

## The Exploitation of Antarctica's Natural Resources and the Evolution of the Antarctic Treaty System: An Overview

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### Introduction

The Antarctic Treaty System (ATS) is the institutional structure regulating human activity on the continent of Antarctica and in the surrounding Southern Ocean. Constructed upon the 1959 Antarctic Treaty, and encompassing a number of additional agreements and recommendations negotiated by the ATS parties to administer the region's natural resources, the regime has been hailed as "*a continuing experiment that has served the world well*" (Quigg, 1983:218). Indeed many observers of Antarctic affairs feel that the Antarctic Treaty "*represents an assurance that the continent will not become the scene or object of international discord*" (Beeby, 1991:6).

While the performance of the ATS is laudable, it comes not without its detractors, keen among them being environmental NGOs such as Greenpeace and the Antarctic and Southern Oceans Coalition (ASOC). Greenpeace believes Antarctica *has* become the object of international discord because of the attempts by the ATS states to take possession of Antarctic resources (May, 1989). James N. Barnes, the founder of ASOC, writes that the present system of environmental controls over scientific, logistic, and other Antarctic activities does not work to prohibit particular operations that will adversely affect wilderness or habitat values (1991).

Although the thoughts and opinions of the above commentators are certainly open to debate, what is clear is that through its own longevity the ATS has demonstrated itself to be a unique international institution capable of promoting peace, science, and – in comparison with other geographic areas around the globe – environmental protection. This article couples a brief history of humankind's early exploits in the Antarctic with an overview of the agreements negotiated by the ATS states to conserve and preserve Antarctica's natural resources. An appendix at the end of the article presents a chronological listing of the agreements along with some of their major provisions.

### The Early Explorers and Nascent Resource Exploitation

While neither the exploration nor exploitation of Antarctica began in earnest until the late-eighteenth/early-nineteenth century, the first known harvest of Antarctic resources is attributed to Sir Francis Drake in the late 16th century during a circumnavigational voyage of the globe (Hatherton, 1986). South of Tierra del Fuego, Drake and his crew found "*great store of foule which could not fly with the bigness of geese, whereof we killed in lesse than one day three thousand and victualled ourselves thoroughly*" (in Hatherton, 1986:17). In 1683 William Dampier noted a colony of fur seals at the Juan Fernandez Islands while on a buccaneering expedition. Although the seals were to be left undisturbed until the late-eighteenth century, the last decade of that centenary saw more than three million skins carried from Juan Fernandez to Canton in China, where a good market had been established (Hatherton, 1986).

January of 1773 saw Commander James Cook penetrate the Southern Ocean to 66°30': the first voyager ever to cross the Antarctic Circle and, also, the first voyager ever to circumnavigate the continent (Kimball, 1990). In 1775, upon speculation of an ice-encrusted land-mass that he had not actually seen, Cook prophesied: "*I make bold to declare that the world will derive no benefit from it*" (in Quigg, 1983:3). However, the worlds of commerce and science were to prove him wrong all too soon (Kimball, 1990).

### The Exploitation of Antarctic Seals

One of the consequences of the Antarctic voyages of James Cook, and later those of Russian navigator Thaddeus von Bellingshausen (1819–1821), was the discovery of vast populations of fur seals. This discovery opened "*the way for British and American sealers (and, later, others) to reap fortunes as they worked their way south, wiping out whole populations on island after island around Antarctica*" (Kimball, 1990:6–7). Armed with

reports of wildlife sightings and the published navigational charts of explorers such as Cook and Bellingshausen, the sealers, beginning in 1784, descended on the subantarctic islands (generally those north of 60°S) and “*methodically stripped each breeding ground*” (Quigg, 1983:8). In the early 1800s they began to press further south until, by 1830, “*species of commercial value were virtually extinct*” (Quigg, 1983:8–9).

During this period of wanton seal slaughter it is ironic to note that one of the first calls for the conservation of the species (especially the fur seal) was issued. James Weddell, a Scotsman, and himself a renowned sealer, was alarmed at the number of seals being taken off the South Shetland Islands in the early 1820s. Weddell remarked that “*this valuable animal, the fur seal, might...have been spared to render annually 100,000 furs for many years to come...[by] not killing the mothers till the young were able to take to the water*” (in Hatherton, 1986:21). Unfortunately, Weddell’s pleas ultimately fell on deaf ears. By the early years of the twentieth century the commercial sealing industry had for the most part vanished, and along with it the fur seal, whose numbers did not start significantly increasing again until 1956 (May, 1989).

