

1992

Protecting the Antarctic Environment: Will a Protocol Be Enough?

Elaine F. Foreman

Follow this and additional works at: <http://digitalcommons.wcl.american.edu/auilr>



Part of the [International Law Commons](#)

Recommended Citation

Foreman, Elaine F. "Protecting the Antarctic Environment: Will a Protocol Be Enough?" *American University International Law Review* 7, no. 4 (1992): 843-879.

This Article is brought to you for free and open access by the Washington College of Law Journals & Law Reviews at Digital Commons @ American University Washington College of Law. It has been accepted for inclusion in *American University International Law Review* by an authorized administrator of Digital Commons @ American University Washington College of Law. For more information, please contact fbrown@wcl.american.edu.

PROTECTING THE ANTARCTIC ENVIRONMENT: WILL A PROTOCOL BE ENOUGH?

Elaine F. Foreman*

The thick Antarctic ice cap is an invaluable treasury of the Earth's past, of its geological and ecological history. Significantly, the Antarctic has become the world's first nuclear-free zone and the first-ever territory fully open for international research programmes. . . . Our grandchildren will never forgive us if we fail to preserve this phenomenal ecological system.¹

Antarctica plays an essential role in maintaining the Earth's delicate environmental balance. [S]tudies of this vast region will help us to understand more fully the processes that sustain life around the globe. The United States is committed to preserving this unique natural laboratory and invites all nations to join us in this effort.²

INTRODUCTION

Amidst growing concern over the Antarctic environment,³ representatives of the forty nations⁴ that are parties to the Antarctic Treaty⁵

* J.D. Candidate 1993, Washington College of Law, the American University.

1. Mikhail S. Gorbachev, proposal at the Moscow Forum on Environment and Development for Survival (Jan., 1990), cited in Mohamed Haron, *The Ability of the Antarctic Treaty System to Adapt to External Challenges*, in THE ANTARCTIC TREATY SYSTEM IN WORLD POLITICS 299, 304 (Arnfinn Jørgensen-Dahl & Willy Østreng eds., 1991).

2. President George Bush, Annual message to winter-overs at United States facilities in Antarctica (1989), cited in Brenda Sue Thornton & Tom Marshall, *The Great Cold Rush in Antarctica*, ENVTL. L.F., Nov.-Dec. 1989, at 7.

3. See James N. Barnes, *Protection of the Environment in Antarctica: Are Present Regimes Enough?*, in THE ANTARCTIC TREATY SYSTEM IN WORLD POLITICS 186, 216 (Arnfinn Jørgensen-Dahl & Willy Østreng eds., 1991) [hereinafter Barnes, *Protection of the Environment*] (observing that the Antarctic Treaty Consultative Meetings are increasingly focused on environmental issues and noting that at recent meetings, more than half of the delegates' time was spent on environmental issues); S.K.N. BLAY ET AL., *ANTARCTICA AFTER 1991: THE LEGAL AND POLICY OPTIONS* 25, 25 (University of Tasmania Faculty of Law ed., 1989) [hereinafter BLAY, *ANTARCTICA AFTER 1991*] (stating that Antarctica is crucial for several reasons, including its natural features, its role as a global climate regulator, and its extremely fragile ecosystem); Malcom W. Browne, *Broad Effort Underway to Track Ozone Hole's Effects*, N.Y. TIMES, Jan. 7, 1992, at C1 (explaining that the hole in the ozone layer has led to increases in ultraviolet radiation which may put Antarctic plants and animals at risk). Current research is expected to show how ecosystems respond to increases in ultraviolet radiation. *Id.*

4. See Final Report of the Eleventh Antarctic Treaty Special Consultative Meeting, *addendum to Protocol on Environmental Protection to the Antarctic Treaty*, Special Consultative Meeting, 27th Sess., ATSCM/2/3/2, 30 I.L.M. 1455 (1991) [hereinafter Final Report of the Eleventh Consultative Meeting] (listing the parties to the

met in Madrid to develop a comprehensive plan to protect it.⁶ The result was a protocol which will work in connection with the Antarctic Treaty.⁷

The Antarctic environment is important,⁸ not only to its indigenous species,⁹ but also as a monitoring zone for global pollution.¹⁰ In Antarctica, scientists have found simple ecosystems¹¹ which can be used as

Antarctic Treaty). The parties to this treaty are Argentina, Australia, Austria, Belgium, Brazil, Bulgaria, Canada, Chile, China, Colombia, Czechoslovakia, Cuba, Denmark, Ecuador, Finland, France, Germany, Greece, Guatemala, Hungary, India, Italy, Japan, the Democratic People's Republic of Korea, the Republic of Korea, the Netherlands, New Zealand, Norway, Papua New Guinea, Peru, Poland, Romania, South Africa, Spain, Sweden, Switzerland, the Union of Soviet Socialist Republics, the United Kingdom, the United States of America, and Uruguay. *Id.*

5. The Antarctic Treaty, Dec. 1, 1959, 12 U.S.T. 794, 402 U.N.T.S. 71 [hereinafter Treaty].

6. See *Antarctica Ecological Pact Signed*, CHI. TRIB., Oct. 5, 1991, at C2 (announcing that the Protocol, which was the result of two years of negotiations, was signed on October 4, 1991).

7. Protocol on Environmental Protection to the Antarctic Treaty, Special Consultative Meeting, 27th Sess., ATSCM/2/3/2, 30 I.L.M. 1455 (1991) [hereinafter Protocol]. The Protocol supplements, but does not supersede the Treaty. *Id.* art. 4.

8. See *Best of 1991: Environment*, TIME, Jan. 6, 1992, at 68 (naming the signing of the Protocol as the number one environmental news story of 1991); Bill Dietrich, *Ice Odyssey to Unlock Global Secrets*, SEATTLE TIMES, Sept. 2, 1991, at D1 (characterizing Antarctica as important due to its influence on global weather patterns).

9. See Barnes, *Protection of the Environment*, *supra* note 3 at 205 (describing Antarctica as the world's largest wildlife sanctuary). Antarctica is home to seven species of penguins and six species of seals. *Id.* Fifteen species of whales use the oceans surrounding Antarctica as summer feeding grounds. *Id.* See also Abdul Koroma, *Safeguarding the Interests of Mankind in the Use of Antarctica*, in ANTARCTIC CHALLENGE III: CONFLICTING INTERESTS, COOPERATION, ENVIRONMENTAL PROTECTION, AND ECONOMIC DEVELOPMENT 243, 243-44 (Rüdiger Wolfrum ed., 1988) [hereinafter Koroma] (stating that the Antarctic krill, a shrimp-like crustacean, is central to the Antarctic ecosystem, and that over-harvesting of krill could have an adverse effect on Antarctic fish and birds).

