Humans and Antarctica:
A model for the rest of the world?

A report by

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Introduction

Humans and Antarctica: A model for the world? In what ways has the relationship between humans and Antarctica been exemplary. Should the example be copied? This report examines the key features of the relationships between humans and Antarctica over time, and their distinctiveness.

The report firstly outlines our approach to the topic and then gives some background information on the Antarctic Treaty. The Antarctic Treaty is outlined in some detail as it provides the backdrop for most of the key relationships happening in Antarctica at present. This is followed by a description and analysis of the key relationships between humans and Antarctica, both within the Treaty system, and without. The report concludes with a view of Antarctica as a place of inspiration, which the authors believe to be the key distinctive of Antarctic-human relationships.

For the purposes of this report ‘Antarctica’ follows the Antarctic Treaty definition of ‘the sea, land, and ice south of 60° South’. The Sub-antarctic islands have largely been excluded as they are generally not included in Antarctic governance. ‘Humans’ are considered in terms of alliances of states, states, commercial organisations, non-government organisations, the individual and the global public; the various combinations that humans create amongst themselves. ‘Model’ is considered to be an ‘example or demonstration applicable to other circumstances’. ‘The rest of the world’ is considered as people, lands, and political systems outside Antarctica or the current system of governance.

The key relationships between humans and Antarctica are analysed under several headings; sovereignty; science; peace; heritage; exploitation; environmentalism; exclusivity; credibility and inspiration. Antarctica seems to play an active role, rather than a passive inanimate role, in these relationships. It is a unique place that provides enlightenment and inspiration for individuals and the world.
The Antarctic Treaty

The origin of the Antarctic Treaty (The Treaty)

The Antarctic Treaty came into being 40 years after the Golden Age of Antarctic exploration was over. The explorers left behind a web of interlocking rivalries, of competing territorial claims for national ownership of the great white continent. Great Britain, France, Australia, New Zealand and Norway recognised each others' claims but Chile and Argentina and Britain were in dispute (May, 1988). In 1952 Argentinean soldiers fired machine gun shots over the heads of British personnel who were landing to reconstruct a base (Davidson, 1999).

The first step towards resolving territorial disputes came in 1950, when a proposal was put forward to celebrate a Third Polar Year in order to take advantage of a period when solar activity would be most intense. The idea received the sponsorship of the International Council of Scientific Unions and became known as the International Geophysical Year (IGY). During the IGY in 1957-58, detailed programmes in meteorology, magnetism, glaciology, studies of the upper atmosphere and other research were undertaken. After the IGY, the benefits of international co-operation were seen to be worth maintaining. The scientist became the key figure in the new era of Antarctic history (May, 1988).

In 1959 the United States invited Argentina, Australia, Belgium, Chile, France, Japan, New Zealand, Norway, South Africa, USSR and the United Kingdom to a conference on the future regime for Antarctica. Speaking in Christchurch in 1999 President Clinton said “forty years ago, inspired by Sir Edmund's expedition [the Commonwealth Trans-Antarctic Expedition], the US convened a meeting in Washington to preserve the Antarctica forever as a haven for peace and scientific co-operation.” In December 1959 representatives of all 12 nations signed the Antarctic Treaty. The Treaty entered into force on 23 June 1961 after ratification by all 12 countries.

Description of the Treaty

The Antarctic Treaty opens with these utopic words:

_The Governments of Argentina, Australia, Belgium, Chile, the French Republic, Japan, New Zealand, Norway, the Union of South Africa, the Union of Soviet Socialist Republics, the United Kingdom of Great Britain and Northern Ireland, and the United States of America,

RECOGNIZING that it is in the interest of all mankind that Antarctica shall continue for ever to be used exclusively for peaceful purposes and shall not become the scene or object of international discord;

ACKNOWLEDGING the substantial contributions to scientific knowledge resulting from international co-operation in scientific investigation in Antarctica;

CONVINCED that the establishment of a firm foundation for the continuation and development of such co-operation on the basis of
freedom of scientific investigation in Antarctica as applied during the International Geophysical Year accords with the interests of science and the progress of all mankind;

CONVINCED also that a treaty ensuring the use of Antarctica for peaceful purposes only and the continuance of international harmony in Antarctica will further the purposes and principles embodied in the Charter of the United Nations;

Have agreed as follows: ... (detailed in Appendix 1).

Table 1 shows the key provisions of the various articles of the treaty.

<table>
<thead>
<tr>
<th>Article</th>
<th>Table of Articles to the Treaty.</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Peaceful purposes only – military operations prohibited, weapons prohibited. Military support of activities allowed.</td>
</tr>
<tr>
<td>II</td>
<td>Freedom of scientific investigation and co-operation</td>
</tr>
<tr>
<td>III</td>
<td>Exchange of info – planning, personnel, observation and results</td>
</tr>
<tr>
<td>IV</td>
<td>Sovereignty.</td>
</tr>
<tr>
<td>V</td>
<td>Nuclear explosions and disposal of radioactive waste prohibited</td>
</tr>
<tr>
<td>VI</td>
<td>Designated area to include below 60° South, all ice shelves, but not rights over high seas</td>
</tr>
<tr>
<td>VII</td>
<td>Observers</td>
</tr>
<tr>
<td>VIII</td>
<td>Jurisdiction over observers and exchanged personnel</td>
</tr>
<tr>
<td>IX</td>
<td>Meetings and Entry Criteria</td>
</tr>
<tr>
<td>X</td>
<td>Consultative Parties to make effort to ensure no-one contravenes Treaty</td>
</tr>
<tr>
<td>XI</td>
<td>Disputes</td>
</tr>
<tr>
<td>XII</td>
<td>Treaty can be modified. 30 year review.</td>
</tr>
<tr>
<td>XIII</td>
<td>Ratification</td>
</tr>
<tr>
<td>XIV</td>
<td>Versions, deposit of Treaty document.</td>
</tr>
</tbody>
</table>

The Development of the Antarctic Treaty System (ATS)

The Treaty itself does not contain anything that would logically lead to the development of the Antarctic Treaty System. The ATS has evolved in a flexible, pragmatic, and co-operative manner designed to accommodate new circumstances and demands. The ATS now has extensive linkages with other international bodies and is firmly established in International affairs. The Antarctic Treaty System has ‘governed’ Antarctica for nearly four decades. The management of affairs in a region that requires a global perspective posed significant challenges to an international political system based on the territorial state, state sovereignty, and international law (Beck & Dodds, 1998).

The ATS claims to have governed Antarctica in the interest of humankind, although Antarctica is not a global common. The concept of a global common
exists in the deep-sea-bed (1982 UN Convention on the Law of the Sea) and the Outer Space Treaty 1979. The ATS has had to incorporate the principle of territorial sovereignty and the concept of a global common in a unique way. Speaking at Christchurch in 1999 President Clinton said that Antarctica is what it should be, a treasure held in trust (by the ATS) for every person on the planet. He called for us to vow to act in the spirit of the treaty, to conquer the new challenges that face us, in the new millennium.

A table of the key events over the course of the Antarctic Treaty's development follows. This provides some context for discussion in the rest of the report.

**Table 2** Key events in the development of the Antarctic Treaty System.

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1959</td>
<td>Antarctic Treaty discussed and signed</td>
</tr>
<tr>
<td>1961</td>
<td>Antarctic Treaty came into force</td>
</tr>
<tr>
<td>1964</td>
<td>Agreed Measures for the Conservation of Antarctic Fauna and Flora</td>
</tr>
<tr>
<td>1970s</td>
<td>Krill fishery development</td>
</tr>
<tr>
<td>1970s/1980s</td>
<td>Apartheid in South Africa – criticism of ATS by UN, other organisations</td>
</tr>
<tr>
<td>1980</td>
<td>Convention for the Conservation of Antarctic Marine Living Resources (CCAMLR) &amp; CCAMLR secretariat set up.</td>
</tr>
<tr>
<td>1980s</td>
<td>Rapid increase in number of Accessing states</td>
</tr>
<tr>
<td></td>
<td>Environmental debate – rise of NGOs</td>
</tr>
<tr>
<td>1982</td>
<td>Falklands/Malvinas War</td>
</tr>
<tr>
<td>1987</td>
<td>Montreal Protocol on Ozone Depletion (not ATS)</td>
</tr>
<tr>
<td>Late 1980s</td>
<td>Convention on the Regulation of Antarctic Mineral Resource Activities (CRAMRA) (Not ratified)</td>
</tr>
<tr>
<td>1991</td>
<td>Review of Antarctic Treaty possible</td>
</tr>
<tr>
<td>1994</td>
<td>Southern Ocean Whale Sanctuary (IWC)</td>
</tr>
<tr>
<td>Late 1990s</td>
<td>Toothfishery develops and collapses</td>
</tr>
</tbody>
</table>
Environmentalism and the ATS

More than any other place on earth, Antarctica contains the potential to be a spectacular world icon of international friendship and co-operation, and the ultimate symbol of the high and long range benefits of environmental protection and scientific study (Stout, 1993). Conservation has been a major theme in the development of the ATS as evidenced by the following conventions:


The number of states acceding to the Treaty increased dramatically during the minerals negotiations of the 1980s; attracted by the prospect of a share in the region's management and resources. Figure 1 shows the growth in acceding and consultative states since 1960 in relation to the minerals debate. The motivation for accession can be questioned as after the Environmental Protocol was signed funding for many science programs was frozen.

In the 1980's images of Antarctica became synonymous with concern for the environment. CRAMRA failed and the Madrid Protocol for Environmental Protection was signed. The history of whaling, sealing and fisheries in Antarctica is little different from the patterns found in the rest of the world. However, the end result of the minerals debate is quite different. In effect, the Antarctic Treaty nations managed to create a system of self-restraint, putting aside the Antarctic as an area where mineral resources would not be exploited. It would seem that the future of Antarctica as an environment dedicated to science and research will be preserved for the foreseeable future (Davidson, 1999). Article 7 of the Madrid Protocol reads "Any activity relating to mineral resources, other than scientific research, shall be prohibited", albeit revisable in 50 years time (2041). (Appendix 2).
Figure 1  Figure of the number of Consultative and Acceding States to the Antarctic Treaty
Sovereignty and the ATS

The traditional realist view of international politics is one of an anarchic world, with no world government, in which the main units are sovereign states that egotistically compete with each other for maximum gain. Sovereignty describes the right of jurisdiction in a territory to the exclusion of any other state. This is the central feature of international law. There is however no agreed division of Antarctica. Between 1908 and 1940 seven governments announced claims to most of the continent. Argentina, Australia, Chile, France, New Zealand, Norway and the United Kingdom. Other nations reserve their rights to make claims.

