negotiations on the Protocol in 1990 and 1991. The Protocol was adopted on 4 October 1991 and entered into force on 15 January 2008. It establishes a comprehensive system of obligations and prohibitions, addressing most types of activities in the region south of 60 degrees south latitude. The conducting of mineral resource activities for other than scientific purposes is forbidden and all other activities must be subjected to a prior assessment of the environmental impacts. Based on the Agreed Measures and recommendations, Annexes II and V to the Protocol establish permit requirements for the taking or harmful interference with Antarctic flora and fauna, the introduction of non-native species in Antarctica and for entering ASPAs. Furthermore, provisions on waste management must be respected and it is prohibited to damage any historic site or monument. A Committee for Environmental Protection (CEP) has been established to advise the ATCM on the implementation of the Protocol and the further improvement of the protection of the Antarctic environment.²⁹

23 D.R. Rothwell, 'A World Park for Antarctica?', 1990 *Antarctic and Southern Ocean Law and Policy*, Occasional Paper 3, p. 8. See also P. van Heijnsbergen, 'Internationaalrechtelijke bescherming van het Antarctische milieu', 1983 *Tijdschrift voor Milieu en Recht*, p. 262.

24 L. Goldsworthy, "'World Park Antarctica", An Environmentalist's Vision', in: G.D. Triggs (ed.), *The Antarctic Treaty Regime: Law, Environment and Resources*, 1987, pp. 90-93, p. 90.

25 S.K.N. Blay, 'Current Developments, New Trends in the Protection of the Antarctic Environment: The 1991 Madrid Protocol', 1992 *The American Journal of International Law*, pp. 377-399, p. 378.

26 C. Redgwell, 'Environmental Protection in Antarctica: The 1991 Protocol', 1994 *International and Comparative Law Quarterly*, no. 42, pp. 599-634, p. 606.

27 A. Brown, 'New Proposal: The Natural Park', in: J. Verhoeven *et al.* (eds.), *The Antarctic Environmental and International Law*, 1992, pp. 97-101, p. 97.

28 Declaration by Contracting Parties on the 30th anniversary of the entry into force of the Antarctic Treaty, available at <<http://www.anta.canterbury.ac.nz/resources/handbook/commemoration.html>>.

29 The CEP is established by Art. 11 of the Protocol. Its functions are set out in Art. 12.

For the purpose of this contribution, Articles 2 and 3 of the Protocol are of special relevance. In Article 2, the Parties ‘commit themselves to the comprehensive protection of the Antarctic environment and dependent and associated ecosystems and (...) designate Antarctica as a natural reserve, devoted to peace and science.’ Article 3(1) of the Protocol provides an overview of all values that must be respected when planning and conducting human activities in the Antarctic:

‘The protection of the Antarctic environment and dependent and associated ecosystems and the intrinsic value of Antarctica, including its wilderness and aesthetic values and its values as an area for the conduct of scientific research, in particular research essential to understanding the global environment, shall be fundamental considerations in the planning and conduct of all activities in the Antarctic Treaty area.’

The 21st century

Since the Protocol entered into force, not many additional legal instruments have been added to the ATS collection of agreements. The most substantial instrument is Annex VI to the Protocol, adopted in Stockholm in 2005. This annex provides regulations on the liability for damage caused by environmental emergencies in Antarctica.³⁰ Particularly in the 1990s there appeared to be a reluctance to adopt additional legal instruments, in part because the broad scope of the Protocol and the importance of concentrating on an adequate implementation of this comprehensive environmental protection regime. In recent years, discussions on the continuous increase in tourism and relatively new management issues such as the increase in biological prospecting in Antarctica have received substantial attention during the ATCMs; however, decision-making on concrete management measures have proved to be very difficult.

Most recently, during the 32nd ATCM in Baltimore (6-17 April 2009), the Antarctic Consultative Parties celebrated the 50th anniversary of the signing of the Antarctic Treaty. On this occasion they adopted a Declaration, in which many of the above key statements and articles of the Treaty and the Protocol were reiterated.³¹

3. The Antarctica Treaty area: a ‘protected area’?

The above discussions clearly show that the states involved in the international governance of the Antarctic consider Antarctica as a region that requires comprehensive protection. In this light, should the entire Antarctic continent be considered a *protected area*? The relevance of this question may be the subject of different views. On the one hand, Antarctica is unlike any other continent which makes a comparison with other parts of the world difficult. This relates not only to the environmental conditions, but also to the way Antarctica is governed (see above). The application of the term ‘protected areas’ in respect of Antarctica may therefore also be questioned. On the other hand, however, it has clearly been the intention of the IUCN to adopt a definition of ‘protected area’ that may apply to all parts of the world and to both terrestrial and marine areas. Moreover, a discussion on whether Antarctica may be considered a protected area requires us to look at various more concrete typical characteristics of protected areas. This will provide a better understanding of the protected status of Antarctica (stronger and weaker aspects)

30 2006 Annex VI to the Protocol on Environmental Protection to the Antarctic Treaty, 2006 *International Legal Materials*, p. 5, available at <http://www.ats.aq/documents/cep/Annex_VI_e.pdf>.

31 Washington Ministerial Declaration on the Fiftieth Anniversary of the Antarctic Treaty, 6 April 2009.

and it may stimulate our thinking about the future management of the Antarctic, particularly in view of the continuous increase in human activities in this region.