10. See John A. Heap & Martin W. Holdgate, *The Antarctic Treaty System as an Environmental Mechanism — An Approach to Environmental Issues*, in ANTARCTIC TREATY SYSTEM: AN ASSESSMENT 195, 199 (Polar Research Board ed., 1986) [hereinafter Heap & Holdgate] (asserting that the relatively pure Antarctic environment provides research opportunities which are not available anywhere else on the planet); see also James N. Barnes, *Legal Aspects of Environmental Protection in Antarctica*, in THE ANTARCTIC LEGAL REGIME 241, 241 (Christopher C. Joyner & Sudhir K. Chopra eds., 1988) (listing Antarctica's importance as a global monitoring zone among the reasons for a global consensus supporting protection of the Antarctic environment); Mike Woods, *Antarctica: The Science Continent of the World*, OTTAWA CITIZEN, Jan. 12, 1992, (stating that, in 1991, the hole in the ozone layer was reported to be the worst in thirteen years, and that Antarctica has become a crucial research site for examining atmospheric developments).

11. 4 THE NEW ENCYCLOPÆDIA BRITANNICA 358 (15th ed. 1988) (defining ecosystem). The term ecosystem refers to living organisms, their physical environment, and the interaction of the two in a particular area. *Id.* Ecosystems provide a method of studying the way one group interacts with another, and their combined effect on the Earth. *Id.*

models to chart the future of more complex systems.¹² Experts suggest that the Antarctic krill population could provide an important source of protein to countries fraught with famine and drought.¹³ The potential for increased exploitation of Antarctic resources has also piqued the interest and involvement of non-governmental organizations (NGOs).¹⁴ Accordingly, Antarctica is no longer of interest solely to explorers and scientists. Outside interests, including the United Nations and environmental groups, have urged the preservation of Antarctica for the heritage of mankind.¹⁵

This Comment addresses the need for an enforceable system to protect the Antarctic environment, with specific analysis of the October 4, 1991 Protocol. Section I of the Comment provides an historical perspective of Antarctica in general and of the Antarctic Treaty system in particular. This section includes a discussion of sovereignty issues, which are important to Antarctica for at least two reasons. First, if a nation wishes to exert judicial authority over Antarctica on the basis of territorial sovereignty, the boundaries of the claim must be clearly drawn. Second, if mineral or other resource exploitation is permitted, extraction in disputed territories could lead to international conflicts. Section II introduces and evaluates previous efforts to protect the Antarctic environment. Section III sets forth the provisions of the Protocol. Finally, Section IV analyzes the enforceability of the Protocol. By analyzing the Protocol in light of earlier diplomatic efforts to protect the Antarctic environment, this Comment addresses the prospects for substantive regulation of the Antarctic environment. Because the Protocol will be unenforceable within the Antarctic Treaty system, this Comment recommends that administration of the continent be turned over to the United Nations.

12. See Barnes, *Protection of the Environment*, *supra* note 3, at 212 (suggesting that the simple ecosystems which have been preserved by the Antarctic ice cap may improve our understanding of human evolution and provide clues to our development).

13. See Koroma, *supra* note 9, at 243-44 (suggesting that 400,000 tons of krill could be harvested annually to feed those in famine-stricken countries without jeopardizing the Antarctic ecosystem).

14. See generally, Barnes, *Protection of the Environment*, *supra* note 3, at 186-89 (discussing the implications to non-governmental organizations (NGOs) of the ratification of the Convention on the Regulation of Antarctic Mineral Resources Activities). The NGOs concerned with the protection of the Antarctic environment are primarily international environmental groups. *Id.*

15. See PHILIP W. QUIGG, *A POLE APART: THE EMERGING ISSUE OF ANTARCTICA* 164-82 (1983) [hereinafter QUIGG] (stating that conservationists have urged that the Antarctic environment be protected by designating it a world preserve which is free from mineral exploitation).

I. HISTORICAL PERSPECTIVE

A. GENERAL HISTORY OF ANTARCTICA

1. *Discovery and Early Claims*

The continent of Antarctica¹⁶ is actually a group of islands surrounding the South Pole.¹⁷ The Antarctic land mass¹⁸ is largely covered by ice.¹⁹ In 1820, Captain Palmer of the United States claimed to have sighted the Antarctic continent.²⁰ The Soviet Union later disputed the primacy of this claim.²¹ Due to the impenetrability of the ice fields surrounding Antarctica, explorers did not reach the continent itself until the late eighteenth century.²² The advent of the sealing industry in the 1820s brought increased commercial activity to the Antarctic region.²³ When the sealing industry died out in the 1830s,²⁴ so did much of the interest in Antarctic exploration.²⁵ The advent of the whaling industry in the late nineteenth century, however, reestablished the economic importance of Antarctica.²⁶

16. See Treaty, *supra* note 5, art. VI (describing Antarctica as the area south of 60° South Latitude).

17. LUIS H. MERICQ, *ANTARCTICA: CHILE'S CLAIM* 12 (1987) [hereinafter MERICQ].

18. See MERICQ, *supra* note 17 (stating that the Antarctic continent has a surface area of approximately 5.6 million square miles).

19. MERICQ, *supra* note 17 at 4. See also DEBORAH SHAPLEY, *THE SEVENTH CONTINENT: ANTARCTICA IN A RESOURCE AGE* at 1 (1985), [hereinafter SHAPLEY] (contending that parts of the continent are below sea level due to the immense weight of the Antarctic ice cap).

20. See MERICQ, *supra* note 17, at 8 (explaining that Palmer's motives were both economic and geopolitical). When Palmer returned to the area in 1821, he encountered a Russian ship. *Id.* The captain, von Bellingshausen, acknowledged the primacy of Palmer's claim. *Id.*

21. MERICQ, *supra* note 17, at 8. Russia based the primacy of its claim on the 1821 voyage of Captain von Bellingshausen. *Id.*

22. V.E. Fuchs, *Antarctica: Its History and Development*, in *ANTARCTIC RESOURCES POLICY* 13, 13 (Francisco O. Vicuña ed., 1983). During the eighteenth and nineteenth centuries, explorers were mainly pursuing sealing and whaling ventures. *Id.* See generally MERICQ, *supra* note 17, at 4-6 (describing the voyages of sixteenth century explorers in the Antarctic region).

23. See SHAPLEY, *supra* note 19, at 7-8 (discussing British, Norwegian, and American sealing activities in the area north of 60° South Latitude during the 1820s).

24. SHAPLEY, *supra* note 19, at 7-8.

25. SHAPLEY, *supra* note 19, at 8-9 (stating that although most of the exploration ceased, Britain, the United States, and France conducted several voyages to Antarctica in the mid-nineteenth century for exploratory purposes).

26. SHAPLEY, *supra* note 19, at 9 (explaining that the whaling industry in Antarctic waters produced ten times more whale oil than the rest of the world).

The period from 1894 to 1941 has been termed Antarctica's "heroic age."²⁷ During this time nations focused attention on Antarctica for geopolitical rather than economic reasons.²⁸ By 1939, five countries²⁹ had asserted territorial sovereignty over portions of Antarctica on the basis of discovery.³⁰ In the early 1940s, Argentina and Chile also made claims of territorial sovereignty.³¹ The claimants created the territorial boundaries using the Arctic sector theory as a model.³² The sector theory, however, divides the land along longitudinal lines.³³ The sector theory is less feasible when applied to Antarctica than when applied to the Arctic because Antarctica has no convenient outer boundary.³⁴

27. See FRANK G. KLOTZ, *AMERICA ON THE ICE: ANTARCTIC POLICY ISSUES* at xxiii-xxvi (1990) [hereinafter KLOTZ] (chronicling the expeditions of the Antarctic explorers).