Sovereignty proved a serious source of conflict in the decades before the Treaty. The search for a conflict avoidance mechanism led to Article IV of the Antarctic Treaty, which in effect evades the territorial question through a non-solution, freezing individual legal positions. This accommodation was the cornerstone of the treaty (Beck & Dodds, 1998).

Treaty systems such as the ATS suggest that states can be socialised into abiding international principles and norms, and point to the existence of an international society (van der Lught, 1997).

The claim of the ice.

We whistle anthems of nations
Near where whiteness
Blanches all hope
Of domain and distinction...

(Klipper, 1989)

Much has been made of the legal drafting of the Antarctic Treaty that allows nations to maintain, ignore or disagree with territorial claims. The treaty did not force claimant nations to give up their claims or other nations to accept them. Territorial claims remain in the background, and the co-operation outlined in the Treaty is at the fore in day-to-day Antarctic operations. The triply claimed Antarctic Peninsula has been largely free from land ownership disputes. This is a good model for the rest of the world because of its pragmatic approach to sovereignty claims. It recognises that claims are strongly held and potentially explosive, but allows the claims to be left unresolved, and ordinary people to get on with their business. Admittedly, Antarctica does not have pressures on land that is available (such as, say the West Bank), but the competing claims of Chile, Argentina and the UK are certainly strongly felt cultural positions.

The Antarctic Treaty represented the only post war international agreement for the complete demilitarisation of a sizeable geographic region and was a forerunner of nuclear free zones. Hitherto the history of the ATS has been marked by a judicious mixture of co-operation and restraint (Beck and Dodds, 1998).
Science and the ATS

Scientific success

Under the ATS Antarctica has been a continent for peace and science. More recently with the Environmental Protocol, it is a natural reserve devoted to peace and science. Antarctica has progressed to a be pre-eminent focus for science, exporting information of fundamental and applied value. The sharing of this information is a principle tenet of the Treaty.

Some important areas of scientific success are:

- Global environment change
- World climate
- Ocean currents
- Marine biology
- Atmospheric Sciences
- Global weather forecasting
- Ozone depletion- Montreal Protocol 1987
- Ice sheet stability
- Geological and ecological history
- Plate tectonics
- Meteorite studies
- Global pollution studies
- Long term monitoring

Scientific Co-operation

Accessibility of scientific information is a tenet of the Antarctic Treaty. Scientific co-operation has happened to a limited extent, perhaps because of funding concerns over who pays for logistic support. Most projects still have a national basis, though countries such as New Zealand have a significant number of international scientists involved with their projects. Currently, the most notable truly international projects are probably the Cape Roberts and Lake Vostok projects, which have proved that scientists from different nations can work together towards shared goals.

Some scientists have expressed concerns about sharing information with commercial organisations such as fisheries companies. It is unclear whether commercial organisations (and NGOs) are outside the exchange of information provisions of the Treaty, particularly if a nation requests information on their behalf.
Science domination

Scientific domination of Antarctica, via the treaty has also served to exclude people from Antarctica. Although countries such as New Zealand, the US and Australia now have Artists and Writers programmes, this is a new development. Traditionally, Antarctica has been reserved for scientists, generally physical and environmental (not social) scientists. People who may have been able to provide an alternative and equally powerful picture of Antarctica and how it works have been excluded.
The ATS and Peace

Under the Antarctic Treaty the area south of 60°S is a non-militarised zone. Under Articles I and V of the Treaty, nuclear and other weapons are prohibited in Antarctica. This is a remarkable achievement, not only was the treaty drafted and signed by both the US and the USSR at the height of the Cold War, but it has been effective through crises such as the Falklands/Malvinas war, the apartheid controversy and the ANZUS dispute. Antarctica was the first internationally declared zone of peace and it inspired others. In this way the Antarctic Treaty has already proven a model for the rest of the world. The restraint and willpower that allowed Antarctica to be a place of peace, weapons free and have open sharing of information should not be underestimated, but neither should it be overstated. If it was possible then, what unimaginable concord might be found in the midst of today's diplomatic and political disputes?

The Cold War and the ATS

The drafting of, and agreement on, the Antarctic Treaty in the late 1950s by the US (and other Western nations) and the USSR stands in contrast to its Cold War context. The Cold War standoff and concurrent build-up of arms is shown to be avoidable by the fact that both sides of the disagreement could agree to an area the size of Antarctica being demilitarised. The provisions on mutual inspection of facilities (Article VII) show that both were in earnest. Neither the USSR nor the US wanted Antarctica to be yet another area of potential risk. It was more a question of non-militarisation rather than conducting de-militarisation.

The Falklands/Malvinas War and the ATS

One of the most remarkable achievements of the Antarctic Treaty was its success in excluding Antarctica from the Falklands/Malvinas War of the early 1980s. While boats were being sunk, land mines laid, territory occupied, and people killed above 60°S, no military action took place in the treaty area. In fact, the UK and Argentina continued scientific co-operation and discussions around the Antarctic Treaty table during the conflict. Given that the Falklands and Malvinas are part of claims that include the Antarctic Peninsula, the political willpower to exclude Antarctica from the conflict must have been immense.

One could suggest that a full-scale war in the Antarctic Peninsula area would have been completely unsustainable and undesirable, and the Antarctic Treaty was used as a means of avoiding this. Any extension of conflict below 60°S had the potential to involve other nations, particularly Chile, and indeed, to scuttle the entire Treaty system. The US, which supported Britain in the war, would not have been happy to see territorial disputes expand into Antarctica.
Apartheid and the ATS

Widespread sanctions against and exclusion of South Africa during the later years of the apartheid regime did not extend to formal exclusion from Antarctic Treaty meetings and exchange of information provisions. South Africa was an original signatory of the Treaty and has been a Consultative Party over the whole Treaty period. Although South Africa may have attended Treaty meetings, they did not really participate in the proceedings, and did not submit any scientific papers.

ANZUS and the ATS

The ANZUS dispute came about due to legislation in New Zealand that prohibited nuclear weapons. Relations between NZ and her traditional defence partner the US became very strained. Despite a cessation of military co-operation, joint Antarctic operations (Operation Deepfreeze) continued.
Antarctica’s Heritage

Antarctica has a number of historic sites, which are part of international heritage. It is the only continent where wooden buildings constructed by the original inhabitants still remain. They are linked with the inspirational feats of exploration and scientific achievement, endurance and tragedy. In 1960-61 the New Zealand Government undertook major hut restoration at Cape Royds and Cape Evans. This led to the adoption of Recommendation I-IX (Historic sites) at the following Consultative meeting. Governments were required to adopt all adequate measures to protect such tombs, buildings, or objects of historic interest from damage or destruction (Harrowfield, 1990). Accordingly some historic sites are designated Antarctic Specially Protected Areas within the provisions of the ATS. An example of the spirit of heritage protection can be seen in this quote:

Several years ago the memorial cross, erected on the top of Observation Hill between the two bases, was blown down in a storm. Rather than repair it and helicopter it back onto the site, the staff decided to carry the cross back up the steep icy track to its place, a pilgrimage. I am told with all the symbolism and respect of a religious ceremony (Higham, 1999).

The heritage of the heroic era, and the need for its protection appear to be widely accepted in Antarctic circles. Unfortunately, heritage protection in Antarctica has only had a narrow focus. Heritage related to less heroic events such as sealing and whaling stations, and to more recent times has largely been ignored. This may be a question of limited funding, but this clearly shows the priorities involved.

Appendix 3 includes photos taken in the heroic era and photos taken in late 1999. Poems that accompany the photos show that heroic heritage is alive in the minds of contemporary visitors to Antarctica.
The Credibility of the ATS

The credibility of the Antarctic Treaty system has been challenged over the years. There are several issues that are tied up with assessments of credibility, including enforcement of regulations and recommendations, provisions for mutual inspection, consensus decisionmaking and response time.

Enforcement

No one state has jurisdiction in Antarctica. This makes enforcement either voluntary or a matter of coercion by other member states. Nations that are not ATCPs are even further removed from any kind of enforcement of ATS protocols. They only way that non-member states are brought into line with the system is by bullying tactics (Article X of the Treaty) or the formation of an 'Antarctic Posse', as suggested by Terence O'Brien (Tetley, 1998). There is no way under the Treaty to deal with rogue states.

Inspection

Mutual inspection of bases is allowed for in the Treaty. Inspection would probably not work without the concurrent agreement about territorial claims. Freedom to inspect bases is a practical way to ensure the treaty is being complied with, and the mutual nature of the agreement allows it to be an equal relationship. Under Article 14 of the Madrid Protocol, inspections are set out

In order to promote the protection of the Antarctic environment and dependent and associated ecosystems, and to ensure compliance with the Protocol.

Consensus

Unlike the UN, where permanent members have some veto powers, the Antarctic Treaty System provides for consensus decisionmaking. Consensus decisionmaking has been a mixed success, with both negative and positive impacts. All states have an equal say in the discussion, preventing some nations from holding more power than others. This also means the Treaty agreements tend to be more robust, because the whole group has agreed them.

In practice, the ATCPs often reaches an accommodation that no party is completely happy with, and there often have to be trade offs and bullying to achieve aims. The scuttling of the minerals regime in the 1980s highlighted the danger of the consensus system. CRAMRA was trying to find a balance between nations that wanted to mine in Antarctica, and those who wanted mining banned. It was seen as a pragmatic accommodation. If no replacement had been made through the Madrid Protocol, there could have been a vacuum of regulation on mining, simply because countries could not agree.
Response time

The process of reaching consensus can also be painfully slow, meaning the system cannot adapt quickly to impending crises. This has been highlighted by the Patagonian Toothfish saga, where CCAMLR has not been able to act quickly to regulate fisheries and prevent population devastation. In 1990 Chile started long lining for toothfish. By 1996 there was widespread illegal, unregulated and unreported fishing. CCAMLR responded in 1997 with 3 measures and in 1998 with 5 measures. In May 2000 a catch certificate scheme will commence. There is no evidence that any of these measures have checked the widespread illegal, unregulated and unreported fishing. The response time of CCAMLR (10 years) is not in keeping with the time it takes to reach commercial extinction (2-3 years). It could be said that the CCAMLR ineffectiveness in preventing overfishing is partially due to a lack of strong public opinion on the issue? NGOs call for a complete moratorium on toothfish and a listing in CITES (Convention on International Trade in Endangered Species). If CCAMLR fails to deal effectively with this problem many seabird and fish species will be endangered. At CCAMLR 1999 New Zealand made a statement that emphasised its concern about illegal, unregulated, and unreported fishing and compared it to a cancer eating at the fibre of the ATS (Burke, 1999). The toothfishlessness of CCAMLR has called into question the ability of the ATS to look after Antarctica effectively against a real threat to resources.