The IUCN's definition of 'protected area' and its applicability to Antarctica

It may be argued that the most authoritative text regarding the definition or description of a protected area is IUCN's 'Guidelines for Applying Protected Area Management Categories'.³² In 1994, the IUCN adopted guidelines for applying protected area management categories, which included a number of categories of protected areas, based on the management purposes for these areas. According to the IUCN, these 'categories are recognised by international bodies such as the United Nations and by many national governments as the global standard for defining and recording protected areas and as such are increasingly being incorporated into government legislation.'³³ Based on a comprehensive process of collaboration and consultation, the IUCN adopted revised guidelines at the World Conservation Congress of the IUCN (Barcelona, 5-14 October 2008).³⁴

Antarctica is mentioned only once in the IUCN Guidelines and the document does not provide an answer to the question whether the entire Antarctic continent and surrounding islands should be considered as a protected area. Antarctica is also not included in the World Database on Protected Areas, although many ASPAs are included in this database. It appears that experts involved in worldwide protected area discussions consider Antarctica as a continent that may be compared with other continents. This results in statements such as the following:

'The Antarctic, North Eurasia and the Pacific are least well represented within protected areas (<3%), while South Asia and Western/Central Africa are in the region of 5% representation.'³⁵

The authors note in one of the footnotes that the Antarctic has been 'designated as a natural reserve to safeguard [its] status as a global wilderness area and scientific laboratory',³⁶ but in the rest of the paper Antarctica is considered a continent. This issue was already noted by Yolanda Kakabadse in 1999. She referred to Martin Holdgate who (according to Kakabadse) had stated in a 1998 presentation 'that designation of protected areas in Antarctica to date appears to measure up badly when compared with what has been done elsewhere.'³⁷

It is time to take a closer look at the IUCN definition of 'protected area' and the main characteristics of protected areas. The IUCN Guidelines explicitly state that – prior to applying the Guidelines for the various categories, 'the first step is to determine whether or not the site meets the definition of "protected area".'³⁸ According to this IUCN document, a protected area is:

32 See Dudley (2008), *supra* note 3.

33 *Ibid*, p. x.

34 World Conservation Congress, Barcelona 5-14 October 2008, see <http://www.iucn.org/news_events/events/congress/index.cfm>.

35 Michael J.B. Green & James Paine, 'State of the World's Protected Areas at the End of the Twentieth Century', paper presented at IUCN World Commission on Protected Areas Symposium on 'Protected Areas in the 21st Century: From Islands to Networks', Albany, Australia, 24-29th November 1997, available at <http://sea.unep-wcmc.org/protected_areas/archive/albany.pdf>, p. 12.

36 *Ibid*, footnote 2, p. 2.

37 Y. Kakabadse, 'The Antarctic Protected Areas System: Challenges and practice', keynote address at the Second Antarctic Protected Areas Workshop, Lima, 22-23 May 1999, p. 9.

38 See Dudley (2008), *supra* note 3, p. 8.

‘A clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values.’³⁹

This definition is elaborated in a table to explain the various components of the definition and to provide examples from protected areas around the world. Below, the first two columns of this table are reproduced and in the third column the relevance of the components for Antarctica is discussed.

Table 1: Applying the IUCN’s definition of ‘protected area’ to Antarctica

Component of definition	IUCN’s explanation (quotations)	Relevance for Antarctica
A clearly defined geographical space	Includes land, inland water, marine and coastal areas or a combination of two or more of these. “Space” has three dimensions, e.g., as when the airspace above a protected area is protected from low-flying aircraft or in marine protected areas when a certain water depth is protected or the seabed is protected but water above is not: conversely subsurface areas sometimes are <i>not</i> protected (e.g., are open for mining). “Clearly defined” implies a spatially defined area with agreed and demarcated borders. These borders can sometimes be defined by physical features that move over time (e.g., river banks) or by management actions (e.g., agreed no-take zones).	The legal instruments discussed above clearly define the geographical area to which they apply. As the IUCN does not limit the scope of the definition of ‘protected area’ by setting a minimum or maximum size, this component does not disqualify Antarctica as a ‘protected area’ as such.
recognised	Implies that protection can include a range of governance types declared by people as well as those identified by the state, but that such sites should be recognised in some way (in particular through listing on the World Database on Protected Areas – WDPA).	Antarctica is not listed in the WDPA (many ASPAs are listed, but not the complete Antarctic area). However, this component of recognition appears to be satisfied by the various general statements made in agreements, recommendations and declarations. Particularly the explicit recognition of Antarctica as a Special Conservation Area in the Agreed Measures and the designation of Antarctica as a Natural Reserve appear to include ‘recognition’.
dedicated	Implies specific binding commitment to conservation in the long term, through e.g.: <ul style="list-style-type: none"> - International conventions and agreements - National, provincial and local law - Customary law - Covenants of NGOs - Private trusts and company policies - Certification schemes. 	Most ATS instruments discussed in the previous section are legally binding agreements. Based on these agreements and national policy, Contracting Parties to the agreements have adopted domestic legislation on the regulation of human activities to and in Antarctica. Parallel to the governmental systems, a comprehensive mechanism for self-regulation has been developed for the tourism sector (see www.iaato.org).