### The Exploitation of Antarctic Whales<sup>1</sup>

The year 1904 marked the beginning of Antarctic whaling with the establishment of a Norwegian whaling station on South Georgia Island (Shapley, 1985). In its first season, with one factory and a single catcher boat, the station took 195 whales (May, 1989). Within three years Antarctic whaling operations would produce more oil than the rest of the world’s whaling areas combined (Hatherton, 1986). The advent of new technologies such as harpoon cannons, air-pumped lances (used to keep whale corpses afloat), and factory ships allowed for the number of whales taken from the Southern Ocean to swell even greater. By 1931 the seasonal kill had risen to 40,000 and would remain at this level (except during World War II) for the next 20 years (May, 1989). Targeted species included humpback, blue, fin, and sperm whales, with sei whales becoming the preferred quarry in the 1960s (May, 1989).

The destruction of the whaling industry in many ways parallels that of the sealing industry, complete with a belated call for the conservation of whale stocks which, like its sealing counterpart, ultimately fell on deaf ears. However, in the case of the

whaling industry conservation concerns were not to be initially voiced by an ineffectual individual, but rather by an extremely powerful and resourceful government.

In advancing the first claim to Antarctic territory in 1908 the government of Great Britain attempted to accomplish two goals. First, the claim allowed for the government to “*gain control of some of the best whaling grounds in the Southern Ocean*” (Quigg, 1983:110). Second, the claim established a territorial basis for regulating the factories used by Antarctic whalers (Kimball, 1994). Through the issuance of licenses the British government sought to regulate these factories, which, at the time, were all located within the ambit of the British claim (Hatherton, 1986). In following such a course of action the British government hoped to reduce the swelling number of whales being taken from the Southern Ocean, while at the same time preventing the destruction of a highly profitable industry (Quigg, 1983).

Ultimately, this nascent conservation effort ended in failure. By 1925 Antarctic whalers had developed mobile factory ships that could operate out on the open sea well beyond the reach of British law (Kimball, 1994). “*Like the nineteenth century sealers before them, the whalers shunned any notion of ‘sustainable’ yields*” (Kimball, 1994:123). Furthermore, British conservation policy was focused more on protection of the whaling industry through the stabilisation of prices than it was on the curtailment of practices which led to overharvesting in the first place (Kimball, 1994). By the 1960s the whaling industry, like the sealing industry a century before, had destroyed itself (Kimball, 1994).

### Territorial Claims and the Signing of the Antarctic Treaty

While the British government’s attempt to prevent the collapse of the whaling industry through the advancement of a territorial claim to Antarctica can be viewed as a prudent diplomatic move, its attempt to close the commons ultimately “*began a process that had troublesome consequences*” (Quigg, 1983:110). Certainly the most disconcerting of these consequences was the subsequent advancement of territorial claims by other states.

In 1923, the British government (by Order-in-Council) claimed a section of Antarctica it called the Ross Dependency and assigned it to New Zealand (Shapley, 1985). This prompted the government of France to assert its own claim to the

coast of Terre Adelie in 1924 (Shapley, 1985). Fearing British domination of the continent as well as the possible expulsion of its whalers from the Southern Ocean, Norway laid formal claim to Bouvet Island and Peter I Island in 1931, with a further increase in the size of its claim following in 1939 (Peterson 1988). In 1933, again by Order-in-Council, the British government asserted a territorial claim on behalf of the Australian government (Shapley, 1985).

Argentina and Chile both advanced claims to the continent beginning in 1940. However, because no northern boundary was ever delimited by Chile within its claimant sector, it ultimately wound up overlapping both the Argentinean and British claims (Peterson 1985).<sup>2</sup> Although Argentina and Chile held talks in 1941 aimed at reconciling their differences (no talks were arranged with the British government on the subject), the two “*could not agree on a common boundary between their respective claims*” (Peterson 1988:35).

Following the Argentinean and Chilean territorial proclamations no more formal claims were made to Antarctic territory.<sup>3</sup> While neither the USA nor the former USSR (as well as most other countries) have ever recognised the claims made to Antarctic territory, the two governments have always reserved the “right” to advance their own claims if they so choose to do.<sup>4</sup> Both countries base part of this “right” on historical precedent, as demonstrated by the extensive amount of navigational and scientific exploration undertaken by each of them over the past two centuries.

