



**Antarctic Treaty
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Concepts for Wilderness protection in Antarctica using tools in the Protocol

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1.0 Summary

In the context of a significantly changing Antarctic environment and increasing human activity in the region, it is timely for attention to be given to protecting wilderness values. Acknowledging the inherent difficulties in the management of wilderness, this Working Paper proposes the development of practical guidance material to support the protection of wilderness values when applying the EIA and area protection tools of Annex I and Annex V of the Protocol.

2.0 Background

2.1 Legal basis and Party responsibility

Article 3 (2) of the Protocol directs Parties to plan and conduct activities so as to limit adverse impacts and to avoid, *inter alia* “degradation or substantial risk to, areas of biological, scientific, historic, aesthetic or wilderness significance” confirming that the protection of wilderness values, among others must be a “fundamental consideration in the planning and conduct of all activities in the Antarctic Treaty Area” (Environmental Protocol, Article 3 1). Wilderness is also referred to explicitly in Article 3 of Annex III (Waste Disposal and Waste Management) and Annex V Article 3 (Area Protection and Management).

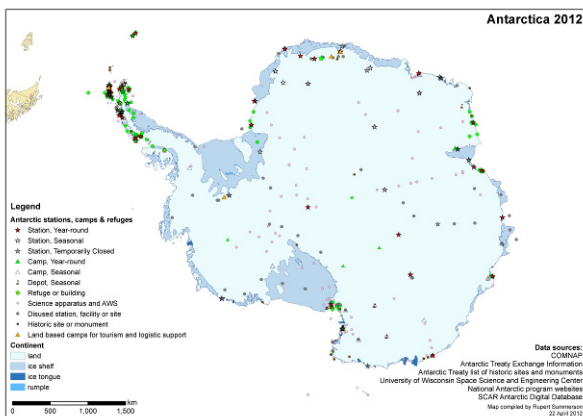
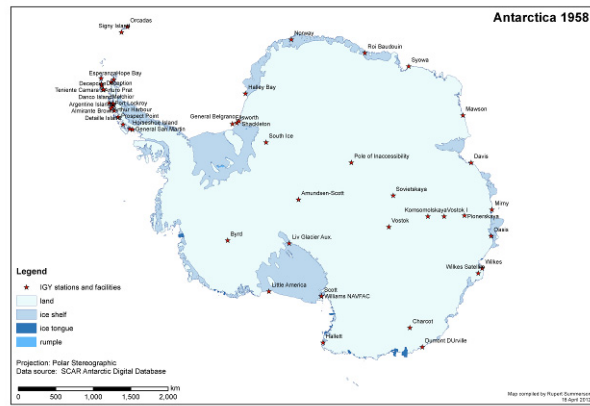
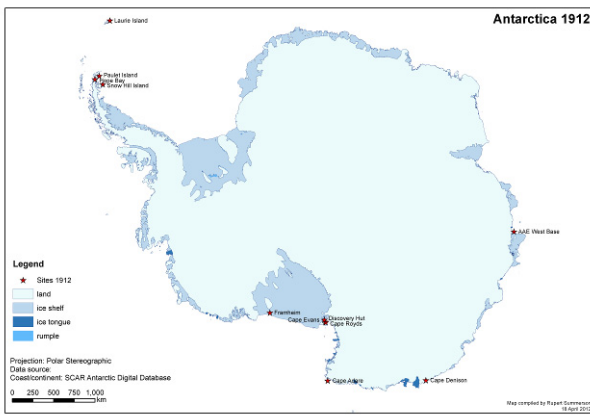
Parties to the Protocol have a responsibility to undertake effective management so as to avoid slow degradation of the wilderness significance of Antarctica. New Zealand and the Netherlands would like to encourage Parties not to consider “wilderness” as an empty word, or one that was included as a result of compromise during the negotiation of the Protocol.

2.2 Nature and extent of wilderness in Antarctica

Antarctica is often referred to as Earth’s last great wilderness. In many jurisdictions, including those of many Parties to the Antarctic Treaty, most now perceive wilderness to be an area relatively untouched or unmodified by humans. The IUCN Guidelines for Applying Protected Area Management Categories note that for Category 1b Wilderness areas, a distinguishing feature is being free of modern infrastructure. The near pristine and remote nature of most of terrestrial Antarctica is consistent with and relevant to these aspects.

As noted at CEP XIII, scientific and other human activities have become part of the Antarctic environment. As Figure 1 illustrates, Antarctica has progressively become less “untouched” and remote since it was discovered. In addition to this illustration of presence lasting for decades there is a cumulatively large number of sites that have been visited for short periods, creating a widespread network of transient but repeated presence. Therefore the nature and extent of wilderness in Antarctica have been reduced with, by default, a somewhat lower overall status of wilderness.

Figure 1. Huts, bases and other fixed infrastructure of human activity in 1912, 1958 and 2012 showing the increases in infrastructure during the last 100 years. Data plotted were obtained from COMNAP and other sources indicated but accuracy is unconfirmed here. Size of symbols is not to scale. Maps courtesy of R Summerson.



2.3 Types of Footprint and relative impacts on Wilderness

In CEPXIV/WP35 New Zealand suggested that wilderness in the Antarctic could be viewed simply as “absence of footprint”. Arguably, however, this could be considered as overly simplistic given the diversity of views on defining wilderness. Nevertheless, the concept of an inverse relation could be useful in developing environmental management concepts and tools because wilderness impact decreases with increased distance from footprint outputs (Table 1). In Antarctica, the distance where impact reduces to low levels varies but is generally within about 20 km (aircraft have a notably greater operating radius).