39 *Ibid.*

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Component of definition	IUCN's explanation (quotations)	Relevance for Antarctica
and managed,	Assumes some active steps to conserve the natural (and possibly other) values for which the protected area was established; note that "managed" can include a decision to leave the area untouched if this is the best conservation strategy.	Examples of active steps taken by the Consultative Parties to conserve the natural values of Antarctica include: <ul style="list-style-type: none"> - The removal of waste dumps; - The transportation of all huskies out of Antarctica; - The adoption of site-specific guidelines for sites with relatively high levels of visitation; - The designation of Antarctic Specially Managed Areas (ASMAs) and the adoption of guidelines for these areas; - The designation of ASPAs and the adoption of management plans for these areas; and - The international discussion in the Committee for Environmental Protection of draft-Comprehensive Environmental Evaluations for large-scale human activities in the Antarctic.
through legal or other effective means,	Means that protected areas must either be gazetted (that is, recognised under statutory civil law), recognised through an international convention or agreement, or else managed through other effective but non-gazetted means, such as through recognised traditional rules under which community conserved areas operate or the policies of established non-governmental organizations.	As discussed above, the Agreed Measures recognize Antarctica as a 'Special Conservation Area'. Many recommendations stress the unique character of Antarctica and the importance of protecting Antarctica's natural and scientific values for the benefit of all mankind. In Article 2 of the Protocol, Antarctica has been designated as a 'natural reserve, devoted to peace and science.'
to achieve	Implies some level of effectiveness – a new element that was not present in the 1994 definition but which has been strongly requested by many protected area managers and others. Although the category will still be determined by objective, management effectiveness will progressively be recorded on the World Database on Protected Areas and over time will become an important contributory criterion in identification and recognition of protected areas.	The effectiveness of international agreements within the ATS is not easy to measure and summarise and will differ substantially, depending on the type of agreement. For instance, the prohibition of dogs in Antarctica appears to be 100% effective, while the agreements on monitoring are not effective, despite lengthy debates in the Committee for Environmental Protection (CEP) and at the ATCMs on this last issue.
the long-term	Protected areas should be managed in perpetuity and not as a short-term or temporary management strategy.	The above discussion shows that the Consultative Parties' policy and the adopted legal instruments aim at long-term protection.
conservation	In the context of this definition conservation refers to the <i>in-situ</i> maintenance of ecosystems and natural and semi-natural habitats and of viable populations of species in their natural surroundings and, in the case of domesticated or cultivated species (see definition of agrobiodiversity in the Appendix), in the surroundings where they have developed their distinctive properties.	All agreements on the protection of Antarctica's environmental values (including natural resources) relates to <i>in-situ</i> protection.

Component of definition	IUCN's explanation (quotations)	Relevance for Antarctica
of nature	In this context nature <i>always</i> refers to biodiversity, at genetic, species and ecosystem level, and often <i>also</i> refers to geodiversity, land form and broader natural values.	The Agreed Measures, Seals Conventions, CCAMLR and Annex II to the Protocol refer to 'biodiversity, at genetic, species and ecosystem level,' while various recommendations, declarations and Article 3 of the Protocol refer to broader natural values (including, e.g. aesthetic and wilderness values).
with associated ecosystem services	Means here ecosystem services that are related to but do not interfere with the aim of nature conservation. These can include provisioning services such as food and water; regulating services such as regulation of floods, drought, land degradation, and disease; supporting services such as soil formation and nutrient cycling; and cultural services such as recreational, spiritual, religious and other non-material benefits.	While certain protected areas provide ecosystem services to humans on a local or national scale, Antarctica's ecosystem services are relevant on a regional and global scale. Examples include the role of Antarctica in global weather patterns and the importance of Antarctica for scientific research regarding global climate and weather processes. The flora and fauna, wilderness characteristics and historic values of Antarctica also provide recreational opportunities. Many of these services and values are the subject of the legal instruments of the ATS.
and cultural values.	Includes those that do not interfere with the conservation outcome (<i>all</i> cultural values in a protected area should meet this criterion), including in particular: <ul style="list-style-type: none"> - those that contribute to conservation outcomes (e.g., traditional management practices on which key species have become reliant); - those that are themselves under threat. 	As Antarctica is a place without permanent settlement, this component is less relevant for the Antarctic. However, in Antarctica numerous historic sites and monuments (e.g., huts of explorers, old research stations) have been designated and protected under Annex V to the Protocol.

Based on the discussion of the history of environmental protection in Antarctica, the currently applicable legal instruments and the comparison with the IUCN definition of 'protected area' in the above table, it could well be argued that Antarctica is a 'protected area', although extremely large in size.

Arguments against the recognition of Antarctica as a 'protected area': gaps in legal protection

There are also arguments for the opposite view. For instance, the IUCN has also formulated a number of 'accompanying principles' that constitute the context for interpreting the definition of a protected area. The first of these principles states:

'For IUCN, only those areas where the main objective is conserving nature can be considered protected areas; this can include many areas with other goals as well, at the same level, but in the case of conflict, nature conservation will be the priority.'