Syndicate Report by T Falconer, T Foster and G Mackereth
Exploitation in the Antarctic

The logic of capitalism is anti-environmental, demands growth in a finite environmental system, and is (often) destructive outright. As capitalism is fundamentally unsustainable, requiring continued growth in a closed system, the world needs to be reminded that it is not the only model available. (Stanley Robinson, 1999). The emphasis of the Treaty on science and environmental protection provides a non-capitalist model for the world. Though the scientific-rational-environmental view may not be the only alternative, it provides a reminder that capitalism is not the only working option. The history of Antarctica is sadly one of over-exploitation and the devastation of marine living resources.

Sealing

Sealers were probably the first to land on the Antarctic Peninsula (and thus the continent) in 1821. The number of sealing boats was enormous, "during the sealing period, about 1780 to 1892, over 1100 sealing ships visited Antarctic regions, compared to barely 25 exploratory vessels" (Rubin, 1996). Fur seals were hunted (for their pelts) to near extinction and total extinction on many of the sub-Antarctic islands. Attention turned from Fur seals to Southern Elephant seals, which were hunted for the oil from their blubber. Although heavily hunted, the Elephant seal population was not as devastated as the Fur seal. In 1972 the Convention for the Conservation of Antarctic Seals came into force after the fur seal population had fallen to a commercially uneconomic level. This became a repeating theme in the exploitation of Antarctica (see Table 3).

Whaling

After sealing, the next wave of exploitation was whaling, which occurred primarily during the 20th century. It dovetailed with sealing, particularly at the shore stations for extracting oil from blubber. Techniques such as cannon-powered harpoons and factory ships increased the speed at which whales could be caught. In the peak year, 1937-38, 33 expeditions went south and killed 46 000 whales (Readers Digest, 1988).

The International Whaling Commission (IWC) was set up in 1946, under the International Convention for the Regulation of Whaling. It was not developed under the ATS, but has been recognised by ATS members and conventions — no agreements on whales have been made in the ATS. As a general pattern, bans or regulations have not been put in place until after the population is already below a commercially exploitable level. In 1982 the IWC finally placed a moratorium on all commercial whaling of baleen whales, to take effect in 1986. This ban is still in place, but is under review. In 1994, a Southern Ocean Whale Sanctuary was established. The ATS has been seen as an incomplete system because it excludes whales from its jurisdiction. This seems to make a mockery of the ecosystem approach in CCAMLR.
Table 3  Exploitation of Seals and Whales in the Antarctic

<table>
<thead>
<tr>
<th>Species</th>
<th>Hunting &amp; impact of hunting</th>
<th>Protection &amp; recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antarctic Fur Seal</td>
<td>Late 18th century; near extinction</td>
<td>Protected by CCAS, slow increase</td>
</tr>
<tr>
<td>Sub-antarctic Fur</td>
<td>Late 18th and 19th century; eliminated in some areas</td>
<td>Protected by CCAS, rapid increase</td>
</tr>
<tr>
<td>Elephant Seal</td>
<td>Heavy sealing through 19th century; big impact</td>
<td>Protected by CCAS, some decrease</td>
</tr>
<tr>
<td>Weddell Seal</td>
<td>No commercial sealing, only for dog food; little impact</td>
<td>Protected by CCAS, abundant</td>
</tr>
<tr>
<td>Crabeater Seal</td>
<td>Little commercial sealing; little impact</td>
<td>Protected by CCAS, abundant</td>
</tr>
<tr>
<td>Leopard Seal</td>
<td>Little commercial sealing; little impact</td>
<td>Protected by CCAS</td>
</tr>
<tr>
<td>Ross Seal</td>
<td>Little commercial sealing; little impact</td>
<td>Protected by CCAS</td>
</tr>
<tr>
<td>Blue Whale</td>
<td>Since 1904; severe depletion</td>
<td>Protected 1965, little recovery</td>
</tr>
<tr>
<td>Fin Whale</td>
<td>Since 1990s (after decline of Blue Whale); decline</td>
<td>Protected 1975</td>
</tr>
<tr>
<td>Sei Whale</td>
<td>After Blue, Fin, Humpback depleted, peak in 1960s; quick decline</td>
<td>Protected 1977</td>
</tr>
<tr>
<td>Minke Whale</td>
<td>Since early 1970s</td>
<td>Protected but scientific whaling continues</td>
</tr>
<tr>
<td>Humpback Whale</td>
<td>Since early 1900s</td>
<td>Protected 1963, some increase</td>
</tr>
<tr>
<td>Southern Right Whale</td>
<td>Before 1900; populations became very low</td>
<td>Protected 1935, increasing</td>
</tr>
</tbody>
</table>

Source: Stewardson, 1997

Krill

The Agreed Measures for the Conservation of Antarctic Flora and Fauna (1980) were created under the ATS because of concerns about sustainable levels of krill harvesting. In the 1970s it looked as though krill harvesting could be a new source of protein and a real growth industry. This has not happened. Krill is now mainly used for animal feed and caught by Japan and Russia. The measure marked the start of the ecosystem approach used in the CCAMLR.

Fish

The latest resource to be exploited in Antarctica has been the fisheries. After depletion worldwide of finfish stocks, fishery companies turned to other alternatives. In Antarctica, the main target in the 1990s was the Patagonian Toothfish. One of the major factors that put the brakes on over-fishing was the break-up of the Soviet Union and the collapse of other communist regimes. This put an end to the fuel subsidies that had been crucial for
fishing. The fishery was even more uneconomic. Interest has now turned to the Antarctic toothfish, which appears to live at higher latitudes (such as the Ross Sea), with New Zealand boats conducting exploratory fishing over the last two years.

CCAMLR has struggled to produce guidelines for acceptable catch limits because of the lack of baseline information available on Antarctic living resources. Very little is known about the population, life or distribution of either of the toothfish species. They are also subject to an unknown amount of illegal, unregulated and unreported (IUU) fishing, often by boats registered in non-AT member states. The lack of documentation from IUU fishing means CCAMLR is often guessing about quantities of fish that have been taken, and makes formulation of catch limits a farce.

There is also the problem of enforcement. CCAMLR has power over nations that have signed the convention, but non-member states have little reason to comply, particularly if the fishing is profitable. Sustainable fishing is only a good option if everyone follows the same rules.
Exclusive Antarctica

While nobody should underestimate the importance of understanding Antarctica's fragile ecosystems and geomorphological processes, the basic management problems are ultimately human. The crucial problems of Antarctic policy are likely to be organisational and intergovernmental, rather than purely technical or scientific, although the latter dimensions must be comprehended. (Davis, 1983)

By virtue of its remoteness, extremes, the activity carried out there, the resources required to get to Antarctica, many people have been excluded from going there. It is relatively easy to understand the exclusion of disabled or psychologically ill people from Antarctica, on a group safety basis. However, there has also been discrimination against other groups such as women and non-scientists.

Women

According to Nasa Mike 'Once upon a time there was a woman behind every tree in Antarctica.' As there are no trees in Antarctica this is an apt description. However, during the 1960s more women began to join in the work of their countries' research in the sub-Antarctic and Antarctica. The summer of 1969-70 marked the beginning of the participation of women in the United States Antarctic Research programme and the New Zealand Antarctic Research programme on the Continent.

Women are now clearly evident in Antarctica in science, administration, adventure and as entrepreneurs. Examples of these include geologist Margaret Bradshaw, the CEO of Antarctica New Zealand Gillian Wratt, and Anne Kershaw of Adventure Network International. In 1992 Ann Bancroft, Sue Giller, Sunniva Sorby, and Anne Dal Vera skied to the South Pole.

While it appears that Antarctic activities no longer actively discriminate against women (at least in New Zealand), we observed during our recent trip to Scott Base patterns that related to the past. Specifically the clothing was cut for men and the bar rules were reminiscent of the house rules in predominantly male sport and recreation clubs.

Membership of the ATS

A major criticism of the Antarctic Treaty system has been about membership. Critics cite concerns about the system favouring particular states and groups of states, wealthier nations, science, and national government representatives (over NGOs or commercial interests). It has been seen as an exclusive old boys' club.

The Antarctic Treaty nations represent about 70% of the world's people, but there are significant gaps in representation. Some nations favour the UN being given jurisdiction over Antarctica, but the Treaty nations have maintained that the current system is working well. In terms of nations; Africa, South East Asia and the Middle East are poorly represented. A major reason for this is the entry criterion to the Treaty outlined in Article IX. A country may
become a member if it ‘demonstrates its interest in Antarctica by conducting substantial research activity there, such as the establishment of a scientific station or the despatch of a scientific expedition.’ Non-Western and poorer nations generally do not see the priority of scientific research in Antarctica, which is a costly business.

The current understanding is that Antarctica is part of a global environment, and there are links between consumption above 60°S and environmental change below 60°S. This means that countries who are not involved in scientific research in Antarctica (and are thus, not Consultative Parties to the Treaty) still have immense impact on Antarctica. Unfortunately, the Treaty membership criterion excludes them from discussions on, and management of, Antarctica.

The scientific entry criterion of the AT has contributed to a proliferation of scientific bases. The most frequently cited example is King George Island, where there are eight scientific bases from different nations, doing substantially similar work. Commentators such as Klaus Dodds believe that these bases are unnecessary duplication developed because nations wanted to achieve Consultative Party status as easily as possible. The proliferation of bases is not only inefficient, it has environmental implications.
Antarctica, inspiration for the world

This report has shown that there have been significant and unique achievements in Antarctica, in the fields of politics, demilitarisation and arms control, environmental management, heritage, and science. What is the inspiration for all this?

Perhaps there is something about Antarctica that inspires humans. This is alluded to in the Antarctica NZ mission statement: “Antarctica: Refreshing global ecosystems & the human spirit”. Antarctica itself is a place that inspires and refreshes. It has certainly inspired scientists, artists and writers from the earliest days through to those going now with artists and writers programmes, and scientific and educational events. Scientists are inspired to draw, paint and write poetry, while artists become fascinated with scientific exploration.

Very few people actually go to Antarctica. There is accommodation available at scientific bases for scientists, one bunk for every 1.5 million people in the world. For most people the relationship with Antarctica is at a distance, conveyed by historical ties, resource and knowledge harvesting, visual images and the imagination.

The impact of individuals returning from Antarctica (or not returning in Scott’s case) is enormous. Some individuals inspired by the place act as the catalyst for the development of protective values towards Antarctica. Individuals have played large roles in the history of Antarctica. Their deeds, writings and what they carried back to the world have shaped its history.

The reaction to Antarctica is often to protect, to preserve, and to espouse the wonders of the place. Today individuals inspired by Antarctica work both in and out of the Treaty system to preserve and protect it.