The decade leading up to the signing of the Antarctic Treaty proved to be a tumultuous time in the region’s political history. The legal manoeuvring by the seven claimant states to shore up their respective claims, coupled with the USA’s and the USSR’s refusal to recognise such claims (while maintaining the right to make their own claims), and ultimately conjoined with the lurking threat of the cold war and the continuous search by both powers for strategic military locations, placed the continent and its suitors in a very precarious position. The discharge of gunshots by Argentine nationals over the heads of British nationals at Hope Bay on the Antarctic Peninsula in 1952 further exacerbated tensions and underscored the need for a negotiated political settlement to diffuse the increasingly volatile conditions. The settlement came in the form of the Antarctic Treaty.

## The Antarctic Treaty<sup>5</sup>

The Antarctic Treaty entered into force on 23 June 1961. The Treaty sets aside the continent as an international scientific laboratory to be used for peaceful purposes only, thereby making Antarctica the first continent to be fully demilitarised (Article I of the Treaty).

Among the other major provisions of the Treaty are: freedom of scientific investigation (Article II) as well as the exchange of scientific data and personnel (Article III); a rhetorical ‘freezing’ of territorial claims to the continent such that “*no acts or activities taking place while the...Treaty is in force shall constitute a basis for asserting, supporting or denying a claim to territorial sovereignty in Antarctica*” (Article IV);<sup>6</sup> the prohibition of nuclear explosions or the disposal of radioactive waste within the Treaty’s jurisdictional ambit (Article V);<sup>7</sup> freedom of the Contracting Parties to carry out inspections “*at any time to any or all areas of Antarctica*” (Article VII); and the preservation and conservation of Antarctic living resources (Article IX, 1(f)).<sup>8</sup>

The organisational framework upon which the Treaty operates is simplistic and easy to appreciate (although many Antarctic scholars have commented on the glacial pace at which substantive work is accomplished). Lacking a formal organisation such as a secretariat, Article IX provides for periodic meetings of the states parties to the Treaty “*to consider and consult together on all matters of common interest pertaining to Antarctica*” (Parsons, 1987:6). These annual assemblies, known within ATS parlance as ‘Consultative Meetings’, provide a forum within which the ‘Consultative Parties’ (CPs) can discuss important issues and vote on recommendations placed before them. A group of ‘Non-Consultative Parties’ (NCPs) is also present at these meetings, but they do not enjoy voting privileges.<sup>9</sup> NGOs were invited to observe Consultative Meetings beginning in 1977 (Kimball, 1994).

## The Agreed Measures for the Conservation of Antarctic Fauna and Flora

The Agreed Measures for the Conservation of Antarctic Fauna and Flora (also known as Recommendation III–8) were formally adopted at the Third Consultative Meeting held in Brussels, Belgium, 2–13 June 1964. The Agreed Measures, which have been characterised as a “*minitreaty*” (Heap and Holdgate, 1986), prohibit the citizens of

states parties to the agreement from killing, capturing, or molesting any bird or mammal native to Antarctica unless they have the proper permit to do so (Heap and Holdgate, 1986). Permits are to be issued by the applicant's host government (Shapley, 1985).

The Agreed Measures also call on participating governments to: minimise "harmful interference" with the normal living conditions of native mammals and birds, while taking steps to alleviate the pollution of coastal waters; prohibit the introduction of any non-indigenous species, parasites, or diseases to Antarctica; and to create a network of "Specially Protected Areas" (SPAs), sectors of the continent deemed worthy of extra protection due to their unique ecological qualities (May 1989).

Although the territorial ambit of the Agreed Measures is the same as the that of the Antarctic Treaty (the area south of 60°S, including all ice shelves), on the advice of SCAR two species of seal (the Ross Seal and fur seal) have also been accorded special protection under the agreement (Annex A, Agreed Measures).<sup>10</sup> This designation has at times led to confusion among the ATS parties as to the exact delimitation of the agreement (Auburn, 1982).

### Convention for the Conservation of Antarctic Seal (CCAS)

Unlike the Agreed Measures, which are incorporated in the form of an Antarctic Treaty Recommendation, the CCAS is a free standing instrument (Handbook of the ATS, 1990). The CCAS is generally viewed as an exercise in forethought, being concluded in advance of the development of a commercial industry (Kimball, 1990, Heap and Holdgate, 1986, Quigg, 1983). The CCAS was adopted in 1972 at the Seventh Consultative Meeting held in Wellington, New Zealand, 30 October – 10 November 1972, and entered into force on 11 March 1978.