For the ATS it is clear that safeguarding peace, scientific research and environmental protection are the three pillars of the system, but what if these fundamental interests conflict? For instance, what should be decided if an important scientific research project with high potential is likely to cause a significant (more than a minor or transitory) impact on the Antarctic environment? This

possibility is certainly not theoretical and the Lake Vostok Project may be considered as an example of this dilemma. Lake Vostok is a subglacial lake beneath the more than 3,700 meter thick ice-sheet.⁴⁰ It is the largest subglacial lake that has been discovered in Antarctica and has high potential for scientific research, *e.g.* for the discovery of new species of micro-organisms.⁴¹ With the intention to take water samples from the lake, Russia started an ice drilling project in the late 1990s and stopped drilling about 30 to 100 meters above the lake.⁴² A draft comprehensive environmental evaluation (CEE) was tabled at the Committee for Environmental Protection (CEP) and ATCM in 2002 and discussed in 2003. Members of the international scientific community, followed by the representatives in the CEP and the ATCM, were critical in respect of the project as significant adverse effects for the lake's environment, *e.g.* through oil pollution, could not be excluded.⁴³ However, although requirements on international consultation in respect of the EIA applies to all activities that are likely to cause more than a minor or transitory impact on the Antarctic environment, the final decision is up to the initiating or responsible Contracting Party. If significant impacts may or even will occur, the Protocol does not clearly prioritise Antarctica's environment. It may therefore be questioned whether the above quoted IUCN principle is embedded in the Treaty and Protocol.

There are also other reasons to state that the Antarctic Treaty area does not receive the legal protection that one would expect for a 'protected area'. For instance, the Protocol does not provide clear statements on the legitimacy of different types of activities in Antarctica. Antarctica appears to be open to anyone, regardless of his or her interests in Antarctica, as long as the standards of the Protocol (in particular Article 3 and the Annexes to the Protocol) are respected.⁴⁴ However, these standards are not very clear. Although the Protocol contains various specific prohibitions (*e.g.*, mineral activities for non-scientific purposes, taking and harmful interference with flora and fauna, etc.), it does not provide clear criteria for the authorisation of activities in Antarctica. In fact, the Protocol does not even clearly require a system of prior governmental authorisation for conducting Antarctic activities (except for some activities identified in Annexes II and V) and at least one Contracting Party (USA) does not have such a system. This is a concern in view of the continuous increase in the quantity and diversity of human activities in Antarctica. Here we touch upon the designation of Antarctica as a natural reserve.⁴⁵ Instead of accepting a 'burden of proof' for the competent authority with regard to the significance of the likely impacts of proposed activities, one might argue that prohibiting certain types of activities is justified by the 'natural reserve' status of Antarctica, if only because: 'Unlimited access to a reserve (...) constitutes a contradiction in terms.'⁴⁶

However, whether these weaker aspects of the Protocol exclude Antarctica from the definition of protected area is questionable. Should natural areas be considered 'protected areas' only if and as long as full legal protection by the law and adequate implementation in practice is ensured? This view might exclude many existing 'protected areas' from the IUCN definition. Moreover, policy and law in respect of the Antarctic are continuously being developed. For

40 See the information available at <<http://www.ldeo.columbia.edu/res/pi/vostok/Report.pdf>>, p. 3.

41 *Ibid.*

42 See K. Bastmeijer & R. Roura, 'Environmental Impact Assessment in Antarctica', in: K. Bastmeijer & T. Koivurova (eds.), *Theory and Practice of Transboundary Environmental Impact Assessment*, 2008, pp. 175-219, available at <<http://ssrn.com/abstract=1297285>>.

43 *Ibid.*

44 For a comprehensive discussion of these findings, see K. Bastmeijer, 'Tourism in Antarctica: Increasing Diversity and the Legal Criteria for Authorization', 2003 *New Zealand Journal of Environmental Law*, pp. 85-118, available at <<http://ssrn.com/abstract=969374>>.

45 See Art. 2 of the Protocol.

46 M. Manzoni, 'Environmental Hazards in Antarctica and Man's Impacts on the Antarctic Environment', in: F. Francioni (ed.), *International Environmental Law for Antarctica*, 1992, pp. 53-92, p. 88.

instance, in respect of tourism the Consultative Parties adopted a resolution on general principles at its 32nd ATCM in April 2009. While the relevant resolution does not create complete clarity on which types of activities are acceptable, the principles may well constitute the fundament for more detailed regulations in the near future.

In the light of the above discussions, we find the arguments for considering the entire Antarctic continent and surrounding islands a protected area (as defined by IUCN) convincing.

4. The system of Antarctic Specially Protected Areas

Within the framework of the Antarctic Treaty System various instruments for spatial protection in the Antarctic have been developed; however, as far as the continent and surrounding islands are concerned only one instrument is legally binding and has the primary aim of protecting the special values of the Antarctic: the instrument of designating areas as ASPAs.

*History of designating Specially Protected Areas and other areas in Antarctica*⁴⁷

In developing measures to protect the Antarctic environment, the Consultative Parties soon realised that certain areas needed *special* protection. As indicated above, Article VIII of the Agreed Measures of 1964 already provided the instrument of designating ‘areas of outstanding scientific interest’ as Specially Protected Areas (SPAs).⁴⁸ According to this Article, these areas should ‘be accorded special protection by the Participating Governments in order to preserve their unique natural ecological system.’⁴⁹ Later, other types of instruments were developed to protect special sites or areas: historic sites or monuments to protect sites of outstanding historical value,⁵⁰ Sites of Special Scientific Interest (SSSIs) to protect ongoing or future scientific research,⁵¹ Special Reserved Areas (SRAs) to protect ‘areas of outstanding geological, glaciological, geomorphological, aesthetic, scenic or wilderness value,’⁵² Antarctic Multiple-use Planning Areas (MPAs) ‘to assist in coordinating human activities in those areas where such activities pose identified risks of mutual interference or cumulative environmental impacts,’⁵³ and Areas of Special Tourist Interest (ASTIs) to manage tourist activities in Antarctica.⁵⁴

During the negotiations on the Protocol, the Consultative Parties had to decide whether all these instruments should be incorporated into the Protocol or its Annexes.⁵⁵ At the 11th special ATCM (1991), ‘all Parties and SCAR agreed that the existing confusing system of multiple-site designation needed to be simplified.’⁵⁶ It was decided to integrate the various types of areas into three new categories: ASPAs, Antarctic Specially Managed Areas (ASMAs) and Historic Sites and Monuments. These instruments have been included in Annex V to the Protocol, which was adopted at the 16th ATCM (1991) and entered into force in 2002.