Antarctica has become a place of learning. The very unresolvedness of the place creates a fertile climate for learning and wrestling with ideas and values. The rich harvest of knowledge has the potential to make us wiser.

What role did personal inspiration play in all the successes we have discussed? If things such as setting aside territorial disputes and protecting wildlife arose because of this unique inspiration, then how can the successes be a model to the world, a world that may not be so inspiring? How can we find inspiration for elsewhere, or should we just see it as part of the same world?

Antarctica has the power to inspire and refresh the human spirit. The following quotes are from people who have been to Antarctica. They illustrate the impact of Antarctica on the individual

- There is something spiritual about Antarctica. There is something different about the people, a spirit of adventure, a spirit of belief, in those that love the Antarctic. They have a great spirit for life, which a lot of us lose because of the environment we live in. The adventurous spirit is in the soul (Kershaw, 1999)
- Antarctica is a place that refreshes global ecosystems and the human spirit. Every generation needs to rediscover Antarctica, a place of the imagination, a place of oppositions, brought to focus, preserving all endeavours (Higham, 1999).

- No one can live there without a variety of intercessions. It forces us to give up our preliminary expectations (Mahy, 1999)

- If Antarctica is a sacred wilderness, then your own hometown is too. What is true in Antarctica is also true everywhere else in the world. But in Antarctica... there are no distractions (Stanley Robinson, 1999).

- Here in Antarctica there was no concept of ownership. I was travelling to the sound of a different drumbeat. If Antarctica had something to teach me that was more important than nitrate data, it was not about humanity. The landscape drew my thoughts away from worldly things. I could find the space to look for a higher power, whatever it was, that loomed over the snowfields (Wheeler, 1997)

- Into bright white light and limitless horizons, photos do not tell the story, they cant hold open the spaces, they can't capture the vastness, nor the call of it on one’s inner self. A desire wells up just to be part of and continue to be part of this vastness (K396, 1999).

- How strange that in this place so void of human thinking, so free of human design, I should once again find the firmness of purpose. The tasks ahead leave me untroubled, the joy of sharing today leaves me great peace (K396, 1999).

- When we were in Antarctica it was as if we were blessed. Without denying or minimising the groundwork from the course co-ordinators and support of Scott base we had an exceptional experience. In fact every day we seemed to have at least one experience of a lifetime. We were granted opportunities as if we had been given a “wish list” I felt that like it was as if we were looked after by the Gods (K396, 1999).

- It is through experience that the human soul learns knowledge, and through science and art, that the human soul expresses knowledge. As with all paths of discipline, we must return again and again for new experiences to fully understand our true nature. The uniqueness of Antarctica offers these new experiences that other continents do not. We must go to this icy world, not as conquerors but as pilgrims, with reverence and grace, seeking the revelations of Antarctica (Forster, 1992).

- These pieces of memory seem unaccountably valuable. – so many human beings persist in thinking that their time here was a gift (Parfitt, 1993).
Summary and Conclusions

The relationship between humankind and Antarctica is distinctive and unique. Antarctic relationships have provided examples for the world in every area we have examined. Sadly, there have also been significant omissions and issues where Antarctica has not been a good model for elsewhere.

The Antarctic Treaty is a model of Utopia — setting out principles of non-conflict over ownership claims, demilitarisation, non nuclear, mutual cooperation and sharing of information. Its implementation in terms of peace has been virtually without blemish — Antarctica has not been involved in local conflicts during the Treaty period. The priority for scientific endeavour has provided a wealth of information, some of which has proven to be of global significance.

The Antarctic Treaty, and its prioritisation of science has also had a down-side in the exclusion of some people and groups of people from Antarctica. Some areas of the world, though linked with Antarctica through global ecosystems have no say in the Treaty system because they have not developed Antarctic science. Non-scientists have also been excluded.

More recently the Antarctic Treaty system has adapted to changing opinions and recognised the importance of environmental preservation. A comprehensive collection of regulations and recommendations is in place to protect the Antarctic environment.

The environmental protection measures of the Antarctic Treaty, through conservation conventions and the Environmental Protocol stand in contrast to Antarctica's history of exploitation. There are major concerns about the power of the Treaty system to deal with overfishing and other economic resource exploitation. This has called into question the credibility of the Treaty system.

The Antarctic heritage of the Heroic era has been preserved, both through the efforts of individuals and dedicated groups, and the ATS nations. However, this protection has not extended to include more recent heritage (such as from the IGY), or back to include whaling and sealing heritage.

The powerful and exemplary achievements of humans in Antarctica have behind them the inspiration of Antarctica itself. Without the inspiration of Antarctica, is it possible to replicate the achievements elsewhere?
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Nasa Mike [http:coolspace.gst.nasa.gov/nasamike/ 20.1.00)


Glossary

ATS  Antarctic Treaty System
AT   Antarctic Treaty
ATCP Antarctic Treaty Consultative Party
CCAMLR Convention for the Conservation of Antarctic Marine Living Resources
CCAS Convention for the Conservation of Antarctic Seals 1972
CITES Convention on International Trade in Endangered Species
CRAMRA Convention on the Regulation of Antarctic Mineral Resource Activities
IGY  International Geophysical Year (1957-1958)
Madrid Protocol The Protocol on Environmental Protection to the Antarctic Treaty
Operation Deepfreeze US Navy Antarctic Logistics programme
UN   United Nations
Appendix 1   The Antarctic Treaty Articles

Article I

1. Antarctica shall be used for peaceful purposes only. There shall be prohibited, inter alia, any measure of a military nature, such as the establishment of military bases and fortifications, the carrying out of military manoeuvres, as well as the testing of any type of weapon.

2. The present Treaty shall not prevent the use of military personnel or equipment for scientific research or for any other peaceful purpose.

Article II

Freedom of scientific investigation in Antarctica and cooperation toward that end, as applied during the International Geophysical Year, shall continue, subject to the provisions of the present Treaty.

Article III

1. In order to promote international cooperation in scientific investigation in Antarctica, as provided for in Article II of the present Treaty, the Contracting Parties agree that, to the greatest extent feasible and practicable:

   a. information regarding plans for scientific programs in Antarctica shall be exchanged to permit maximum economy of and efficiency of operations;

   b. scientific personnel shall be exchanged in Antarctica between expeditions and stations;

   c. scientific observations and results from Antarctica shall be exchanged and made freely available.

Article IV

Nothing contained in the present Treaty shall be interpreted as:

   a. a renunciation by any Contracting Party of previously asserted rights of or claims to territorial sovereignty in Antarctica;

   b. a renunciation or diminution by any Contracting Party of any basis of claim to territorial sovereignty in Antarctica which it may have whether as a result of its activities or those of its nationals in Antarctica, or otherwise;

   c. prejudicing the position of any Contracting Party as regards its recognition or non-recognition of any other State's rights of or claim or basis of claim to territorial sovereignty in Antarctica.

No acts or activities taking place while the present Treaty is in force shall constitute a basis for asserting, supporting or denying a claim to territorial sovereignty in Antarctica or create any rights of sovereignty in Antarctica. No new claim, or enlargement of an existing claim, to territorial sovereignty in Antarctica shall be asserted while the present Treaty is in force.

Article V

1. Any nuclear explosions in Antarctica and the disposal there of radioactive waste material shall be prohibited.

2. In the event of the conclusion of international agreements concerning the use of nuclear energy, including nuclear explosions and the disposal of radioactive waste material, to which all of the Contracting Parties whose representatives are entitled to participate in the meetings provided for under Article IX are parties, the rules established under such agreements shall apply in Antarctica.

Article VI

The provisions of the present Treaty shall apply to the area south of 60 deg. South Latitude, including all ice shelves, but nothing in the present Treaty shall prejudice or in any way affect
the rights, or the exercise of the rights, of any State under international law with regard to the high seas within that area.

Article VII

1. In order to promote the objectives and ensure the observance of the provisions of the present Treaty, each Contracting Party whose representatives are entitled to participate in the meetings referred to in Article IX of the Treaty shall have the right to designate observers to carry out any inspection provided for by the present Article. Observers shall be nationals of the Contracting Parties which designate them. The names of observers shall be communicated to every other Contracting Party having the right to designate observers, and like notice shall be given of the termination of their appointment.

2. Each observer designated in accordance with the provisions of paragraph 1 of this Article shall have complete freedom of access at any time to any or all areas of Antarctica.

3. All areas of Antarctica, including all stations, installations and equipment within those areas, and all ships and aircraft at points of discharging or embarking cargoes or personnel in Antarctica, shall be open at all times to inspection by any observers designated in accordance with paragraph 1 of this Article.

4. Aerial observation may be carried out at any time over any or all areas of Antarctica by any of the Contracting Parties having the right to designate observers.

5. Each Contracting Party shall, at the time when the present Treaty enters into force for it, inform the other Contracting Parties, and thereafter shall give them notice in advance, of:

a. all expeditions to and within Antarctica, on the part of its ships or nationals, and all expeditions to Antarctica organized in or proceeding from its territory;

b. all stations in Antarctica occupied by its nationals; and

c. any military personnel or equipment intended to be introduced by it into Antarctica subject to the conditions prescribed in paragraph 2 of Article I of the present Treaty.

Article VIII

1. In order to facilitate the exercise of their functions under the present Treaty, and without prejudice to the respective positions of the Contracting Parties relating to jurisdiction over all other persons in Antarctica, observers designated under paragraph 1 of Article VII and scientific personnel exchanged under sub-paragraph 1(b) of Article III of the Treaty, and members of the staffs accompanying any such persons, shall be subject only to the jurisdiction of the Contracting Party of which they are nationals in respect of all acts or omissions occurring while they are in Antarctica for the purpose of exercising their functions.

2. Without prejudice to the provisions of paragraph 1 of this Article, and pending the adoption of measures in pursuance of subparagraph 1(e) of Article IX, the Contracting Parties concerned in any case of dispute with regard to the exercise of jurisdiction in Antarctica shall immediately consult together with a view to reaching a mutually acceptable solution.

Article IX

1. Representatives of the Contracting Parties named in the preamble to the present Treaty shall meet at the City of Canberra within two months after the date of entry into force of the Treaty, and thereafter at suitable intervals and places, for the purpose of exchanging information, consulting together on matters of common interest pertaining to Antarctica, and formulating and considering, and recommending to their Governments, measures in furtherance of the principles and objectives of the Treaty, including measures regarding:

a. use of Antarctica for peaceful purposes only;

b. facilitation of scientific research in Antarctica;

c. facilitation of international scientific cooperation in Antarctica;

d. facilitation of the exercise of the rights of inspection provided for in Article VII of the Treaty;

e. questions relating to the exercise of jurisdiction in Antarctica;
f. preservation and conservation of living resources in Antarctica.