28. See SHAPLEY, *supra* note 19, at 9-14 (explaining that interest in the exploration of Antarctica increased because it was the last uncharted and unclaimed land on earth).

29. Rolph Trolle-Anderson, *The Antarctic Scene: Legal and Political Facts, in THE ANTARCTIC TREATY REGIME: LAW, ENVIRONMENT, AND RESOURCES* 57, 57 (Gillian D. Triggs ed., 1987) [hereinafter Trolle-Anderson]. The five countries are the United Kingdom, New Zealand, France, Australia and Norway. *Id.*

30. F.M. AUBURN, *ANTARCTIC LAW AND POLITICS* 6-7 (1982) [hereinafter AUBURN]. The United Kingdom claims that their Letters Patent of 1908 and 1917 establish their rights to Antarctica, based on earlier explorations and discoveries. These rights, over what is now the Antarctic Territory, were formally set forth at the Imperial Conference of 1926. *Id.* France bases its claim to Adélie Land on the 1840 voyage of Dumont d'Urville. *Id.* Adélie Land was excluded from the Australian sector in 1933. *Id.* Norway founds its claim to Queen Maud Land upon Amundsen's explorations. *Id.* See also J.R. Rowland, *The Treaty Regime and the Politics of the Consultative Parties, in THE ANTARCTIC LEGAL REGIME* 11, 22-23 (Christopher C. Joyner and Sudhir K. Chopra eds., 1988) (reasoning that Norway formally asserted its claim in 1939 due to fears of German preemption). New Zealand bases its claim on the fact that Great Britain placed the Ross Ice Shelf under its administration in 1923. KLOTZ, *supra* note 27, at xxiv. Additionally, New Zealand carried out some exploration, and therefore bases its claim on both discovery and exploration. JEFFREY D. MYHRE, *THE ANTARCTIC TREATY SYSTEM: POLITICS, LAW, AND DIPLOMACY* 14 (1986) [hereinafter MYHRE].

31. KLOTZ, *supra* note 27, at xxiv. Chile made its claim to the majority of the Antarctic peninsula in 1940. *Id.* Argentina proclaimed its right to territory in the peninsular region in 1940. *Id.* at xxv. Both Chile and Argentina base their claims on four factors: (1) succession to Spanish rights; (2) geographical proximity; (3) geological affinity; and (4) occupation of a weather station since 1904. MYHRE, *supra* note 30 at 13.

32. See AUBURN, *supra* note 30, at 17-23 (describing the means by which the Arctic area was divided up into pie-shaped wedges, using the Arctic Circle as the outer boundary). Countries with land bordering the polar circle had claims from that point to the North Pole. *Id.* at 17.

33. AUBURN, *supra* note 30 at 17.

34. See AUBURN, *supra* note 30 at 24 (explaining that if the south polar circle were used as the boundary, there would be no sectors, and that if 40° were used, only Argentina and Chile would have claims); see also MYHRE, *supra* note 30, at 12 (setting forth the longitudinal boundaries of the current claims).

In addition to being based on different theories of sovereignty,³⁵ the territorial claims of Great Britain, Chile, and Argentina are a subject of dispute because Chile and Argentina have attempted to assert sovereignty over areas claimed by Great Britain.³⁶ The territorial issue is complicated because only five countries³⁷ recognize each other's claims. The conflict between claims of territorial sovereignty was a major issue during the formulation of the Antarctic Treaty,³⁸ and remains so today.

2. *The Issue of Antarctic Sovereignty*

The requirements for the establishment of sovereignty are fact specific.³⁹ According to the *Legal Status of Eastern Greenland*⁴⁰ there are fewer sovereignty requirements for remote, inaccessible areas than for populous areas.⁴¹ Courts have, however, held that acts of discovery

35. See *infra* notes 39-43 (explaining the discovery theory of sovereignty, on which the United Kingdom, New Zealand, France, Australia, and Norway base their Antarctic claims). See also *infra* notes 51-54 and accompanying text (explaining that Chile and Argentina base their claims on proximity).

36. See Peter J. Beck, *The Antarctic Resources Conventions Implemented: Consequences for the Sovereignty Issue*, in *THE ANTARCTIC TREATY SYSTEM IN WORLD POLITICS* 229, 231-32 (Arnfinn Jørgensen-Dahl & Willy Østreng eds., 1991) [hereinafter Beck] (stating that Argentina, Britain, and Chile have had numerous clashes over their overlapping claims, including an incident in which Argentinean soldiers fired at British personnel to prevent them from rebuilding a base station).

37. See Gillian D. Triggs, *Introduction to The Antarctic Treaty Regime: Legal Issues*, in *THE ANTARCTIC TREATY REGIME: LAW, ENVIRONMENT, AND RESOURCES* 51, 52 (Gillian D. Triggs ed., 1987) (listing the five countries as Australia, New Zealand, Norway, France, and the United Kingdom). These countries recognize each other's claims because they are based on similar theories, and because the claimed areas do not overlap. *Id.*

38. See *infra* notes 96-100 (explaining how the parties dealt with the sovereignty issue). In the end, the Antarctic Treaty was written to maintain the status quo on the sovereignty issue. *Infra* note 96.

39. AUBURN, *supra* note 30, at 5.

40. *Legal Status of Eastern Greenland (Denmark v. Norway)*, 1933 P.C.I.J. (ser. A/B) No. 53 (Apr. 5).

41. *Id.* at 27-30. *Legal Status of Eastern Greenland* settled a territorial dispute between Denmark and Norway. *Id.* Denmark based its claim of sovereignty on the fact that by the end of the eighteenth century Danes had settled the western part of Greenland and had passed legislation regarding its administration. *Id.* Moreover, by the end of the eighteenth century, Denmark had established a trade monopoly in the area. *Id.* at 29. Thus, the main thrust of Denmark's argument was that its control over Greenland had been continuous over a long period of time. *Id.* at 31-34.

Norway countered the Danish argument by contending that it had originally colonized Greenland in the eleventh century, although these original settlements were gone by the fifteenth century. *Id.* at 27. Further, Norway argued, the area it intended to occupy in the twentieth century was *terra nullius* because it was unoccupied. *Id.* at 41.

The court held for Denmark and based its findings on the prolonged continual control which Denmark had exercised over the eastern part of Greenland. *Id.* at 54. This control was held to extend to all of Greenland due to its inaccessibility and severe climate. *Id.* at 55.

alone are not a basis of territorial sovereignty.⁴² Discovery conveys an inchoate title which must be completed within a reasonable time by occupation.⁴³

If circumstances arise which make it necessary to decide the sovereignty of a particular area in Antarctica, those countries claiming sovereignty on the basis of discovery⁴⁴ would have to show that their title by discovery had been completed by occupation.⁴⁵ This might be a difficult burden to meet, considering that when the boundaries of the Antarctic territories were established between 1908 and 1943,⁴⁶ there was no evidence of permanent settlement on the continent.⁴⁷ It is possible, however, that by relying on the *Legal Status of Eastern Greenland*,⁴⁸ those nations using discovery as a basis for jurisdiction would be able to use the extreme conditions in Antarctica as a reason for not occupying the continent sooner.⁴⁹ Chile and Argentina would object to these claims and their underlying bases.⁵⁰

42. See, e.g., *Island of Palmas (Netherlands v. United States)*, II R.I.A.A. 829 (1928) (holding that because the Netherlands had administered activities on the Island of Palmas for more than two centuries, it had effectively established a stronger claim of sovereignty than the United States). The United States based its claim on inheritance due to Spain's cessation of rights to the island. The Spanish rights, the United States argued, were firmly rooted in discovery. *Id.* at 843-44.