47 See B. Marks Clark & K. Perry, ‘The Protection of Special Areas in Antarctica’, in: F. Francioni & T. Scovazzi (eds.), *International Law for Antarctica*, 1996, pp. 293-318; see also K. Bastmeijer, *The Antarctic Environmental Protocol and Its Domestic Legal Implementation*, 2003.

48 See Art. VIII of the Agreed Measures.

49 *Ibid.*

50 See, for example, Recommendation V-4.

51 See, for example, Recommendation VIII-3: ‘Conscious of the need to protect scientific investigations which might suffer from wilful or accidental interference.’

52 See Recommendation XV-10.

53 See Recommendation XV-11.

54 See Recommendation VIII-9. See also M.G. Richardson, ‘Regulating Tourism in the Antarctic: Issues of Environment and Jurisdiction’, in: D. Vidas (ed.), *Implementing the Environmental Protection Regime for the Antarctic*, 2000, pp. 71-90, p. 74.

55 See Cohen (2002), *supra* note 10, p. 2081.

56 See Final Report of the 11th Special ATCM, 1991, p. 22.

The ASPA system of Annex V to the Protocol

In accordance with Article 2 of Annex V, any area – including any marine area – may be designated as an ASPA or an ASMA. The purpose of designating an area as an ASPA is ‘to protect outstanding environmental, scientific, historic, aesthetic or wilderness values, any combination of those values, or ongoing or planned scientific research.’⁵⁷ The second paragraph of Article 3 includes a non-exhaustive list of qualities that may nominate an area for the ‘ASPA status.’ As stated in Article 3, Paragraph 3, of Annex V, the ASPA instrument integrates and replaces the systems of SPAs and SSSIs, which had been designated in earlier years by the adoption of recommendations. Under the regime of the Protocol, the ASPA designation constitutes the central instrument to provide an area within the Antarctic Treaty area with special status because of its outstanding values.

The special status of an ASPA is underlined by the requirement to develop a ‘management plan’ for each ASPA, based on international consultation in the CEP. The ATCM must adopt a measure to designate the ASPA and to adopt the management plan for that area. The management plan should address the main issues for the proper regulation of human activities in that ASPA, taking special account of the values for which the area has been designated.⁵⁸ The issues that should receive attention are listed in Article 5, Paragraph 3, of Annex V, and include, for example, a description of the area, the special values of the area and management activities which are to be undertaken to protect these values. This system has been elaborated in more detail through discussions in international workshops on the designation of ASPAs, discussions at the CEP and ATCM and the adoption of recommendations. One result of these discussions is the ‘Guide to the Preparation of Management Plans for Antarctic Specially Protected Areas’, adopted by the ATCM in 1998.⁵⁹

An important consequence of ASPA designation is that human access is restricted and sometimes prohibited. Article 5, Paragraph 3, under (f) states that the management plan

‘shall include, as appropriate (...) [t]he identification of zones within the area, in which activities are to be prohibited, restricted or managed for the purpose of achieving the aims and objectives’ of the management plan. Furthermore, subparagraph (i) of the same provision states that the Plan shall include ‘a clear description of the conditions under which permits may be granted by the appropriate authority regarding (...) (ii) activities which are or may be conducted within the area, including restrictions on time and place.’⁶⁰

As far as the effectiveness of the ASPA system is concerned, it is important that individual operators who conduct activities within the relevant ASPA are legally bound by essential elements of the management plan. Therefore, Article 7 of Annex V to the Protocol requires each Party to ‘appoint an appropriate authority to issue permits to enter or engage in activities within an ASPA in accordance with the requirements of the Management Plan relating to that area’.⁶¹

57 See Art. 3, Para. 1, of Annex V to the Protocol.

58 According to Art. 1 of Annex V, ‘management plan’ means ‘a plan to manage the activities and protect the special value or values in an Antarctic Specially Protected Area or an Antarctic Specially Managed Area’.

59 Guide to the Preparation of Management Plans for Antarctic Specially Protected Areas, Appendix to Resolution 2 (1998), Final Report 22nd ATCM, 1998, pp. 79-89.

60 *Ibid*, section 3.4 (‘Management of Activities’): ‘There should be a clear indication of what is prohibited, what should be avoided or prevented as well as what is allowed. The Plan should make it clear when permitted activities can take place. For example some activities may only be allowed outside the breeding season of sensitive species.’

61 See Art. 7, Para. 1, Annex V of the Protocol. According to Art. 1 of Annex V, ‘permit’ means ‘a formal permission in writing issued by an appropriate authority’.

The wording ‘in accordance with the requirements of the Management Plan’ clarifies that the national authority must ensure that the management plan is taken into account when assessing a permit application. For example, if a management plan for an ASPA specifies that a particular type of activity is not allowed in the ASPA, the competent authority at the domestic level does not have the discretionary power to issue a permit for that activity. According to Article 7, Paragraph 1, of Annex V, the permit should even be ‘accompanied by the relevant sections of the Management Plan’. The Guide on ASPA management plans also emphasises that the management plan must receive legal status through the domestic permit systems of the Contracting Parties.⁶²

‘When drafting Management Plans, authors should note that the authorities appointed to issue permits for entry into ASPAs will use the contents of this section to determine whether, and under what conditions, permits may be issued.’