2. Each Contracting Party which has become a party to the present Treaty by accession under Article XIII shall be entitled to appoint representatives to participate in the meetings referred to in paragraph 1 of the present Article, during such times as that Contracting Party demonstrates its interest in Antarctica by conducting substantial research activity there, such as the establishment of a scientific station or the despatch of a scientific expedition.

3. Reports from the observers referred to in Article VII of the present Treaty shall be transmitted to the representatives of the Contracting Parties participating in the meetings referred to in paragraph 1 of the present Article.

4. The measures referred to in paragraph 1 of this Article shall become effective when approved by all the Contracting Parties whose representatives were entitled to participate in the meetings held to consider those measures.

5. Any or all of the rights established in the present Treaty may be exercised as from the date of entry into force of the Treaty whether or not any measures facilitating the exercise of such rights have been proposed, considered or approved as provided in this Article.

Article X

Each of the Contracting Parties undertakes to exert appropriate efforts, consistent with the Charter of the United Nations, to the end that no one engages in any activity in Antarctica contrary to the principles or purposes of the present Treaty.

Article XI

1. If any dispute arises between two or more of the Contracting Parties concerning the interpretation or application of the present Treaty, those Contracting Parties shall consult among themselves with a view to having the dispute resolved by negotiation, inquiry, mediation, conciliation, arbitration, judicial settlement or other peaceful means of their own choice.

2. Any dispute of this character not so resolved shall, with the consent, in each case, of all parties to the dispute, be referred to the International Court of Justice for settlement; but failure to reach agreement on reference to the International Court shall not absolve parties to the dispute from the responsibility of continuing to seek to resolve it by any of the various peaceful means referred to in paragraph 1 of this Article.

Article XII

1a. The present Treaty may be modified or amended at any time by unanimous agreement of the Contracting Parties whose representatives are entitled to participate in the meetings provided for under Article IX. Any such modification or amendment shall enter into force when the depositary Government has received notice from all such Contracting Parties that they have ratified it.

b. Such modification or amendment shall thereafter enter into force as to any other Contracting Party when notice of ratification by it has been received by the depositary Government. Any such Contracting Party from which no notice of ratification is received within a period of two years from the date of entry into force of the modification or amendment in accordance with the provision of subparagraph 1(a) of this Article shall be deemed to have withdrawn from the present Treaty on the date of the expiration of such period.

2a. If after the expiration of thirty years from the date of entry into force of the present Treaty, any of the Contracting Parties whose representatives are entitled to participate in the meetings provided for under Article IX so requests by a communication addressed to the depositary Government, a Conference of all the Contracting Parties shall be held as soon as practicable to review the operation of the Treaty.

b. Any modification or amendment to the present Treaty which is approved at such a Conference by a majority of the Contracting Parties there represented, including a majority of those whose representatives are entitled to participate in the meetings provided for under Article IX, shall be communicated by the depositary Government to all Contracting Parties immediately after the termination of the Conference and shall enter into force in accordance with the provisions of paragraph 1 of the present Article.
c. If any such modification or amendment has not entered into force in accordance with the provisions of subparagraph 1(a) of this Article within a period of two years after the date of its communication to all the Contracting Parties, any Contracting Party may at any time after the expiration of that period give notice to the depositary Government of its withdrawal from the present Treaty; and such withdrawal shall take effect two years after the receipt of the notice by the depositary Government.

Article XIII

1. The present Treaty shall be subject to ratification by the signatory States. It shall be open for accession by any State which is a Member of the United Nations, or by any other State which may be invited to accede to the Treaty with the consent of all the Contracting Parties whose representatives are entitled to participate in the meetings provided for under Article IX of the Treaty.

2. Ratification of or accession to the present Treaty shall be effected by each State in accordance with its constitutional processes.

3. Instruments of ratification and instruments of accession shall be deposited with the Government of the United States of America, hereby designated as the depositary Government.

4. The depositary Government shall inform all signatory and acceding States of the date of each deposit of an instrument of ratification or accession, and the date of entry into force of the Treaty and of any modification or amendment thereto.

5. Upon the deposit of instruments of ratification by all the signatory States, the present Treaty shall enter into force for those States and for States which have deposited instruments of accession. Thereafter the Treaty shall enter into force for any acceding State upon the deposit of its instruments of accession.

6. The present Treaty shall be registered by the depositary Government pursuant to Article 102 of the Charter of the United Nations.

Article XIV

The present Treaty, done in the English, French, Russian and Spanish languages, each version being equally authentic, shall be deposited in the archives of the Government of the United States of America, which shall transmit duly certified copies thereof to the Governments of the signatory and acceding States.
Appendix 2 Protocol on Environmental Protection to the Antarctic Treaty

Madrid on 4 October 1991. Entered into Force: The Protocol will become effective the 30th day following the date of deposition of instruments by all states which were Antarctic Treaty consultative parties when the Protocol was agreed.

The States Parties to this Protocol to the Antarctic Treaty, hereinafter referred to as the Parties,

CONVINCED of the need to enhance the protection of the Antarctic environment and dependent and associated ecosystems;

CONVINCED of the need to strengthen the Antarctic Treaty system so as to ensure that Antarctic shall continue forever to be used exclusively for peaceful purposes and shall not become the scene or object of international discord;

BEARING IN MIND the special legal and political status of Antarctic and the special responsibility of the Antarctic Treaty Consultative Parties to ensure that all activities in Antarctic are consistent with the purposes and principles of the Antarctic Treaty;

RECALLING the designation of Antarctic as a Special Conservation Area and other measures adopted under the Antarctic Treaty system to protect the Antarctic environment and dependent and associated ecosystems;

ACKNOWLEDGING further the unique opportunities Antarctic offers for scientific monitoring of and research on processes of global as well as regional importance;

REAFFIRMING the conservation principles of the Convention on the Conservation of Antarctic Marine Living Resources;

CONVINCED that the development of a comprehensive regime for the protection of the Antarctic environment and dependent and associated ecosystems is in the interest of mankind as a whole;

DESIRING to supplement the Antarctic Treaty to this end;

Have agreed as follows:

Article 1

DEFINITIONS

For the purposes of this Protocol:

(a) "The Antarctic Treaty" means the Antarctic Treaty done at Washington on 1 December 1959;

(b) "Antarctic Treaty area" means the area to which the provisions of the Antarctic Treaty apply in accordance with Article VI of that Treaty;

(c) "Antarctic Treaty Consultative Meetings" means the meetings referred to in Article IX of the Antarctic Treaty;

(d) "Antarctic Treaty Consultative Parties" means the Contracting Parties to the Antarctic Treaty entitled to appoint representatives to participate in the meetings referred to in Article IX of that Treaty;

(e) "Antarctic Treaty system" means the Antarctic Treaty, the measures in effect under that Treaty, its associated separate international instruments in force and the measures in effect under those instruments;

(f) "Arbitral Tribunal" means the Arbitral Tribunal established in accordance with the Schedule to this Protocol, which forms an integral part thereof;

(g) "Committee" means the Committee for Environmental Protection established in accordance with Article 11.
Article 2

OBJECTIVE AND DESIGNATION

The Parties commit themselves to the comprehensive protection of the Antarctic environment and dependent and associated ecosystems and hereby designate Antarctica as a natural reserve, devoted to peace and science.

Article 3

ENVIRONMENTAL PRINCIPLES

1. 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 value 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.

2. To this end:

(a) activities in the Antarctic Treaty area shall be planned and conducted so as to limit adverse impacts on the Antarctic environment and dependent and associated ecosystems;

(b) activities in the Antarctic Treaty area shall be planned and conducted so as to avoid:

(i) adverse effects on climate or weather patterns;(ii) significant adverse effects on air or water quality;(iii) significant changes in the atmospheric, terrestrial (including aquatic), glacial or marine environments;(iv) detrimental changes in the distribution, abundance or productivity of species or populations of species of fauna and flora;(v) further jeopardy to endangered or threatened species or populations of such species; or(vi) degradation of, or substantial risk to, areas of biological, scientific, historic, aesthetic or wilderness significance;

(c) activities in the Antarctic Treaty area shall be planned and conducted on the basis of information sufficient to allow prior assessments of, and informed judgments about, their possible impacts on the Antarctic environment and dependent and associated ecosystems and on the value of Antarctica for the conduct of scientific research; such judgments shall take full account of:

(i) the scope of the activity, including its area, duration and intensity;(ii) the cumulative impacts of the activity, both by itself and in combination with other activities in the Antarctic Treaty area; (iii) whether the activity will detrimentally affect any other activity in the Antarctic Treaty area; (iv) whether technology and procedures are available to provide for environmentally safe operations; (v) whether there exists the capacity to monitor key environmental parameters and ecosystem components so as to identify and provide early warning of any adverse effects of the activity and to provide for such modification of operating procedures as may be necessary in the light of the results of monitoring or increased knowledge of the Antarctic environment and dependent and associated ecosystems; and (vi) whether there exists the capacity to respond promptly and effectively to accidents, particularly those with potential environmental effects;

(d) regular and effective monitoring shall take place to allow assessment of the impacts of ongoing activities, including the verification of predicted impacts;

(e) regular and effective monitoring shall take place to facilitate early detection of the possible unforeseen effects of activities carried on both within and outside the Antarctic Treaty area on the Antarctic environment and dependent and associated ecosystems.

3. Activities shall be planned and conducted in the Antarctic Treaty area so as to accord priority to scientific research and to preserve the value of Antarctica as an area for the conduct of such research, including research essential to understanding the global environment.

4. Activities undertaken in the Antarctic Treaty area pursuant to scientific research programmes, tourism and all other governmental and non-governmental activities in the
Antarctic Treaty area for which advance notice is required in accordance with Article VII (5) of
the Antarctic Treaty, including associated logistic support activities, shall:

(a) take place in a manner consistent with the principles in this Article; and

(b) be modified, suspended or cancelled if they result in or threaten to result in impacts upon
the Antarctic environment or dependent or associated ecosystems inconsistent with those
principles.

Article 4

RELATIONSHIP WITH THE OTHER COMPONENTS OF THE ANTARCTIC TREATY
SYSTEM

1. This Protocol shall supplement the Antarctic Treaty and shall neither modify nor amend that
Treaty.

2. Nothing in this Protocol shall derogate from the rights and obligations of the Parties to this
Protocol under the other international instruments in force within the Antarctic Treaty system.

Article 5

CONSISTENCY WITH THE OTHER COMPONENTS OF THE ANTARCTIC TREATY
SYSTEM

The Parties shall consult and co-operate with the Contracting Parties to the other international
instruments in force within the Antarctic Treaty system and their respective institutions with a
view to ensuring the achievement of the objectives and principles of this Protocol and
avoiding any interference with the achievement of the objectives and principles of those
instruments or any

inconsistency between the implementation of those instruments and of this Protocol.