Table 1. Intensity of various types of human activity or footprint and their relative impact on wilderness

Infrastructure or other human footprint that control the environmental reference state for wilderness in a place	Distance from this infrastructure or other footprint where impact of it reduces to low background levels (data sources include NZ observations plus some references in companion paper)	Relative impact on wilderness	Wilderness classification rank (i.e. informal assessment of relative state of wilderness within the indicated distance)
Permanent visible fixed infrastructure	10-20 km	Very High	Low to zero
Other persistent footprint of physical disturbance e.g. flagged routes being used by vehicles near bases, wind-blown litter	5-10 km	Very High	Low to zero

Chemical or biological outputs on the fringes of physically disturbed areas	<1 km distant from permanent or persistent places of human activity	Detectable but reducing with distance towards the limit of the output or measurable parameter	Low to very low
Distant sight (visibility) of infrastructure on hills (e.g. telecommunication domes)	Generally <30 km (but can be greater than 50 km in some situations especially for distant bright lights in darkness)	High but lowering to zero towards the limit of the output	Low
Transient sound or sight (visibility) including aircraft flight-path or recent vehicle or foot tracking	10-20 km from an observer. But note that helicopters may be observed within their operational radius of approx. 200 km around bases or ships	High in close proximity but reducing with distance towards the limit of the output	Low to moderate in some places
Isolated buried or invisible and inaudible modern infrastructure and tracking	<1 km	Moderate	Moderate to high
Historic visible but very isolated artefacts including memorial crosses, rock cairns, old caches or buried in ice-free terrain	<10 km	Relatively low	Quite High
Isolated historic artefacts buried in permanent snow and ice	> [3m] beneath surface	Very Low	Very High
No activity ever within visible or audible ranges	Not applicable	None	Highest

3.0 Proposal

This paper seeks to progress the discussion on how areas of wilderness significance could be better protected.

3.1 Annex I Tools

If used appropriately, Environmental Impact Assessment (EIA) can help Parties understand and assess footprint and potential impacts on wilderness. Table 1 has been developed as a preliminary tool to help guide assessments of impacts on wilderness.

To assess the potential impacts of a proposal on wilderness values:

- the proposed activity needs to be described, including its location, duration and intensity in terms of visibility, noise and other outputs that might impact on wilderness
- the “environmental reference state” which is the initial wilderness classification, needs to be considered so that the nature, extent, duration, and intensity of the likely direct and indirect impacts of the proposed activity on wilderness can be assessed. Table 1 offers guidance on how to assess the “environmental reference state”
- cumulative impacts of the proposed activity on wilderness need to be assessed in the light of existing activities and other known planned activities

- measures need to be identified and taken to minimise or mitigate impacts of the proposed activity on wilderness, such as co-location of infrastructure, international cooperation to reduce duplication and the activity-specific aspects such as design, placement within the landscape and operation including logistics and waste minimization.

Inventories of sites of past activity as recommended previously by CEP and COMNAP will also be helpful in indentifying past footprint as part of the environmental reference state.

3.2 Annex V Tools

Designation of wilderness areas and protection of wilderness values is specifically envisaged in Annex V, Article 3.2: *“Parties shall seek to identify, within a systematic environmental-geographical framework, and to include in the series of Antarctic Specially Protected Areas:*

- (a) areas kept inviolate from human interference so that future comparisons may be possible with localities that have been affected by human activities;*
- (g) areas of outstanding aesthetic and wilderness value”.*

In principle there are similarities between key objectives under Article 3 for potential wilderness areas (clause 2g) and inviolate areas (clause 2a). Previously SCAR and the CEP have supported the concept of inviolate areas which could serve as reference sites. IUCN’s grouping of protected area categories 1a (Strict Nature Reserve) and 1b (Wilderness Area) also shows the similarities that exist in principle between them - the former are protected areas managed for science while the latter are protected areas managed mainly for wilderness protection. But there are also differences in priorities and management techniques for the different categories of area. This suggests support from SCAR would be required to make progress to fully utilize opportunities presented to protect areas of wilderness significance.

Mindful of the concepts provided for in Annex V New Zealand and the Netherlands encourage Parties to:

- more explicitly consider the designation of ASPAs and ASMAs so as to ensure that wilderness values are protected
- include explicit text supporting objectives for inviolate reference and improved wilderness management, and methods in their Management Plans
- ensure that permitting and compliance provisions within management plans support these objectives.

4.0 Recommendation

New Zealand and the Netherlands recommend that the CEP:

- note that there has been slow degradation of some aspects of wilderness despite the Protocol directing Parties to avoid, *inter alia*, “*degradation or substantial risk to, areas of biological, scientific, historic, aesthetic or wilderness significance*”;
- encourage New Zealand and the Netherlands to lead inter-sessional work to develop guidance material to assist Parties to take account of wilderness values when undertaking environmental impact assessment of proposed activities and/or developing proposals for protected areas on the basis of their wilderness values; and
- request New Zealand and the Netherlands to cooperate with SCAR in the preparation of a paper for CEPXVI to explore possibilities for consideration of inviolate areas in conservation planning, and potential synergies with protection of wilderness areas in the development of proposals for protected areas.

5.0 References

See companion Information Paper entitled "*Further information about wilderness protection in Antarctica and use of tools in the Protocol*".