Consequently, the ASPA system enables Contracting Parties to develop a management plan that regulates human activities in that area in detail, while the content of the plan receives direct binding effect through the domestic legal systems of the Contracting Parties.

5. Analyses of 42 ASPA management plans

There are currently about 70 areas that have been designated as ASPA. As discussed above, for each ASPA a separate management plan must be adopted and this plan must be revised every five years to assess the need for improvements and updates. To provide a better understanding of the main characteristics of the ASPA instrument, this section discusses the outcome of a quick scan of 42 management plans of existing (primarily terrestrial) ASPAs. Based on the prior selection of issues these management plans were studied and compared. The selection of issues was based on the Guide to the Preparation of Management Plans for Antarctic Specially Protected Areas⁶³ and additional issues that were considered relevant for the subject of this publication. These plans relate to existing ASPAs for which management plans were discussed and adopted during the last five-year period (2004-2008). Management plans adopted at the 32nd ATCM (2009) are not included in this quick scan. This ensures that the outcome of this analysis relates to the ASPA instrument as applied in recent years. Consequently, ASPAs with older plans or plans that were extended without an explicit review were not included in this comparative study.

Primary values for which ASPAs were designated

Most of the selected ASPAs have been designated for the conservation of a combination of values mentioned in Article 3 of Annex V. About 75% of the selected ASPAs (30 of the 42 ASPAs) have been designated for ecological values. For 19 of these 30 ASPAs also scientific values were reasons for designation. Nine ASPAs were designated for historic values (ASPAs nos. 124, 154, 155, 157, 158, 159, 162, 163 and 166),⁶⁴ although most of these areas also have other values that require protection (*e.g.*, scientific and/or aesthetic values). Only four of the selected ASPA management plans mention aesthetic and/or wilderness values in the area (ASPAs 119,

62 Guide to the Preparation of Management Plans for ASPAs (1998), *supra* note 59, Section 3.10 (‘Terms and Conditions for Entry Permits’).

63 Guide to the Preparation of Management Plans for ASPAs (1998), *supra* note 59.

64 The numbers refer to the specific ASPAs that have been numbered. For more information on ASPAs and management plans, see <<http://www.ats.aq/>> (environmental protection; protected areas).

123, 164, and 168). ASPA 119 is the only ASPA that has been designated solely for its wilderness and aesthetic values.

These substantial differences in the representation of values in the ASPA system may be explained by the practice in respect of designation: generally, an ASPA designation starts with a proposal by one or a limited number of Consultative Parties and such a proposal is often based on specific knowledge regarding that particular area of the Antarctic. This is not a new finding: for many years New Zealand has advocated the development of a 'systematic environmental-geographical framework' for ASPA designation, which is required by Article 3, Paragraph 2 of Annex V to the Protocol. At the ATCM in Kiev (2008), the ATCM adopted Resolution 3 (2008). With this resolution the ATCM adopted an 'Environmental Domains Analysis for the Antarctic Continent',⁶⁵ a 'scientific classification of the Antarctic environment based on key environmental drivers.'⁶⁶ With the adoption of the resolution the ATCM agreed to use this analysis 'consistently and in conjunction with other tools agreed within the Antarctic Treaty System as a dynamic model for the identification of areas that could be designated as Antarctic Specially Protected Areas within the systematic environmental-geographical framework referred to in Article 3(2) of Annex V of the Protocol.'

At the 12th CEP meeting in Baltimore (6-9 April 2009), New Zealand tabled an 'updated analysis of representation of Annex V categories and Environmental Domains in the system of Antarctic Specially Protected and Managed Areas.'⁶⁷ This paper provides a complete overview of 'the number of ASPAs designated for each category of Article 3(2) of Annex V'⁶⁸ and concludes that some environments are still poorly represented in the protected areas system: '[i]n particular there is still a significant lack of specific protection of inviolate and wilderness values as has long and repeatedly been noted.'⁶⁹

General comparison between the management plans and the 1998 Preparation Guide

The analysis shows that the issues set out in the Preparation Guide are quite adequately followed in most plans, although the number and precise wording of headings differ between plans. While certain components are specifically tailored to the particular area, other components are apparently considered relevant to all ASPAs. For instance, almost all plans that have been studied state that the introduction of poultry is forbidden, although this is not explicitly mentioned in the Guide. In our comparison of the 42 management plans, we found differences in respect of the issues of zoning, tourism and educational visits, and the way 'wilderness issues' are receiving attention in the plans (*e.g.*, with regard to setting up structures). Below, some of these issues are discussed in more detail.

The list of issues mentioned in the Preparation Guide is not exhaustive, so those involved in the preparation of an ASPA plan have the liberty to add issues; however, the analysis shows that only a few ASPA plans include such 'new issues'. We have found only two noteworthy exceptions: plans that include provisions on the maximum number of people that may visit the area (per year or at a particular moment in time) and the provisions on the issue of taking mitigation measures. Also these issues are briefly discussed below.

65 Resolution 3 (2008) and the attached 'Environmental Domains Analysis for the Antarctic Continent' are available through the website of the Antarctic Treaty Secretariat: <http://www.ats.aq/documents/recatt/Att408_e.pdf>.