Article 6

CO-OPERATION

1. The Parties shall co-operate in the planning and conduct of activities in the Antarctic Treaty
area. To this end, each Party shall endeavour to:

(a) promote co-operative programmes of scientific, technical and educational value,
concerning the protection of the Antarctic environment and dependent and associated
ecosystems;

(b) provide appropriate assistance to other Parties in the preparation of environmental impact
assessments;

(c) provide to other Parties upon request information relevant to any potential environmental
risk and assistance to minimize the effects of accidents which may damage the Antarctic
environment or dependent and associated ecosystems;

(d) consult with other Parties with regard to the choice of sites for prospective stations and
other facilities so as to avoid the cumulative impacts caused by their excessive concentration
in any location;

(e) where appropriate, undertake joint expeditions and share the use of stations and other
facilities; and

(f) carry out such steps as may be agreed upon at Antarctic Treaty Consultative Meetings.

2. Each Party undertakes, to the extent possible, to share information that maybe helpful to
other Parties in planning and conducting their activities in the Antarctic Treaty area, with a
view to the protection of the Antarctic environment and dependent and associated
ecosystems.

3. The Parties shall co-operate with those Parties which may exercise jurisdiction in areas
adjacent to the Antarctic Treaty area with a view to ensuring that activities in the Antarctic
Treaty area do not have adverse environmental impacts on those areas.

Article 7
PROHIBITION OF MINERAL RESOURCE ACTIVITIES

Any activity relating to mineral resources, other than scientific research, shall be prohibited.

Article 8

ENVIRONMENTAL IMPACT ASSESSMENT

1. Proposed activities referred to in paragraph 2 below shall be subject to the procedures set out in Annex I for prior assessment of the impacts of those activities on the Antarctic environment or on dependent or associated ecosystems according to whether those activities are identified as having:
   (a) less than a minor or transitory impact;
   (b) a minor or transitory impact; or
   (c) more than a minor or transitory impact.

2. Each Party shall ensure that the assessment procedures set out in Annex I are applied in the planning processes leading to decisions about any activities undertaken in the Antarctic Treaty area pursuant to scientific research programmes, tourism and all other governmental and non-governmental activities in the Antarctic Treaty area for which advance notice is required under Article VII (5) of the Antarctic Treaty, including associated logistic support activities.

3. The assessment procedures set out in Annex I shall apply to any change in an activity whether the change arises from an increase or decrease in the intensity of an existing activity, from the addition of an activity, the decommissioning of a facility, or otherwise.

4. Where activities are planned jointly by more than one Party, the Parties involved shall nominate one of their number to coordinate the implementation of the environmental impact assessment procedures set out in Annex I.

Article 9

ANNEXES

1. The Annexes to this Protocol shall form an integral part thereof.

2. Annexes, additional to Annexes I-IV, may be adopted and become effective in accordance with Article IX of the Antarctic Treaty.

3. Amendments and modifications to Annexes may be adopted and become effective in accordance with Article IX of the Antarctic Treaty, provided that any Annex may itself make provision for amendments and modifications to become effective on an accelerated basis.

4. Annexes and any amendments and modifications thereto which have become effective in accordance with paragraphs 2 and 3 above shall, unless an Annex itself provides otherwise in respect of the entry into effect of any amendment or modification thereto, become effective for a Contracting Party to the Antarctic Treaty which is not an Antarctic Treaty Consultative Party, or which was not an Antarctic Treaty Consultative Party at the time of the adoption, when notice of approval of that Contracting Party has been received by the Depositary.

5. Annexes shall, except to the extent that an Annex provides otherwise, be subject to the procedures for dispute settlement set out in Articles 18 to 20.

Article 10

ANTARCTIC TREATY CONSULTATIVE MEETINGS

1. Antarctic Treaty Consultative Meetings shall, drawing upon the best scientific and technical advice available:
   (a) define, in accordance with the provisions of this Protocol, the general policy for the comprehensive protection of the Antarctic environment and dependent and associated ecosystems; and

Syndicate Report by T Falconer, T Foster and G Mackereth
(b) adopt measures under Article IX of the Antarctic Treaty for the implementation of this Protocol.

2. Antarctic Treaty Consultative Meetings shall review the work of the Committee and shall draw fully upon its advice and recommendations in carrying out the tasks referred to in paragraph 1 above, as well as upon the advice of the Scientific Committee on Antarctic Research.

Article 11

COMMITTEE FOR ENVIRONMENTAL PROTECTION

1. There is hereby established the Committee for Environmental Protection.

2. Each Party shall be entitled to be a member of the Committee and to appoint a representative who may be accompanied by experts and advisers.

3. Observer status in the Committee shall be open to any Contracting Party to the Antarctic Treaty which is not a Party to this Protocol.

4. The Committee shall invite the President of the Scientific Committee on Antarctic Research and the Chairman of the Scientific Committee for the Conservation of Antarctic Marine Living Resources to participate as observers at its sessions. The Committee may also, with the approval of the Antarctic Treaty Consultative Meeting, invite such other relevant scientific, environmental and technical organisations which can contribute to its work to participate as observers at its sessions.

5. The Committee shall present a report on each of its sessions to the Antarctic Treaty Consultative Meeting. The report shall cover all matters considered at the session and shall reflect the views expressed. The report shall be circulated to the Parties and to observers attending the session, and shall thereupon be made publicly available.

6. The Committee shall adopt its rules of procedure which shall be subject to approval by the Antarctic Treaty Consultative Meeting.

Article 12

FUNCTIONS OF THE COMMITTEE

1. The functions of the Committee shall be to provide advice and formulate recommendations to the Parties in connection with the implementation of this Protocol, including the operation of its Annexes, for consideration at Antarctic Treaty Consultative Meetings, and to perform such other functions as may be referred to it by the Antarctic Treaty Consultative Meetings. In particular, it shall provide advice on:

(a) the effectiveness of measures taken pursuant to this Protocol;

(b) the need to update, strengthen or otherwise improve such measures;

(c) the need for additional measures, including the need for additional Annexes, where appropriate;

(d) the application and implementation of the environmental impact assessment procedures set out in Article 8 and Annex I;

(e) means of minimising or mitigating environmental impacts of activities in the Antarctic Treaty area;

(f) procedures for situations requiring urgent action, including response action in environmental emergencies;

(g) the operation and further elaboration of the Antarctic Protected Area system;

(h) inspection procedures, including formats for inspection reports and checklists for the conduct of inspections;

(i) the collection, archiving, exchange and evaluation of information related to environmental protection;

(j) the state of the Antarctic environment; and

Syndicate Report by T Falconer, T Foster and G Mackereth
(k) the need for scientific research, including environmental monitoring, related to the implementation of this Protocol.

2. In carrying out its functions, the Committee shall, as appropriate, consult with the Scientific Committee on Antarctic Research, the Scientific Committee for the Conservation of Antarctic Marine Living Resources and other relevant scientific, environmental and technical organizations.

Article 13

COMPLIANCE WITH THIS PROTOCOL

1. Each Party shall take appropriate measures within its competence, including the adoption of laws and regulations, administrative actions and enforcement measures, to ensure compliance with this Protocol.

2. Each Party shall exert appropriate efforts, consistent with the Charter of the United Nations, to the end that no one engages in any activity contrary to this Protocol.

3. Each Party shall notify all other Parties of the measures it takes pursuant to paragraphs 1 and 2 above.

4. Each Party shall draw the attention of all other Parties to any activity which in its opinion affects the implementation of the objectives and principles of this Protocol.

5. The Antarctic Treaty Consultative Meetings shall draw the attention of any State which is not a Party to this Protocol to any activity undertaken by that State, its agencies, instrumentalities, natural or juridical persons, ships, aircraft or other means of transport which affects the implementation of the objectives and principles of this Protocol.

Article 14

INSPECTION

1. In order to promote the protection of the Antarctic environment and dependent and associated ecosystems, and to ensure compliance with this Protocol, the Antarctic Treaty Consultative Parties shall arrange, individually or collectively, for inspections by observers to be made in accordance with Article VII of the Antarctic Treaty.

2. Observers are:

(a) observers designated by any Antarctic Treaty Consultative Party who shall be nationals of that Party; and

(b) any observers designated at Antarctic Treaty Consultative Meetings to carry out inspections under procedures to be established by an Antarctic Treaty Consultative Meeting.

3. Parties shall co-operate fully with observers undertaking inspections, and shall ensure that during inspections, observers are given access to all parts of stations, installations, equipment, ships and aircraft open to inspection under Article VII (3) of the Antarctic Treaty, as well as to all records maintained thereon which are called for pursuant to this Protocol.

4. Reports of inspections shall be sent to the Parties whose stations, installations, equipment, ships or aircraft are covered by the reports. After those Parties have been given the opportunity to comment, the reports and any comments thereon shall be circulated to all the Parties and to the Committee, considered at the next Antarctic Treaty Consultative Meeting, and thereafter made publicly available.

Article 15

EMERGENCY RESPONSE ACTION

1. In order to respond to environmental emergencies in the Antarctic Treaty area, each Party agrees to:

(a) provide for prompt and effective response action to such emergencies which might arise in the performance of scientific research programmes, tourism and all other governmental and
nongovernmental activities in the Antarctic Treaty area for which advance notice is required
under Article VII (5) of the Antarctic Treaty, including associated logistic support activities; and

(b) establish contingency plans for response to incidents with potential adverse effects on the
Antarctic environment or dependent and associated ecosystems.

2. To this end, the Parties shall:

(a) co-operate in the formulation and implementation of such contingency plans; and

(b) establish procedures for immediate notification of, and co-operative response to,
environmental emergencies.

3. In the implementation of this Article, the Parties shall draw upon the advice of the
appropriate international organisations.

Article 16

LIABILITY

Consistent with the objectives of this Protocol for the comprehensive protection of the
Antarctic environment and dependent and associated ecosystems, the Parties undertake to
elaborate rules and procedures relating to liability for damage arising from activities taking
place in the Antarctic Treaty area and covered by this Protocol. Those rules and procedures
shall be included in one or more Annexes to be adopted in accordance with Article 9 (2).

Article 17

ANNUAL REPORT BY PARTIES

1. Each Party shall report annually on the steps taken to implement this Protocol. Such
reports shall include notifications made in accordance with Article 13 (3), contingency plans
established in accordance with Article 15 and any other notifications and information called for
pursuant to this Protocol for which there is no other provision concerning the circulation and
exchange of information.

2. Reports made in accordance with paragraph 1 above shall be circulated to all Parties and
to the Committee, considered at the next Antarctic Treaty Consultative Meeting, and made
publicly available.