43. *Id.* at 846. See GILLIAN D. TRIGGS, INTERNATIONAL LAW AND AUSTRALIAN SOVEREIGNTY IN ANTARCTICA 29, 29 (1986) [hereinafter TRIGGS, INTERNATIONAL LAW] (remarking that it is unclear how much time a country has to perfect its inchoate title).

44. *Supra* notes 29 & 30 and accompanying text.

45. See TRIGGS, INTERNATIONAL LAW, *supra* note 43, at 4-6 (explaining that discovery alone is not enough to acquire title, but rather there must also be effective occupation and adequate control over the territory).

46. See AUBURN, *supra* note 30, at 17 (noting the period of boundary establishment in Antarctica).

47. See AUBURN, *supra* note 30, at 17 (explaining that it would be difficult to objectively show effective occupation because the claimants had not indicated their intention to exercise control over the area).

48. See *supra* notes 40 & 41 and accompanying text (outlining the holding of the case).

49. See *supra* notes 39-43 and accompanying text (explaining that although discovery conveys an inchoate title which must be completed by occupation, effective occupation requires a lesser showing of control for remote, inaccessible areas). Antarctica is both remote and inaccessible because the continent is surrounded by drifting icebergs and only 2.5 percent of its land is ice-free. David J. Drewry, *The Antarctic Physical Environment*, in THE ANTARCTIC TREATY REGIME: LAW ENVIRONMENT AND RESOURCES 6, 7 (Gillian D. Triggs ed., 1987).

50. See *supra* notes 35-36 and accompanying text (explaining that the claims of Chile and Argentina overlap with the British claims); Richard Falk, *The Antarctic Treaty System: Are There Viable Alternatives?*, in THE ANTARCTIC TREATY SYSTEM IN WORLD POLITICS 399, 404-05 (Arnfinn Jørgensen-Dahl and Willy Østrem eds., 1991) [hereinafter Falk] (commenting that the South American claimants would likely insist on specific claims if the other nations threatened their territorial claims); see also

The South American claimants assert that their territorial claims are stronger than those of Great Britain.⁵¹ Chile and Argentina base this conclusion on their relative proximity to Antarctica.⁵² Proximity as a basis of jurisdiction is also called the theory of propinquity.⁵³ The South American claimants base their propinquity claim on either relative proximity or on the idea that the Andes are submerged at Tierra del Fuego and resurface as the Antarctic peninsula.⁵⁴

Under international law, neither discovery nor propinquity has sufficient judicial weight to settle territorial disputes,⁵⁵ so claimants need the additional support of effective occupation.⁵⁶ Two cases, the *Legal Status of Eastern Greenland*⁵⁷ and *Island of Palmas*⁵⁸ indicate that less is required to show occupation when an intemperate location is at issue.⁵⁹ The claimant states all have scientific bases in Antarctica, but

infra notes 51-54 and accompanying text (explaining the bases of the Chilean and Argentinean claims).

51. See AUBURN, *supra* note 30, at 30 (noting that geographical proximity is the basis of the Arctic sector theory and that by virtue of this proximity, Chile and Argentina are better able to conduct economic exploitation and scientific experiments).

52. See AUBURN, *supra* note 30, at 30 (describing Chile and Argentina's relative proximity to the Antarctic peninsula and the relative convenience this creates for purposes of exploitation); see also Christopher C. Joyner, *The Antarctic Legal Regime: An Introduction*, in THE ANTARCTIC LEGAL REGIME 1, 2 (Christopher C. Joyner & Sudhir K. Chopra eds., 1988) (concluding that Argentina and Chile are most concerned with Antarctica's strategic value because the continent is only 600 miles away).

53. See Benedetto Conforti, *Territorial Claims in Antarctica: A Modern Way to Deal with an Old Problem*, 19 CORNELL INT'L L.J. 249, 254 (1986) [hereinafter Conforti] (explaining that under the theory of propinquity, sovereignty over one part of a geographic entity extends to all areas of that entity).

54. See MYHRE, *supra* note 30, at 13 (questioning the idea of sovereignty based on geological affinity).

55. See, e.g. AUBURN, *supra* note 30, at 7 (remarking that official United States policy does not support claims based exclusively on discovery, even though the United States itself has attempted to assert such claims).

56. See AUBURN, *supra* note 30, at 11-14 (discussing the principle of effective occupation as a standard of customary international law). Under the theory of effective occupation, control must be actual, continuous, and useful. *Id.* at 11. These factors are, however, evaluated leniently when the area involved is sparsely populated or inhospitable. *Id.* at 13. Under such conditions, the more active party's claim should prevail. *Id.* at 14.

57. *Legal Status of Eastern Greenland (Denmark v. Norway)*, 1933 P.C.I.J. (ser. A/B) No. 53 (Apr. 5).

58. *Island of Palmas (Netherlands v. United States)*, II R.I.A.A. 829 (1928).

59. See AUBURN, *supra* note 30, at 12 (concluding that based upon the *Island of Palmas* and *Legal Status of Eastern Greenland* cases, it is evident that the standards by which effective occupation is judged are less for distant and uninhabited regions); see also TRIGGS, *INTERNATIONAL LAW*, *supra* note 43, at 7 (explaining that international law indicates effective occupation should be determined by a flexible standard); MYHRE, *supra* note 30, at 11 (concluding that the law on title by occupation is unclear, and is dependent upon the feasibility of occupation).

these stations occupy only a small portion of the continent.⁶⁰ To bolster their claims of sovereignty, nations have shown their intent to remain in Antarctica by increasing colonization efforts.⁶¹ Article IV of the Antarctic Treaty has, at least temporarily, quieted disputes over territorial sovereignty.⁶² The territorial issue, however, continues to plague those attempting to exercise jurisdiction in Antarctica.⁶³

B. THE ANTARTIC TREATY

1. Background

In 1934, Norway made the first proposal for an international conference to discuss the future of Antarctica.⁶⁴ Due to the start of World War II, this conference did not take place.⁶⁵ The need for an international meeting escalated in the early 1940s when British, Chilean, and Argentinean naval activities in the area raised tensions between these countries.⁶⁶ Additionally, the establishment of new British and American bases on Stonington Island⁶⁷ illustrated that new claims and controversies were likely if an agreement were not reached regarding the administration of Antarctica.⁶⁸

60. See Conforti, *supra* note 53, at 255-56 (expressing doubt that the presence of scientific research stations would be sufficient to substantiate a claim of territorial sovereignty).