66 Poster abstract of New Zealand and Australia, included in the Report of the CEP Workshop 'Antarctica's Future Environmental Challenges', Edinburgh, United Kingdom, 9-10 June 2006.

67 Doc. ATCM 32/WP 31, 'Updated analysis of representation of Annex V categories and Environmental Domains in the system of Antarctic Specially Protected and Managed Areas', New Zealand 2009, available at <<http://www.ats.aq/>>.

68 *Ibid*, p. 5: 'Figure 1. Updated graph showing the number of ASPAs designated for each category of Article 3(2) of Annex V.'

69 *Ibid*, p. 2.

At the recent 12th CEP meeting the issue of consistency between management plans was discussed on the basis of work done by the Subsidiary Group on Management Plans (SGMP).⁷⁰ The SGMP had considered ‘each of the standard components of management plans, and discussed whether these components were suited to the development of recommended standard wording.’⁷¹ It was concluded that ‘many components (...) must provide site-specific information’, but that ‘recommended standard wording might (...) be suitable for some components of management plans.’⁷² The SGMP also studied the value of developing a template for management plans to improve the consistency between management plans and this template could be part of a revised version of the Preparation Guide.⁷³ The SGMP will continue its work on these issues within the next two years and the CEP explicitly endorsed this.⁷⁴

Boundaries and size of the ASPAs

According to the Preparation Guide, the boundaries mentioned under the heading ‘description of the area’ form the basis for legal enforcement; however, not all management plans state clearly what the ASPA boundaries are. For instance, several plans do not define the geographical scope of application through the use of geographical coordinates (*e.g.*, ASPAs 116 and 122). This makes it difficult to provide a specific overview of the size of the ASPAs, although it is clear that the average size is relatively small. While there are currently about 70 areas that have been designated as ASPA, ‘the total area of ASPAs in Antarctica is now about 3031 km², of which about 1499 km² is terrestrial and about 1532 km² marine. The terrestrial area is about 0.011% of the terrestrial portion of the Antarctic Treaty Area and the marine protected area about 0.008% (...).’⁷⁵

The issue of missing coordinates in management plans was also discussed at the recent CEP meeting. Japan noted that accurate coordinates ‘was helpful for implementing management plans in its national legislation and therefore proposed all Parties to present as precise geographical coordinates as possible;’ the CEP encouraged all Members to do so.⁷⁶

Human access to the ASPAs

In accordance with Article 3, Paragraph 4, of Annex V, human access to the ASPAs is subjected to a permit system. Annex V does not generally state which type of activities may be authorized; as discussed in Section 4 above, this should be regulated in the management plan for each ASPA. As the ASPA instrument integrates and replaces the systems of SPAs and SSSIs, it is not a surprise that most management plans state that permits may only be issued for ‘compelling scientific reasons which cannot be served elsewhere, or for essential management purposes.’ However, five ASPAs (155, 157, 158, 159, and 162) explicitly allow tourism. These five ASPAs are historic sites with huts originally built by Antarctic explorers such as Sir Ernest Shackleton and Sir Robert Falcon Scott. Three other ASPAs allow educational visits (122, 124, and 127) but not tourism. The subjects of educational visits differ between these three ASPAs: While ASPA 122 is interesting because of the scientific research being conducted (in electromagnetic silence),

70 See doc. ATCM32/WP 8, ‘Subsidiary Group on Management Plans – Report on Term of Reference #4: Improving Management Plans and the Process for their Intersessional Review’, Australia.

71 *Ibid.*, p. 5. See also Table 1 on p. 5 and attachment B at p. 20 of WP 8.

72 *Ibid.*

73 *Ibid.*, p. 6.

74 Final Report of the 12th CEP meeting, Para. 112 and the draft final report of the 32nd ATCM, Para. 83.

75 Doc. ATCM 32/WP 31, ‘Updated analysis of representation of Annex V categories and Environmental Domains in the system of Antarctic Specially Protected and Managed Areas’, *supra* note 67, p. 4.

76 Final Report of the 12th CEP meeting, Paras. 76 and 77.

ASPAs 124 and 127 may be the subject of educational visits because of their ecological values (birds, seals and mosses). In what way and to what extent educational visits differ from tourism is not fully clear.

Zoning

According to Annex V (Article 5.3(f)) management plans may include zones that can be either prohibited, restricted, or managed zones.⁷⁷ Annex V does not elaborate on these regimes within zones and neither does the Preparation Guide. Of the 42 ASPA management plans that have been studied, 11 management plans include prohibited, restricted, or managed zones. In some plans, only special zones are mentioned. In other plans, however, there is a distinction between rules which are applicable to different zones. There is also an exception to a reserved area (no. 166) where tourism might take place in the future, depending on the outcomes of archaeological research.

Maximum number of visitors

The maximum number of people to visit the area (simultaneously or per year) is not suggested in the guide; however, this management measure has been adopted for four of the selected ASPAs: ASPAs 155, 157, 158, and 159. All of these ASPAs include important historic values (expedition huts). The four ASPA plans maximise the number of tourists who are allowed in the area. Each of the plans allow between 4 and 12 visitors in the historic hut at the same time. Plans 155, 157, and 159 state that the maximum number of visitors in the ASPA is 40, while management plan 158 does not include such a maximum for the ASPA itself (only for the hut). The maximum annual number of visitors is in all four plans 2000. How these visitor numbers are enforced is not clear in the management plan. Practical arrangements (*e.g.* the key to the hut) and Antarctica Visit Reports may play a role in this.⁷⁸

Different from the other ASPAs with historic values, the management plan for ASPA 162 does not have an annual visitor limit. Although tourism is allowed in this ASPA, it does not have a yearly limit. There is merely a simultaneous visitor limit (of up to four persons including the guide at any one time inside the main hut, and up to three persons including the guide in the magnetograph house). This difference may be explained by the fact that the management plans for ASPAs 155, 157, 158, and 159 have been proposed by New Zealand, while ASPA management plan 162 is based on an Australian proposal.