Article 18

DISPUTE SETTLEMENT

If a dispute arises concerning the interpretation or application of this Protocol, the parties to
the dispute shall, at the request of any one of them, consult among themselves as soon as
possible with a view to having the dispute resolved by negotiation, inquiry, mediation,
conciliation, arbitration, judicial settlement or other peaceful means to which the parties to the
dispute agree.

Article 19

CHOICE OF DISPUTE SETTLEMENT PROCEDURE

1. Each Party, when signing, ratifying, accepting, approving or acceding to this Protocol, or at
any time thereafter, may choose, by written declaration, one or both of the following means
for the settlement of disputes concerning the interpretation or application of Articles 7, 8 and
15 and, except to the extent that an Annex provides otherwise, the provisions of any Annex
and, insofar as it relates to these Articles and provisions, Article 13:

(a) the International Court of Justice;

(b) the Arbitral Tribunal.

2. A declaration made under paragraph 1 above shall not affect the operation of Article 18
and Article 20 (2).
3. A Party which has not made a declaration under paragraph 1 above or in respect of which a declaration is no longer in force shall be deemed to have accepted the competence of the Arbitral Tribunal.

4. If the parties to a dispute have accepted the same means for the settlement of a dispute, the dispute may be submitted only to that procedure, unless the parties otherwise agree.

5. If the parties to a dispute have not accepted the same means for the settlement of a dispute, or if they have both accepted both means, the dispute may be submitted only to the Arbitral Tribunal, unless the parties otherwise agree.

6. A declaration made under paragraph 1 above shall remain in force until it expires in accordance with its terms or until three months after written notice of revocation has been deposited with the Depositary.

7. A new declaration, a notice of revocation or the expiry of a declaration shall not in any way affect proceedings pending before the International Court of Justice or the Arbitral Tribunal, unless the parties to the dispute otherwise agree.

8. Declarations and notices referred to in this Article shall be deposited with the Depositary who shall transmit copies thereof to all Parties.

Article 20

DISPUTE SETTLEMENT PROCEDURE

1. If the parties to a dispute concerning the interpretation or application of Articles 7, 8 or 15 or, except to the extent that an Annex provides otherwise, the provisions of any Annex or, insofar as it relates to these Articles and provisions, Article 13, have not agreed on a means for resolving it within 12 months of the request for consultation pursuant to Article 18, the dispute shall be referred, at the request of any party to the dispute, for settlement in accordance with the procedure determined by Article 19 (4) and (5).

2. The Arbitral Tribunal shall not be competent to decide or rule upon any matter within the scope of Article IV of the Antarctic Treaty. In addition, nothing in this Protocol shall be interpreted as conferring competence or jurisdiction on the International Court of Justice or any other tribunal established for the purpose of settling disputes between Parties to decide or otherwise rule upon any matter within the scope of Article IV of the Antarctic Treaty.

Article 21

SIGNATURE

This Protocol shall be open for signature at Madrid on the 4th of October 1991 and thereafter at Washington until the 3rd of October 1992 by any State which is a Contracting Party to the Antarctic Treaty.

Article 22

RATIFICATION, ACCEPTANCE, APPROVAL OR ACCESSION

1. This Protocol is subject to ratification, acceptance or approval by signatory States.

2. After the 3rd of October 1992 this Protocol shall be open for accession by any State which is a Contracting Party to the Antarctic Treaty.

3. Instruments of ratification, acceptance, approval or accession shall be deposited with the Government of the United States of America, hereby designated as the Depositary.

4. After the date on which this Protocol has entered into force, the Antarctic Treaty Consultative Parties shall not act upon a notification regarding the entitlement of a Contracting Party to the Antarctic Treaty to appoint representatives to participate in Antarctic Treaty Consultative Meetings in accordance with Article IX (2) of the Antarctic Treaty unless that Contracting Party has first ratified, accepted, approved or acceded to this Protocol.

Article 23

ENTRY INTO FORCE
1. This Protocol shall enter into force on the thirtieth day following the date of deposit of instruments of ratification, acceptance, approval or accession by all States which are Antarctic Treaty Consultative Parties at the date on which this Protocol is adopted.

2. For each Contracting Party to the Antarctic Treaty which, subsequent to the date of entry into force of this Protocol, deposits an instrument of ratification, acceptance, approval or accession, this Protocol shall enter into force on the thirtieth day following such deposit.

Art. 24

RESERVATIONS

Reservations to this Protocol shall not be permitted.

Art. 25

MODIFICATION OR AMENDMENT

1. Without prejudice to the provisions of Article 9, this Protocol maybe modified or amended at any time in accordance with the procedures set forth in Article XII (1) (a) and (b) of the Antarctic Treaty.

2. If, after the expiration of 50 years from the date of entry into force of this Protocol, any of the Antarctic Treaty Consultative Parties so requests by a communication addressed to the Depositary, a conference shall be held as soon as practicable to review the operation of this Protocol.

3. A modification or amendment proposed at any Review Conference called pursuant to paragraph 2 above shall be adopted by a majority of the Parties, including 3/4 of the States which are Antarctic Treaty Consultative Parties at the time of adoption of this Protocol.

4. A modification or amendment adopted pursuant to paragraph 3 above shall enter into force upon ratification, acceptance, approval or accession by 3/4 of the Antarctic Treaty Consultative Parties, including ratification, acceptance, approval or accession by all States which are Antarctic Treaty Consultative Parties at the time of adoption of this Protocol.

5. (a) With respect to Article 7, the prohibition on Antarctic mineral resource activities contained therein shall continue unless there is in force a binding legal regime on Antarctic mineral resource activities that includes an agreed means for determining whether, and, if so, under which conditions, any such activities would be acceptable. This regime shall fully safeguard the interests of all States referred to in Article IV of the Antarctic Treaty and apply the principles thereof. Therefore, if a modification or amendment to Article 7 is proposed at a Review Conference referred to in paragraph 2 above, it shall include such a binding legal regime.

(b) If any such modification or amendment has not entered into force within 3 years of the date of its adoption, any Party may at any time thereafter notify to the Depositary of its withdrawal from this Protocol, and such withdrawal shall take effect 2 years after receipt of the notification by the Depositary.

Art. 26

NOTIFICATIONS BY THE DEPOSITARY

The Depositary shall notify all Contracting Parties to the Antarctic Treaty of the following:

(a) signatures of this Protocol and the deposit of instruments of ratification, acceptance, approval or accession;

(b) the date of entry into force of this Protocol and any additional Annex thereto;

(c) the date of entry into force of any amendment or modification to this Protocol;

(d) the deposit of declarations and notices pursuant to Article 19; and

(e) any notification received pursuant to Article 25 (5) (b).

Art. 27

AUTHENTIC TEXTS AND REGISTRATION WITH THE UNITED NATIONS
1. This Protocol, done in the English, French, Russian and Spanish languages, each version being equally authentic, shall be deposited in the archives of the Government of the United States of America, which shall transmit duly certified copies thereof to all Contracting Parties to the Antarctic Treaty.

2. This Protocol shall be registered by the Depositary pursuant to Article 102 of the Charter of the United Nations.

Schedule to the Protocol

ARBITRATION

Article 1

1. The Arbitral Tribunal shall be constituted and shall function in accordance with the Protocol, including this Schedule.

2. The Secretary referred to in this Schedule is the Secretary General of the Permanent Court of Arbitration.

Article 2

1. Each Party shall be entitled to designate up to three Arbitrators, at least one of whom shall be designated within three months of the entry into force of the Protocol for that Party. Each Arbitrator shall be experienced in Antarctic affairs, have thorough knowledge of international law and enjoy the highest reputation for fairness, competence and integrity. The names of the persons so designated shall constitute the list of Arbitrators. Each Party shall at all times maintain the name of at least one Arbitrator on the list.

2. Subject to paragraph 3 below, an Arbitrator designated by a Party shall remain on the list for a period of five years and shall be eligible for redesignation by that Party for additional five year periods.

3. A Party which designated an Arbitrator may withdraw the name of that Arbitrator from the list. If an Arbitrator dies or if a Party for any reason withdraws from the list the name of an Arbitrator designated by it, the Party which designated the Arbitrator in question shall notify the Secretary promptly. An Arbitrator whose name is withdrawn from the list shall continue to serve on any Arbitral Tribunal to which that Arbitrator has been appointed until the completion of proceedings before the Arbitral Tribunal.

4. The Secretary shall ensure that an up-to-date list is maintained of the Arbitrators designated pursuant to this Article.

Article 3

1. The Arbitral Tribunal shall be composed of three Arbitrators who shall be appointed as follows:

(a) The party to the dispute commencing the proceedings shall appoint one Arbitrator, who may be its national, from the list referred to in Article 2. This appointment shall be included in the notification referred to in Article 4.

(b) Within 40 days of the receipt of that notification, the other party to the dispute shall appoint the second Arbitrator, who may be its national, from the list referred to in Article 2.

(c) Within 60 days of the appointment of the second Arbitrator, the parties to the dispute shall appoint by agreement the third Arbitrator from the list referred to in Article 2.

The third Arbitrator shall not be either a national of a party to the dispute, or a person designated for the list referred to in Article 2 by a party to the dispute, or of the same nationality as either of the first two Arbitrators. The third Arbitrator shall be the Chairperson of the Arbitral Tribunal.

(d) If the second Arbitrator has not been appointed within the prescribed period, or if the parties to the dispute have not reached agreement within the prescribed period on the appointment of the third Arbitrator, the Arbitrator or Arbitrators shall be appointed, at the request of any party to the dispute and within 30 days of the receipt of such request, by the
President of the International Court of Justice from the list referred to in Article 2 and subject to the conditions prescribed in subparagraphs (b) and (c) above. In performing the functions accorded him or her in this subparagraph, the President of the Court shall consult the parties to the dispute.

(e) If the President of the International Court of Justice is unable to perform the functions accorded him or her in subparagraph (d) above or is a national of a party to the dispute, the functions shall be performed by the Vice-President of the Court, except that if the Vice-President is unable to perform the functions or is a national of a party to the dispute the functions shall be performed by the next most senior member of the Court who is available and is not a national of a party to the dispute.

2. Any vacancy shall be filled in the manner prescribed for the initial appointment.

3. In any dispute involving more than two Parties, those Parties having the same interest shall appoint one Arbitrator by agreement within the period specified in paragraph 1 (b) above.

Article 4

The party to the dispute commencing proceedings shall so notify the other party or parties to the dispute and the Secretary in writing. Such notification shall include a statement of the claim and the grounds on which it is based. The notification shall be transmitted by the Secretary to all Parties.

Article 5

1. Unless the parties to the dispute agree otherwise, arbitration shall take place at The Hague, where the records of the Arbitral Tribunal shall be kept. The Arbitral Tribunal shall adopt its own rules of procedure. Such rules shall ensure that each party to the dispute has a full opportunity to be heard and to present its case and shall also ensure that the proceedings are conducted expeditiously.