61. See AUBURN, *supra* note 30, at 41-42 (suggesting that the relaxation of the ban on women in Antarctica is a sign of permanency). For example, the Soviet Union sent a plane carrying women and double beds to Antarctica in 1975. *Id.* at 42. Argentina has sent the wives and children of soldiers stationed at Esperanza Base to Antarctica in an effort to establish a colony. *Id.* Additionally, the son of the Argentine base commander was born in Antarctica in 1978. *Antarctica's First Baby Warmly Welcomed*, 8 ANTARCTIC, Mar. 1978 at 169-70. Other efforts to display administrative control include the establishment of a post office. AUBURN, *supra* note 30, at 40-41.

62. See *infra* notes 96-100 and accompanying text (explaining the compromise reached regarding the sovereignty issue).

63. See *infra* notes 137-42, 152-55, 244-46 and accompanying text (describing how sovereignty issues have made administration of environmental measures difficult).

64. Norwegian Memorandum to the United Kingdom Concerning the Order in Council Establishing the Australian Antarctic Territory and Proposing Bilateral Discussions (Jan. 26, 1934) reprinted in ANTARCTICA AND INTERNATIONAL LAW: A COLLECTION OF INTER-STATE AND NATIONAL DOCUMENTS, Doc. AU-26011934 (W.M. Bush ed., 1982).

65. TRIGGS, INTERNATIONAL LAW, *supra* note 43, at 132.

66. TRIGGS, INTERNATIONAL LAW, *supra* note 43, at 132.

67. See THE TIMES ATLAS OF THE WORLD, Plate 8 (John Bartholomew ed., 1958) (displaying a map that includes Stonington Island). Stonington Island is located off Trinity Peninsula, which is the area closest to South America. *Id.* Its coordinates are 67.55°S and 72.50°W *Id.*

68. TRIGGS, INTERNATIONAL LAW, *supra* note 43, at 132.

In 1948, the United States initiated two proposals for Antarctica in the United Nations. The first proposal recommended that Antarctica be a trusteeship of the United Nations.⁶⁹ The second proposal called for the establishment of a multiple condominium⁷⁰ of claimants and the United States.⁷¹ Under the latter proposal, the State Department of the United States suggested that Antarctica be used for scientific investigation and research.⁷² The suggestions of the United States prompted Chile to contend that any new bases, expeditions, or activities in the Antarctic region would prejudice existing rights of sovereignty.⁷³ Negotiations ceased when the Korean War began.⁷⁴

In the late 1940s, the International Council of Scientific Unions (ICSU) decided to implement a third Polar Year, which would be called the International Geophysical Year (IGY).⁷⁵ The ICSU organized the IGY as an eighteen month program, from June 1, 1951 until December 31, 1952, during which scientists would undertake a battery of research on the Antarctic Continent.⁷⁶ The parties to the Antarctic portion of the IGY⁷⁷ entered into a "gentleman's agreement" that no activities pursuant to the IGY were permitted to be used as a means of

69. See TRIGGS, *INTERNATIONAL LAW*, *supra* note 43, at 132. (explaining that the trusteeship would be carried out under the auspices of Chapter XII of the United Nations Charter).

70. See 1 L. OPPENHEIM, *INTERNATIONAL LAW: A TREATISE* 351-56 (5th ed. 1935) (defining "condominium" as an international law term for a territory under the joint tenancy of two or more states). Within the multiple condominium, sovereignty is exercised jointly. *Id.*

71. See AUBURN, *supra* note 30, at 85 (stating that in 1948 the United States produced a sketchy draft for a multiple condominium).

72. See AUBURN, *supra* note 30, at 85-86 (explaining that both proposals were driven by a perceived necessity to prevent future conflict regarding the continent); see also MYHRE, *supra* note 30, at 29 (describing the condominium proposal as legally contentious because the United States had never recognized any of the claimant states' rights over sectors in Antarctica).

73. AUBURN, *supra* note 30, at 86.

74. AUBURN, *supra* note 30, at 86.

75. See MERICQ, *supra* note 17, at 49 (stating that the first two Polar Years were in 1882 and 1931). The Polar Years were cooperative international efforts aimed at organizing human activities in the Arctic and Antarctic. SHAPLEY, *supra* note 19, at 83. During the first Polar Year, forty stations were established in the Arctic. *Id.* The second Polar Year resulted in many important atmospheric discoveries. *Id.*

76. See generally MERICQ, *supra* note 17, at 82-84 (detailing the organization and planning behind the IGY). The British, French, American, and Belgian scientists did most of the organization and tried to institutionalize the cooperative spirit with which the IGY was planned. *Id.*

77. See Trolle-Anderson, *supra* note 29, at 58 (stating that the IGY Antarctic participants were the seven nations with territorial claims, the United States, the Soviet Union, Belgium, South Africa, and Japan).

asserting, supporting, or refuting a territorial claim.⁷⁸ During the IGY, the Antarctic participants⁷⁹ established permanent bases inland.⁸⁰ When the Soviet Union announced that it would maintain the bases which it had established during the IGY and make a connected sector claim, the other parties to the IGY sought a more permanent solution to the territorial dispute.⁸¹ The resulting negotiations culminated in the Antarctic Treaty.⁸²

2. Treaty Provisions

The Antarctic Treaty recognizes that Antarctica, the only continent that does not have a native population, holds a special place in international law and should be preserved.⁸³ The Treaty is unique in international affairs because it sets aside an entire continent for peaceful purposes⁸⁴ and provides that representatives of every country are to have access to information from all other countries engaged in activities on

78. See SHAPLEY, *supra* note 19, at 84-86 (explaining that the "gentleman's agreement" was politically significant because it allowed nations to establish stations within another country's territory without threatening either country's sovereignty claims); see also TRIGGS, *INTERNATIONAL LAW*, *supra* note 43, at 134-36 (evaluating the argument that the tacit acceptance of the "gentleman's agreement" could be binding on the parties under principles of customary international law and concluding that the argument, though pleasing, is flawed).

79. See *supra* note 77 (listing the countries which participated in the IGY activities in Antarctica).

80. See AUBURN, *supra* note 30, at 93 (explaining that prior to the IGY the only permanent bases in Antarctica were on the northern Antarctic Peninsula). The creation of permanent inland bases was significant because it symbolized an intent to remain and established the importance of scientific activities in Antarctica. *Id.*

81. See AUBURN, *supra* note 30, at 89 (characterizing the Soviet announcement as the catalyst to the Treaty negotiations).

82. AUBURN, *supra* note 30, at 89.

83. Treaty, *supra* note 5, at pmb1. The Preamble to the Antarctic Treaty reads as follows:

Recognizing that it is in the interest of all mankind that Antarctica shall continue forever 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 cooperation in scientific investigation in Antarctica;

Convinced that the establishment of a firm foundation for the continuation and development of such cooperation 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. . . .

Id.