The entry into force of the CCAS brought Southern Ocean wildlife under the regulatory jurisdiction of the ATS for the first time. Article I of the Seals Convention delimits the regulated area to the seas south of 60°S. In addition, the agreement sets goals for preventing the overexploitation of different seal species while "ensuring acquisition of the scientific information necessary to framing sound management plans" (Peterson, 1988:104). The CCAS calls for the total protection of the fur, Southern elephant, and Ross seal species and sets

annual catch limits on the Crabeater, Leopard, and Weddell seal species (Annex, CCAS). Finally, the CCAS prohibits sealing annually from 1 March to 31 August and designates three seal reserves (seal breeding areas or sites of long-term scientific interest) in which it is forbidden to kill or capture seals (Annex, CCAS).

### Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR)

The CCAMLR is an ambitious instrument that aims to conserve Antarctic marine populations of "fin-fish, molluscs, crustaceans, and all other species of living organisms, including birds" (Article I, CCAMLR). The convention was adopted at the Second Special Consultative Meeting at Canberra, Australia in May, 1980, and entered into force on 7 April 1982.

The articles contained within the CCAMLR take a revolutionary approach to the management of Antarctica's marine living resources by striving to maintain the ecological balance of the entire marine ecosystem. Therefore, contracting parties to the Convention are obligated to ensure the "maintenance of the ecological relationships between harvested, dependent and related populations of Antarctic marine living resources [while working toward] the restoration of depleted populations" (CCAMLR, Article II, 3(b)). Contracting parties are also charged with the "prevention of changes or minimisation of the risk of changes in the marine ecosystem which are not potentially reversible over two or three decades" (CCAMLR, Article II, 3(c)).

Two other features of the CCAMLR are noteworthy. First, the territorial ambit of the Convention is not delimited at the traditional 60°S latitude (as is the Antarctic Treaty, The Agreed Measures, and the CCAS) but rather at the Antarctic Convergence, a major circum-Antarctic biogeographic boundary where cold northerly-moving waters unite with warmer southerly-moving subtropical waters (Handbook of the ATS 1990). This territorial extension was negotiated in the hope of protecting the Antarctic krill, a small, shrimp-like crustacean which swarms in massive numbers and is considered to be the lynch-pin in the Southern Ocean ecosystem.

Second, the CCAMLR, like the CCAS, was negotiated as a preemptive measure in anticipation of the day when large-scale commercial krill

harvesting might become a reality (krill fishing is by all accounts still a relatively young enterprise).

### Protocol on Environmental Protection to the Antarctic Treaty

The Protocol on Environmental Protection to the Antarctic Treaty was adopted by consensus by all 26 CPs at the second session of the XIth Antarctic Treaty Special Consultative Meeting on 4 October 1991, in Madrid Spain. The Protocol will enter into force upon ratification by all 26 CPs (Kriwoken, 1994).<sup>11</sup> Overshadowing the CRAMRA,<sup>12</sup> and deemed more acceptable by many of the CPs, the agreement “*seeks to address various interrelated conservation, waste-management, and pollution issues*” (Kriwoken, 1994:1).

Among its provisions the Protocol: designates Antarctica as a nature reserve devoted to peace and science (Article II); advances specific environmental principles (Article III); calls for the formation of the Committee for Environmental Protection (Article XI); and contains five procedural annexes covering environmental impact assessment, conservation of Antarctic Fauna and Flora, waste disposal and management, the prevention of marine pollution, and area protection and management, which expands on the concept of SPAs originally introduced under the Agreed Measures.

However, the real crux of the Protocol is found in Articles VII and XXV. Article VII prohibits any activity relating to mineral resources, making an exception only for scientific research. Article XXV establishes the duration of the Treaty (once it enters into force) at 50 years. Coupled together, these two articles form a binding moratorium on any mineral recovery operations south of 60°S latitude (the territorial ambit of the Protocol) for at least 50 years. This is a development of great significance, for not only does it firmly reinforce the ATS parties’ commitment to environmental protection, but it also embraces a pro-active preservation strategy as originally spelled out in Article IX (f) of the Antarctic Treaty.

### Conclusion

This article has provided a brief history of humankind’s early exploits in the Antarctic coupled with an overview of the agreements negotiated by the ATS states to conserve and preserve the region’s natural resources. The appendix provides a

chronological listing of the agreements along with some of their major provisions.