Functioning of the ASPA system in practice

The authors are not familiar with any empirical research that could help in answering the question how the ASPA system functions in practice. It is clear that ASPA permit systems have been incorporated in the domestic law of Contracting Parties to the Protocol, but whether these systems function well is uncertain. For instance, did visitors to ASPAs indeed receive a prior authorization from the relevant competent authorities? Were these permits issued in conformity with the management plan for the relevant ASPA, as required by the Protocol? And was the activity in the ASPA conducted in conformity with the permit and permit conditions? Information in official inspection reports is not very helpful in this respect. There have been no more than two

⁷⁷ See on the issue of zoning in Antarctica also C.M. Harris, 'Standardisation of zones within specially protected and managed areas under the Antarctic Environmental Protocol', 1994 *Polar Record* 30, pp. 283–286. Harris has proposed six types of zones, in which activities are prohibited, restricted, or managed: Restricted Zone, Sensitive Zone, Scientific Zone, Tourist Zone, Facilities Zone and Historic Zone. However, Harris notes that these types of zones may particularly or only be useful for Antarctic Specially Managed Areas (ASMAs).

⁷⁸ Point 7 of the Antarctica Visit Report Form states: 'List all persons who entered the Area under the current Permit.'

official ATS inspection visits to ASPAs.⁷⁹ The first inspection by an Australian observer team in 2004/2005 included visits to ASPAs 122 and 158. The second inspection – carried out in 2006 by observers from New Zealand, the United Kingdom and the United States – included visits to ASPAs 116, 122, 155, 157 and 158. The main concerns expressed in the inspection reports related to the boundary markers and signage.

6. Conclusion

Should the entire Antarctic continent and surrounding islands be recognised as a ‘protected area’ or as a continent where certain areas, just like anywhere else, may be designated as protected areas? In our view this is not just a theoretical question. Particularly in view of the challenges relating to the continuous increase in human activities in Antarctica it is important to consider Antarctica’s protected status more explicitly.

Since the signing of the Antarctic Treaty 50 years ago, many initiatives have been taken to enhance the comprehensive protection of Antarctica; however, this contribution also discussed some important concerns regarding the scope and completeness of the agreements and measures that have been adopted. The debates at the ATCMs since the entry into force of the Protocol (1998) on issues such as tourism (*e.g.*, the continually increasing numbers, the likely growth of air-based tourism, the possible development of more permanent facilities for tourism) and shipping (*e.g.*, an increase in large vessels) make it clear that the Consultative Parties have difficulties in reaching a consensus on proactive measures to address new challenges. Certainly, Antarctica is a large continent, but most activities concentrate on the areas that are ice-free in the summer (less than 2% of Antarctica). While many individual activities are relatively small scale, the accumulation of human activities results in increasing pressure on the Antarctic values mentioned in Article 3 of the Protocol.

The current ATS instruments make it clear that the entire Antarctic continent and surrounding islands should receive comprehensive environmental protection. (This also applies to the surrounding oceans: many of the instruments apply to the area south of 60 degrees south latitude, while CCAMLR applies to the entire ocean south of the Antarctic convergence; however, as explained in the introduction the focus of this contribution is on Antarctica itself.) The above discussions also show that the ASPA instrument aims to provide certain ‘specially’ valuable areas with ‘extra’ legal protection. The quick scan of the management plans makes clear that the instrument is shaped as a legal instrument that regulates human access to and the conduct of activities in ASPAs at a high level of detail. This ‘special’ status of ASPAs as ‘extra protection’ may explain why the designated ASPAs as well as the total percentage of the 70 ASPA in Antarctica are relatively small.

If the lack of proactive management for Antarctica would continue, the relationship between the protection of the entire Antarctic continent and surrounding islands, on the one hand, and the ASPA system, on the other, may be influenced: the lack of overall protection for Antarctica could become a strong argument for applying the ASPA instrument in respect of larger areas in order to ensure comprehensive protection for at least certain parts of Antarctica. This would make the ASPA system more comparable to protected area systems in other parts of the world; however, it is the view of the authors that this would be inconsistent with the rich history of environmental protection in Antarctica. The authors believe that the arguments for

79 A complete list of all the ATS inspections can be found at <http://www.ats.aq/e/ats_governance_listinspections.htm>.

considering Antarctica itself as a 'protected area' – as defined by the IUCN – are convincing. Consultative Parties should take proactive steps to strengthen the overall protection of Antarctica, parallel to the further development of the ASPA system to establish a representative system of 'specially' protected areas. After various ATCMs where little decision making took place, the 32nd ATCM in Baltimore (in April 2009) provides hope that Consultative Parties may follow this path. The celebration of the 50th Anniversary of the Antarctic Treaty at the start of this meeting was followed by a number of promising new decisions, including the adoption of a Resolution on the general principles for Antarctic tourism. Next year, at the 33rd ATCM in Uruguay, these principles could constitute the fundament for more concrete decision making.