84. Treaty, *supra* note 5, art. I(1); see *infra* note 88 and accompanying text (discussing art. I(2) and its interpretation).

the continent.⁸⁵ The disadvantage of this flexible system is that Antarctica has no permanent governing body; the Treaty provides only that representatives of the original parties will meet every two years to discuss issues.⁸⁶ To understand fully how the system works, it is necessary to examine the most important provisions of the Treaty.

a. Peaceful Purposes

The goal of the Antarctic Treaty, as stated in Article I, is to ensure that the continent is used only for peaceful purposes.⁸⁷ The term "peaceful purposes" is not defined by the Treaty, but scholars have interpreted it using an objective test.⁸⁸ This does not prohibit nations from using military personnel or equipment to perform scientific re-

85. Treaty, *supra* note 5, art. III(1). Article III, in relevant part, states as follows:

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 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.

Id.

86. Treaty, *supra* note 5, art. IX(1). Article IX provides as follows:

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, consultinh [sic] 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.

Id.

87. Treaty, *supra* note 5, art. I(1). Article I(1) provides that "Antarctica shall be used for peaceful purposes only. There shall be prohibited, *inter alia*, any measures of a military nature, such as the establishment of military bases and fortifications, the carrying out of military maneuvers, as well as the testing of any type of weapons." *Id.*

88. See AUBURN, *supra* note 30, at 97 (suggesting that the term "peaceful purposes" should be naturally construed and should not be interpreted to include all activities which are not clearly military).

search.⁸⁹ Article I of the Treaty does not apply to the high seas, but rather only to the continent itself.⁹⁰

The main use of Antarctica is as a site for scientific research. To ensure cooperation and exchange of information, the Treaty provides that parties to the Treaty shall be as open as practicable.⁹¹ To this end, Contracting Parties⁹² are allowed to designate representatives to inspect any other party's scientific operations.⁹³ By stressing the scientific use of Antarctica, the framers were able to keep the IGY scheme and not address mining and other commercial issues.⁹⁴

89. Treaty, *supra* note 5, art. I(2). See MYHRE, *supra* note 30, at 35 (explaining that Article I(2) was included as an acknowledgement of the logistical difficulties inherent in Antarctic activities). These difficulties are often best solved by the military. *Id.*

90. See AUBURN, *supra* note 30, at 98 (explaining that Article VI, which states that nothing in the Treaty shall prejudice existing freedoms (the high seas, for example), trumps Article I).

91. See Treaty, *supra* note 5, art. III (providing that parties shall, to the extent feasible, exchange the following: their plans for scientific programs; scientific personnel; and scientific observations and results); see also AUBURN, *supra* note 30, at 103 (stating that the Parties do not carry out their reporting duties and little is done to rectify this lapse); *infra* note 117 and accompanying text (evaluating the success of this provision).

92. See MYHRE, *supra* note 30, at 39 (explaining that there are two types of parties to the Antarctic Treaty: Contracting and Consultative). Contracting Parties are the original signatories and those nations which have acceded to the Treaty. *Id.* A country that is a member of the United Nations may accede to the Treaty by depositing an instrument of accession with the United States government. *Id.* Countries that are not members of the United Nations must be unanimously approved by the Contracting Parties. *Id.* In addition to those listed below as Consultative Parties, the Contracting Parties are Austria, Bulgaria, Canada, Colombia, Czechoslovakia, Cuba, Denmark, Greece, Guatemala, Hungary, the Democratic People's Republic of Korea, Papua New Guinea, Romania, and Switzerland. Final Report on the Eleventh Consultative Meeting, *supra* note 4, at 1-2.

Consultative Parties are those who are permitted to attend the Consultative Meetings. MYHRE, *supra* note 30, at 39. The original signatories are automatically granted Consultative status. *Id.* Consultative status is given to other nations only if they express sufficient interest in Antarctica to convince all of the original signatories that granting Consultative status is appropriate. *Id.* Sufficient interest is shown by establishing a base or sending an expedition to Antarctica. *Id.* The Consultative Parties are Argentina, Australia, Belgium, Brazil, Chile, China, Ecuador, Finland, France, Germany, India, Italy, Japan, the Republic of Korea, the Netherlands, New Zealand, Norway, Peru, Poland, South Africa, Spain, Sweden, the Union of Soviet Socialist Republics, the United Kingdom, the United States, and Uruguay. Final Report of the Eleventh Consultative Meeting, *supra* note 4, at 1.

93. Treaty, *supra* note 5, art. VII. See SHAPLEY, *supra* note 19, at 95 (noting that the Antarctic Treaty is the only international agreement to which the Soviet Union is a party that permits on-site unilateral inspection).

94. See AUBURN, *supra* note 30, at 99 (suggesting that the framers emphasized science as a political necessity). Auburn asserts that scientific activities are relatively non-controversial and shift the focus away from sovereignty issues. *Id.*

b. Sovereignty Issues

Article IV of the Treaty further implements the IGY suggestions by maintaining the status quo with respect to territorial claims.⁹⁵ The difficulty inherent in codifying the IGY position on sovereignty is that the framers did not intend the IGY to be a permanent solution, but rather a portion of an agreement which was to be in effect for eighteen months.⁹⁶ This position was taken in an effort to placate a wide range of opinions expressed during Treaty negotiations.⁹⁷ Article IV does not resolve the territorial disputes, but rather attempts to make them a non-issue.⁹⁸ This effort, however, has not quieted discussion of territorial issues, and sovereignty continues to be a heavily debated topic at Consultative Meetings.⁹⁹

There is significant debate regarding whether third parties are bound by Article IV of the Treaty.¹⁰⁰ Under international law, a third party may be bound by a treaty only if the parties to the treaty clearly express their intent to be bound and if the third party expresses, in writ-

95. Treaty, *supra* note 5, art. IV(1). Article IV provides that nothing contained in the Treaty shall be interpreted as a renunciation or diminution of territorial claims, nor shall any Contracting Party's activities affect the recognition of another party's claims. *Id.* Article IV also states that no activities which take place while the Treaty is in force shall constitute a basis for new territorial claims. *Id.* art. IV(2). See AUBURN, *supra* note 30, at 107-10 (stating that although the Treaty has effectively maintained the status quo, there has been considerable discussion regarding the sovereignty issue and proposed outcomes if the Treaty system were disbanded).

96. See AUBURN, *supra* note 30, at 93 (suggesting that the defects in the construction of Article IV are directly related to the IGY).

97. See, e.g., MYHRE, *supra* note 30, at 36 (explaining that although New Zealand was willing to surrender its claim of territorial sovereignty in favor of an international regime, Chile refused to alter its position).

98. See Beck, *supra* note 36, at 233 (maintaining that Article IV freezes individual legal positions rather than solving sovereignty disputes); AUBURN, *supra* note 30, at 108-10 (describing Article IV as an attempt to sweep sovereignty issues "under a convenient rug" and maintaining that, in the long-run, this approach will be unsuccessful).