### APPENDIX

Important Antarctic Environmental Agreements in Chronological Order

**1.AGREEMENT:** 1959 Antarctic Treaty

**ENTRY INTO FORCE:** 23 June 1961

**TERRITORIAL AMBIT:** Area south of 60°S including all ice shelves.

**MAJOR PROVISIONS:** Continent is to be used for peaceful purposes only; a “freezing” of territorial claims; no nuclear explosions or disposal of radioactive waste; freedom of scientific investigation; preservation and conservation of Antarctic living resources.

**2.AGREEMENT:** 1964 Agreed Measures for the Conservation of Antarctic Fauna and Flora

**ENTRY INTO FORCE:** 13 June 1964<sup>13</sup>

**TERRITORIAL AMBIT:** Area south of 60°S including all ice shelves.

**MAJOR PROVISIONS:** Prohibits killing, capturing, or molesting birds or mammals native to Antarctica without a permit; creates a network of specially protected areas (SPAs); protects both the fur and Ross seal species.

**3.AGREEMENT:** 1972 Convention for the Conservation of Antarctic Seals

**ENTRY INTO FORCE:** 11 March 1978

**TERRITORIAL AMBIT:** Seas south of 60°S

**MAJOR PROVISIONS:** Prohibits the killing/capture of the Ross, Southern Elephant, and fur seal species; establishes a sealing season, sealing zones, and seal reserves; establishes permissible catch limits for the Crabeater, Leopard, and Weddell seal species.<sup>14</sup>

**4.AGREEMENT:** 1980 Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR)

**ENTRY INTO FORCE:** 7 April 1982

**TERRITORIAL AMBIT:** Applies to Antarctic marine living resources of the area south of 60°S and the area between that latitude and the Antarctic Convergence.<sup>15</sup>

**MAJOR PROVISIONS:** Adopts an 'ecosystem' approach to managing Antarctic marine living resources (includes finfish, molluscs, crustaceans, and all other species of living organisms found south of the Convergence); calls for the rational use of living resources;<sup>16</sup> establishes a secretariat to facilitate execution of the convention.

**5.AGREEMENT:** 1991 Protocol on Environmental Protection to the Antarctic Treaty

**ENTRY INTO FORCE:** Not yet entered into force

**TERRITORIAL AMBIT:** Area south of 60°S latitude including all ice shelves.

**MAJOR PROVISIONS:** The designation of Antarctica as a natural reserve devoted to peace and science; a ban of at least 50 years on any activity relating to mineral resources (other than scientific research); establishes a committee for environmental protection; provides five annexes covering environmental impact assessment, conservation of Antarctic Fauna and Flora, wasted disposal and management, prevention of marine pollution, and area protection and management.<sup>17</sup>

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## Notes

- <sup>1</sup> Although the hunt for whales during the late–nineteenth and twentieth centuries occurred in a number of geographic areas, the Southern Ocean was considered to be the world's major whaling ground for more than 60 years (May, 1989). This discussion is limited to whaling operations in the Southern Ocean.
- <sup>2</sup> To this day the territorial claims advanced by Britain, Argentina and Chile overlap one another.
- <sup>3</sup> About 17% of the continent remains unclaimed.
- <sup>4</sup> With the political disintegration of the Soviet Union in 1991 the government of Russia has assumed the former USSR's seat within the ATS.
- <sup>5</sup> The negotiations leading up to the signing of the Antarctic Treaty were spawned by the 1957–58 International Geophysical Year (IGY). The IGY was a cooperative undertaking coordinated by the International Council of Scientific Unions (ICSU) promoting scientific research. Twelve countries took part in the Antarctic portion of the IGY, operating 60

scientific stations in and around the continent. These twelve countries (the seven claimant states plus the USA, USSR, Belgium, Japan and South Africa) would become the original signatories to the Antarctic Treaty on 1 December 1959.

<sup>6</sup> Article IV of the Treaty also states that: “No new claim, or enlargement of an existing claim, to territorial sovereignty in Antarctica shall be asserted while the present Treaty is in force.”

<sup>7</sup> However, the Treaty does not expressly prohibit the placement of nuclear reactors on the continent for civilian use. For almost 10 years (1962–1972) the US Navy operated a small nuclear reactor at the USA’s McMurdo station in an attempt to find a more economical way to provide heat and power to the base (May, 1989).