2. The Arbitral Tribunal may hear and decide counterclaims arising out of the dispute.

Article 6

1. The Arbitral Tribunal, where it considers that prima facie it has jurisdiction under the Protocol, may:

   (a) of any party to a dispute, indicate such provisional measures as it considers necessary to preserve the respective rights of the parties to the dispute;

   (b) prescribe any provisional measures which it considers appropriate under the circumstances to prevent serious harm to the Antarctic environment or dependent or associated ecosystems.

2. The parties to the dispute shall comply promptly with any provisional measures prescribed under paragraph 1 (b) above pending an award under Article 10.

3. Notwithstanding the time period in Article 20 of the Protocol, a party to a dispute may at any time, by notification to the other party or parties to the dispute and to the Secretary in accordance with Article 4, request that the Arbitral Tribunal be constituted as a matter of exceptional urgency to indicate or prescribe emergency provisional measures in accordance with this Article. In such case, the Arbitral Tribunal shall be constituted as soon as possible in accordance With Article 3, except that the time periods in Article 3 (1) (b), (c) and (d) shall be reduced to 14 days in each case. The Arbitral Tribunal shall decide upon the request for emergency provisional measures within two months of the appointment of its Chairperson.

4. Following a decision by the Arbitral Tribunal upon a request for emergency provisional measures in accordance with paragraph 3 above, settlement of the dispute shall proceed in accordance with Articles 18, 19 and 20 of the Protocol.

Article 7

Any Party which believes it has a legal interest, whether general or individual, which may be substantially affected by the award of an Arbitral Tribunal, may, unless the Arbitral Tribunal decides otherwise, intervene in the proceedings.

Article 8
The parties to the dispute shall facilitate the work of the Arbitral Tribunal and, in particular, in accordance with their law and using all means at their disposal, shall provide it with all relevant documents and information, and enable it, when necessary, to call witnesses or experts and receive their evidence.

Article 9

If one of the parties to the dispute does not appear before the Arbitral Tribunal or fails to defend its case, any other party to the dispute may request the Arbitral Tribunal to continue the proceedings and make its award.

Article 10

1. The Arbitral Tribunal shall, on the basis of the provisions of the Protocol and other applicable rules and principles of international law that are not incompatible with such provisions, decide such disputes as are submitted to it.

2. The Arbitral Tribunal may decide, ex aequo et bono, a dispute submitted to it, if the parties to the dispute so agree.

Article 11

1. Before making its award, the Arbitral Tribunal shall satisfy itself that it has competence in respect of the dispute and that the claim or counterclaim is well founded in fact and law.

2. The award shall be accompanied by a statement of reasons for the decision and shall be communicated to the Secretary who shall transmit it to all Parties.

3. The award shall be final and binding on the parties to the dispute and on any Party which intervened in the proceedings and shall be complied with without delay. The Arbitral Tribunal shall interpret the award at the request of a party to the dispute or of any intervening Party.

4. The award shall have no binding force except in respect of that particular case.

5. Unless the Arbitral Tribunal decides otherwise, the expenses of the Arbitral Tribunal, including the remuneration of the Arbitrators, shall be borne by the parties to the dispute in equal shares.

Article 12

All decisions of the Arbitral Tribunal, including those referred to in Articles 5, 6 and 11, shall be made by a majority of the Arbitrators who may not abstain from voting.

Article 13

This Schedule may be amended or modified by a measure adopted in accordance with Article IX (1) of the Antarctic Treaty.

Unless the measure specifies otherwise, the amendment or modification shall be deemed to have been approved, and shall become effective, one year after the close of the Antarctic Treaty Consultative Meeting at which it was adopted, unless one or more of the Antarctic Treaty Consultative Parties notifies the Depositary, within that time period, that it wishes an extension of that period or that it is unable to approve the measure.

2. Any amendment or modification of this Schedule which becomes effective in accordance with paragraph 1 above shall thereafter become effective as to any other Party when notice of approval by it has been received by the Depositary.

Annex I to the Protocol on Environmental Protection to the Antarctic Treaty: Environmental Impact Assessment

Article 1

PRELIMINARY STAGE

1. The environmental impacts of proposed activities referred to in Article 8 of the Protocol shall, before their commencement, be considered in accordance with appropriate national procedures.
2. If an activity is determined as having less than a minor or transitory impact, the activity may proceed forthwith.

Article 2

INITIAL ENVIRONMENTAL EVALUATION

1. Unless it has been determined that an activity will have less than a minor or transitory impact, or unless a Comprehensive Environmental Evaluation is being prepared in accordance with Article 3, an Initial Environmental Evaluation shall be prepared.

It shall contain sufficient detail to assess whether a proposed activity may have more than a minor or transitory impact and shall include:

(a) a description of the proposed activity, including its purpose, location, duration, and intensity; and

(b) consideration of alternatives to the proposed activity and any impacts that the activity may have, including consideration of cumulative impacts in the light of existing and known planned activities.

2. If an Initial Environmental Evaluation indicates that a proposed activity is likely to have no more than a minor or transitory impact, the activity may proceed, provided that appropriate procedures, which may include monitoring, are put in place to assess and verify the impact of the activity.

Article 3

COMPREHENSIVE ENVIRONMENTAL EVALUATION

1. If an Initial Environmental Evaluation indicates or if it is otherwise determined that a proposed activity is likely to have more than a minor or transitory impact, a Comprehensive Environmental Evaluation shall be prepared.

2. A Comprehensive Environmental Evaluation shall include:

(a) a description of the proposed activity including its purpose, location, duration and intensity, and possible alternatives to the activity, including the alternative of not proceeding, and the consequences of those alternatives;

(b) a description of the initial environmental reference state with which predicted changes are to be compared and a prediction of the future environmental reference state in the absence of the proposed activity;

(c) a description of the methods and data used to forecast the impacts of the proposed activity;

(d) estimation of the nature, extent, duration, and intensity of the likely direct impacts of the proposed activity;

(e) consideration of possible indirect or second order impacts of the proposed activity;

(f) consideration of cumulative impacts of the proposed activity in the light of existing activities and other known planned activities;

(g) identification of measures, including monitoring programmes, that could be taken to minimise or mitigate impacts of the proposed activity and to detect unforeseen impacts and that could provide early warning of any adverse effects of the activity as well as to deal promptly and effectively with accidents;

(h) identification of unavoidable impacts of the proposed activity;

(i) consideration of the effects of the proposed activity on the conduct of scientific research and on other existing uses and values;

(j) an identification of gaps in knowledge and uncertainties encountered in compiling the information required under this paragraph;

(k) a non-technical summary of the information provided under this paragraph; and
(l) the name and address of the person or organization which prepared the Comprehensive Environmental Evaluation and the address to which comments thereon should be directed.

3. The draft Comprehensive Environmental Evaluation shall be made publicly available and shall be circulated to all Parties, which shall also make it publicly available, for comment. A period of 90 days shall be allowed for the receipt of comments.

4. The draft Comprehensive Environmental Evaluation shall be forwarded to the Committee at the same time as it is circulated to the Parties, and at least 120 days before the next Antarctic Treaty Consultative Meeting, for consideration as appropriate.

5. No final decision shall be taken to proceed with the proposed activity in the Antarctic Treaty area unless there has been an opportunity for consideration of the draft Comprehensive Environmental Evaluation by the Antarctic Treaty Consultative Meeting on the advice of the Committee, provided that no decision to proceed with a proposed activity shall be delayed through the operation of this paragraph for longer than 15 months from the date of circulation of the draft Comprehensive Environmental Evaluation.

6. A final Comprehensive Environmental Evaluation shall address and shall include or summarise comments received on the draft Comprehensive Environmental Evaluation. The final Comprehensive Environmental Evaluation, notice of any decisions relating thereto, and any evaluation of the significance of the predicted impacts in relation to the advantages of the proposed activity, shall be circulated to all Parties, which shall also make them publicly available, at least 60 days before the commencement of the proposed activity in the Antarctic Treaty area.

Article 4
DECISIONS TO BE BASED ON COMPREHENSIVE ENVIRONMENTAL EVALUATIONS

Any decision on whether a proposed activity, to which Article 3 applies, should proceed, and, if so, whether in its original or in a modified form, shall be based on the Comprehensive Environmental Evaluation as well as other relevant considerations.

Article 5
MONITORING

1. Procedures shall be put in place, including appropriate monitoring of key environmental indicators, to assess and verify the impact of any activity that proceeds following the completion of a Comprehensive Environmental Evaluation.

2. The procedures referred to in paragraph 1 above and in Article 2 (2) shall be designed to provide a regular and verifiable record of the impacts of the activity in order, inter alia, to:

(a) enable assessments to be made of the extent to which such impacts are consistent with the Protocol; and

(b) provide information useful for minimising or mitigating impacts, and, where appropriate, information on the need for suspension, cancellation or modification of the activity.

Article 6
CIRCULATION OF INFORMATION

1. The following information shall be circulated to the Parties, forwarded to the Committee and made publicly available:

(a) a description of the procedures referred to in Article 1;

(b) an annual list of any Initial Environmental Evaluations prepared in accordance with Article 2 and any decisions taken in consequence thereof;

(c) significant information obtained, and any action taken in consequence thereof, from procedures put in place in accordance with Articles 2 (2) and 5; and

(d) information referred to in Article 3 (6).

2. Any Initial Environmental Evaluation prepared in accordance with Article 2 shall be made available on request.
Article 7

CASES OF EMERGENCY

1. This Annex shall not apply in cases of emergency relating to the safety of human life or of ships, aircraft or equipment and facilities of high value, or the protection of the environment, which require an activity to be undertaken without completion of the procedures set out in this Annex.

2. Notice of activities undertaken in cases of emergency, which would otherwise have required preparation of a Comprehensive Environmental Evaluation, shall be circulated immediately to all Parties and to the Committee and a full explanation of the activities carried out shall be provided within 90 days of those activities.

Article 8

AMENDMENT OR MODIFICATION

1. This Annex may be amended or modified by a measure adopted in accordance with Article IX (1) of the Antarctic Treaty.

Unless the measure specifies otherwise, the amendment or modification shall be deemed to have been approved, and shall become effective, one year after the close of the Antarctic Treaty Consultative Meeting at which it was adopted, unless one or more of the Antarctic Treaty Consultative Parties notifies the Depositary, within that period, that it wishes an extension of that period or that it is unable to approve the measure.

2. Any amendment or modification of this Annex which becomes effective in accordance with paragraph 1 above shall thereafter become effective as to any other Party when notice of approval by it has been received by the Depositary.
Appendix 3
Antarctic Heritage – our interpretation