99. See AUBURN, *supra* note 30, at 108 (citing Argentinean concern that a recommendation concerning historic sites was really an effort to put a large section of the Antarctic Peninsula under British control). Sovereignty was also a contested issue during the negotiation of the Agreed Measures for the Conservation of Antarctic Fauna and Flora. *Id.*

100. See, e.g., FRANCISCO O. VICUÑA, ANTARCTIC MINERAL EXPLOITATION: THE EMERGING LEGAL FRAMEWORK 423-47 (1988) [hereinafter VICUÑA, ANTARCTIC MINERAL EXPLOITATION] (evaluating the role of third parties in Antarctica in light of customary environmental law); Patricia Birnie, *The Antarctic Regime and Third States*, in ANTARCTIC CHALLENGE II: CONFLICTING INTERESTS, COOPERATION, ENVIRONMENTAL PROTECTION, ECONOMIC DEVELOPMENT 239 (Rüdiger Wolfrum ed., 1988) (concluding that third parties have both rights and obligations under the Antarctic Treaty regime).

ing, its willingness to be bound.¹⁰¹ Thus, because Article IV does not expressly state that it intends to bind third parties, a third party may establish a claim to Antarctic territory.¹⁰² Were this to occur, however, the affected Treaty party could look to the language of the Preamble, which refers to the interests of mankind, as an expression of intent to bind third parties under customary international law.¹⁰³

c. Administration of the Treaty

Although the Treaty provides that the Contracting Parties shall meet at suitable intervals to conduct their business, it does not define "suitable."¹⁰⁴ The parties have interpreted "suitable" as meaning approximately once every two years.¹⁰⁵ At these meetings the parties may issue Consultative Meeting Recommendations that they have drafted prior to the meeting.¹⁰⁶ To take effect, the parties must adopt these recommendations unanimously.¹⁰⁷ Although the Treaty drafters adopted this requirement to protect minority interests,¹⁰⁸ it is problematic given the

101. Vienna Convention on the Law of Treaties, May 23, 1969, 63 AM. J. INT'L L. 875, art. 35. *See also* Fernandez v. Wilkinson, 505 F. Supp. 787, 795 (D. Kan. 1980) (holding in a case concerning human rights, that international rules are binding upon nations only when the nation intended to be bound or when the rule at issue is one of customary international law).

102. *See* TRIGGS, INTERNATIONAL LAW, *supra* note 43, at 149-50 (asserting that Article IV(1) does not prevent third parties from making claims to Antarctica).

103. *See* TRIGGS, INTERNATIONAL LAW, *supra* note 43, at 140-50 (discussing the effects of Article IV on third parties and concluding that although there may be no clear intent to bind third parties, it is likely that claimant states would be permitted to use their post-1961 activities to strengthen their sovereignty claims).

104. Treaty, *supra* note 5, art. IX. Article IX provides that the Contracting Parties are to meet at suitable intervals to formulate and consider measures regarding the peaceful use of Antarctica, continued scientific cooperation, the rights of inspection set forth in Article VII, questions regarding jurisdiction, and the preservation and conservation of living resources. *Id.*

105. *See* AUBURN, *supra* note 30, at 153-55 (concluding that meeting every two years is not sufficient for dealing with the numerous issues that arise).

106. *See* AUBURN, *supra* note 30, at 153-54 (explaining that because the Consultative Meetings take place only once every two years, the parties usually hold lengthy preparatory meetings to discuss and prepare recommendations on topics to be discussed at the next meeting). These preparatory meetings lack the power to make decisions, but help set the agenda for future Consultative Meetings. *Id.*

107. *See* Treaty, *supra* note 5, art. IX(4) (stating that representatives of all the Contracting Parties must approve measures before they become effective); *see also* Trolle-Anderson, *supra* note 29, at 61 (commenting that within the framework of the Consultative Meetings, decisions are not forced through against the will of any party, thereby strengthening the desire to reach a consensus).

108. *See* AUBURN, *supra* note 30, at 159 (noting that the unanimity provision means that any one party can stop a measure from becoming effective, and asserting that the unanimity provision is unnecessary because the Rules of Procedure already adequately safeguard the interests of minorities).

infrequency of meetings.¹⁰⁹ The provision is, however, indicative of the careful crafting of the Treaty.¹¹⁰ The drafters were so anxious to preserve the agreement that they did not even establish a minimum form of international organization.¹¹¹

The success of the Antarctic Treaty is attributable to its flexibility.¹¹² For example, membership in the Treaty can change because it is open for accession.¹¹³ The ease of modifying and amending the Treaty is a further indication of its flexibility.¹¹⁴ On the other hand, the loose structure of the Treaty's administration contributes to its weaknesses.¹¹⁵ While the Treaty instructs parties to comply with the Charter of the United Nations to ensure that the principles of the Treaty are carried out,¹¹⁶ no other guidelines are set forth. As a result, parties often do not perform their reporting duties and do little to ensure compliance with the Treaty.¹¹⁷ Furthermore, under the Antarctic Treaty, the only methods of dispute resolution are negotiation, arbitration, or,

109. See AUBURN, *supra* note 30, at 160-61 (explaining that negotiations following a veto can be lengthy and citing, as an example, the fact that it took over eight years to reach a compromise resource regime on pelagic seals). The unanimity requirement could also be problematic if a party used its voting status to further its outside interests. *Id.* For example, a member could veto a measure allowing resource exploitation to protect its domestic interest in maintaining a high price on that commodity. *Id.*

110. See AUBURN, *supra* note 30, at 147 (explaining that the Treaty is a compromise between conflicting views, and that some of the Parties were vehemently opposed to a system that imposed any type of supranational control).

111. See AUBURN, *supra* note 30, at 155 (commenting that the Treaty does not even establish archival facilities or a fixed meeting place). Consultative meetings are rotated among the capital cities of the Consultative Parties. *Id.*

112. See Trolle-Anderson, *supra* note 29, at 57-64 (commenting that since the Treaty entered into force in 1961, it has managed to maintain a multi-national order and preserve Antarctica as a place used exclusively for peaceful purposes and scientific research, in marked contrast to the tumult the rest of the world has experienced over the same period).

113. See Treaty, *supra* note 5, art. XIII(1) (providing that members of the United Nations may join the Treaty by accession, as may any other nation that is invited by the Contracting Parties).

114. See Treaty, *supra* note 5, art. XII(1) (providing for modification or amendment of the Treaty by unanimous agreement of the Parties). To enter into force, notice of ratification by that party must be received by the depositary government. *Id.* If notice of ratification is not received within two years by a Contracting Party, that Party is deemed to have withdrawn from the Treaty. *Id.*

115. See AUBURN, *supra* note 30, at 155 (explaining that the Antarctic Treaty system deliberately has no form of international administration and that attempts to create an effective management system have been vociferously opposed).