<sup>8</sup> Article IX, 1(f) of the Treaty does generate some confusion as the conceptual definitions of preservation and conservation are not coterminous. Whereas a preservationist would seek to preserve resources in their natural state, a conservationist would seek to develop these resources through the application of environmentally benign methods. This distinction is important and far too often overlooked by students of Antarctic affairs. For more discussion of the preservation/conservation dichotomy see: Caulfield, H.P. (1989) “*The Conservation and Environmental Movements: An Historical Analysis*,” in *Environmental Politics and Policy: Theories and Evidence*. J.P. Lester, ed. Durham: Duke University Press.

<sup>9</sup> Under Article IX, 2 of the Treaty, a NCP may be elevated to CP status by demonstrating its interest in Antarctica through the conduction of substantial scientific research within the region (e.g. the establishment of a scientific station or the dispatch of a scientific expedition).

<sup>10</sup> The Special Committee on Antarctic Research (SCAR) was founded in September, 1957, when representatives from seven countries involved in the IGY program established an ad hoc committee under the auspices of the ICSU to “*examine the merits of further general scientific investigations in Antarctica*” (Zumberge 1986:154). In 1960 the word “*special*” was replaced by “*scientific*.” Since the signing of the Antarctic Treaty SCAR has played an invaluable role in assisting the CPs on technical matters relating to the management of Antarctic resources. Although technically an NGO, the membership of SCAR is composed predominately of delegates from the Contracting Parties to the Antarctic Treaty. For an excellent overview of the workings of SCAR see Zumberge, J.H. (1986) ‘The Antarctic Treaty as a Scientific Mechanism – The Scientific Committee on Antarctic Research and the Antarctic Treaty System’, in *Antarctic Treaty System: An Assessment*, Polar Research Board. Washington, D.C.: National Academy Press.

<sup>11</sup> Although much more comprehensive in scope, the Protocol, like the Agreed Measures, is an addendum to the Antarctic Treaty. Presently 18 CPs have ratified the agreement. See ‘Protocol Ratification Update,’ *Antarctica Project Letter* 4, 3 (August): 1995: 1.

<sup>12</sup> The CRAMRA, or Convention on the Regulation of Antarctic Mineral Resource Activities, is the minerals agreement arrived at by the ATS parties to regulate mining activity in Antarctica. Negotiated over a six-year period (1982–1988), the Convention was ultimately rendered useless when the governments of Australia and France refused to sign it in 1989. The diplomatic wreckage leftover from Australia and France’s decision spawned the negotiations for the 1991 Protocol.

<sup>13</sup> The 1964 Agreed Measures (also known as Recommendation III–8) is an addendum to the Antarctic Treaty. The agreement spells out a code of conduct for individuals engaged in operations in the region, with each contracting party being responsible for the implementation of domestic legislation to police its own nationals. While there is some confusion as to when the Agreed Measures became legally binding on the Consultative Parties (CPs), the adoption of Recommendation III–9 by consensus at the Third Consultative Meeting (2–13 June 1964) bound the CPs to honor the terms of the agreement on an interim basis until passage of implementing legislation had been realized by all parties.

<sup>14</sup> An interesting legal dilemma arises concerning the status of the fur and Ross seal species when the Agreed Measures is juxtaposed with the Seals Convention. Under the terms of the Agreed Measures the two species are to be protected, but can still be taken. The Seals Convention expressly prohibits the taking of the two species. While the territorial ambit of the Seals Convention is the seas south of 60°S, the territorial ambit of the Agreed Measures is the area south of 60°S including all ice shelves (which presumably includes the seas south of 60°S).

<sup>15</sup> The Antarctic Convergence is located in the Southern Ocean between the latitudes of 50 and 60°S where colder Antarctic waters converge with the warmer waters of middle latitudes.

<sup>16</sup> With its territorial ambit extending north of 60°S, and coupled with its rational-use approach to marine resources, the adoption of the CCAMLR raises an interesting legal question when juxtaposed with the Seals Convention: under the CCAMLR what is the legal status of the Southern Elephant and fur seal species? While contracting parties are prohibited from killing/capturing these species in accordance with the terms of the Seals Convention, both species are known to breed and swim in the waters between 50 and 60°S, waters which fall within the territorial ambit of the CCAMLR, and which does not directly prohibit the taking of these seals.

<sup>17</sup> Upon entry into force Annex II of the Protocol (conservation of Antarctic Fauna and Flora) will supersede the 1964 Agreed Measures. Telephone conversation with Dr. Christopher C. Joyner, Department of Government, Georgetown University, Washington, D.C., September 12, 1995.

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