116. Treaty, *supra* note 5, art. X.

117. See AUBURN, *supra* note 30, at 103 (indicating that from 1964 to 1969, only sixty percent of the reports on the killing and capturing of native birds and animals were filed, and that some countries provided no information at all on their activities). *But see id.* at 110-11 (stating that reports of inspections have concluded that there was no evidence that the Treaty had been breached).

if all the parties to the dispute agree, adjudication by the International Court of Justice.¹¹⁸

II. EARLIER EFFORTS TO PROTECT THE ANTARCTIC ENVIRONMENT

The relative ease of creating measures to be used in connection with the Antarctic Treaty has led to a number of efforts to protect the environment.¹¹⁹ Effectiveness, however, requires more than ease of promulgation: there must also be a means of administering and enforcing the rules. As was indicated above, administration can be problematic because some of the parties to the Antarctic Treaty refuse to establish a formal administrative body.¹²⁰ The absence of such a framework, in turn, leads to enforceability problems.¹²¹

A. MEASURES WITHIN THE ANTARCTIC TREATY SYSTEM

1. *Agreed Measures on the Conservation of Antarctic Fauna and Flora*

In 1964, the representatives at the Consultative Meeting promulgated the Agreed Measures on the Conservation of Antarctic Fauna and Flora (Agreed Measures).¹²² The representatives wrote the Agreed Measures to fall squarely within the bounds of the Antarctic Treaty.¹²³ The measures attempted to fulfill the principles and goals of the

118. See Treaty, *supra* note 5, art. XI (emphasizing peaceful, inter-party methods for settling disputes as preferable to the International Court of Justice). The International Court of Justice should be used only as a last resort. *Id.*

119. See *infra* notes 122-56 and accompanying text (setting forth earlier measures taken to protect Antarctica and assessing their effectiveness).

120. See *supra* note 115 and accompanying text (describing the lack of an administrative body as one of the principal weaknesses of the Antarctic Treaty system).

121. See Barnes, *Protection of the Environment*, *supra* note 3, at 200 (explaining that the Antarctic Treaty system has no internal enforcement mechanisms, which lessens the likelihood of compliance). The current system relies upon the individual parties' interpretations of measures, rather than an objective reading. *Id.*

122. Agreed Measures for Conservation of Antarctic Fauna and Flora, Approved as Recommendation III-VIII to the Antarctic Treaty, *reprinted in* 1 ANTARCTICA AND INTERNATIONAL LAW: A COLLECTION OF INTER-STATE AND NATIONAL DOCUMENTS, DOC. AT-02067964 (W.M. Bush ed., 1982) [hereinafter Agreed Measures]. Fauna and flora are the animals and plants occupying a particular environment or region. 11 THE ENCYCLOPEDIA AMERICANA 54 (Int'l ed. 1983). The Agreed Measures are the result of Consultative Meetings and bind only parties to the Antarctic Treaty. SHAPLEY, *supra* note 19, at 106. The Agreed Measures designate the area south of 60° South as a "Special Conservation Area" in which any type of injury to native mammals or birds is prohibited. *Id.*

123. See Heap & Holdgate, *supra* note 10, at 203 (describing the Agreed Measures as a "treaty within a treaty" or a "mini-treaty").

Antarctic Treaty with respect to human activities related to native plants and animals.¹²⁴ The Agreed Measures, like Article I of the Treaty,¹²⁵ restrict the scope of application to the Antarctic continent.¹²⁶ The chief drawbacks of the Agreed Measures are their limited zone of applicability¹²⁷ and lack of built-in enforcement procedures.¹²⁸

2. *Convention for the Conservation of Antarctic Seals*

The Parties issued the Convention for the Conservation of Antarctic Seals (Seals Convention) in 1972.¹²⁹ The Seals Convention is notable because it was promulgated as a preventative measure, rather than as a reaction to a threat to the species.¹³⁰ Since the Seals Convention went into effect, there has been no commercial seal hunting in the Antarctic.¹³¹

3. *The Convention on the Conservation of Antarctic Marine Living Resources*

The Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR) was the first attempt by the parties to the

124. See Beck, *supra* note 36, at 242 (discussing the Agreed Measures as a means of working with the Treaty's designation of Antarctica as a Special Conservation Area in which human activities relating to animals are closely regulated). Within the Special Conservation Area, humans may not kill, wound, capture, or molest birds or mammals without a permit. SHAPLEY, *supra* note 19, at 106.

125. See *supra* note 87 (setting forth art. I(1)).

126. See Beck, *supra* note 36, at 242 (stating that the Agreed Measures do not apply to the high seas surrounding Antarctica).

127. See AUBURN, *supra* note 30, at 270 (noting that the Agreed Measures are applicable only to the land below 60° South, even though Antarctic fauna and flora, which are concentrated in coastal areas, are dependent upon the ocean for food).

128. See AUBURN, *supra* note 30, at 272 (stating that the Agreed Measures offer few guidelines as to who may issue permits, and what area those permits may cover). Sovereignty is at issue here because parties were reluctant to allow the representative of one party to undercut their authority by issuing a permit affecting other parties' territories. *Id.*

129. Convention for the Conservation of Antarctic Seals, *opened for signature* June 1, 1972, 29 U.S.T. 441, 11 I.L.M. 251 [hereinafter Seals Convention].

130. See John A. Gulland, *The Antarctic Treaty System as a Resource Management Mechanism*, in THE ANTARCTIC TREATY REGIME 116, 120 (Gillian D. Triggs ed., 1987) [hereinafter Gulland] (remarking that when the Seals Convention was promulgated, there was no commercial harvesting of seals, only a concern that harvesting might start). Thus, rather than responding to a crisis, the Seals Convention protected a species before commercial activity threatened it. *Id.*

131. See Heap & Holdgate, *supra* note 10, at 203 (conceding that the Seals Convention has been very successful, but questioning how much of the decline in seal hunting is due to the agreement and how much is attributable to logistical difficulties and cost).

Antarctic Treaty to regulate an ecosystem as a whole.¹³² The parties wrote the CCAMLR in response to the increased interest in krill fishing in the early 1970s.¹³³ The CCAMLR is applicable beyond 60° South Latitude, using the Antarctic Convergence as an outer boundary.¹³⁴ The parties extended the range of applicability beyond the Treaty's 60° boundary because krill swim beyond that mark as far north as the Convergence.¹³⁵

Sovereignty issues played a part in the drafting of the CCAMLR because, due to its subject matter, the parties were seeking to regulate activities beyond the Antarctic continent.¹³⁶ Once again, as with the Treaty, the representatives agreed to disagree.¹³⁷ Within the CCAMLR regime the parties exercise joint jurisdiction over the marine areas.¹³⁸ The weaknesses of the CCAMLR are easily traced to the sovereignty issue; because the Treaty created a delicate balance on the sovereignty issue, the drafters were reluctant to create a marine regime that was anything other than sovereignty-neutral.¹³⁹ As a result, the Convention is legislation with an admirable purpose, but lacks spec-

132. Convention on the Conservation of Antarctic Marine Living Resources, May 20, 1980, 33 U.S.T. 3479, 19 I.L.M. 841 [hereinafter CCAMLR] (entered into force Apr. 7, 1982). See Josyane Couratier, *The Regime for the Conservation of Antarctica's Living Resources*, in ANTARCTIC RESOURCES POLICY 139, 141 (Francisco O. Vicuña ed., 1983) (stating that it is crucial to regulate the Antarctic ecosystem as a whole because it is extraordinarily simple, yet extremely interdependent). So, if one part of the ecosystem is harmed, all other areas will likely suffer as well. *Id.*

133. See Heap & Holdgate, *supra* note 10, at 203-04 (asserting that krill have a slow growth rate and increased harvesting would eventually deplete the population).

134. Heap & Holdgate, *supra* note 10, at 203. The Antarctic Convergence is the fluctuating border between the Antarctic and Southern Oceans. SHAPLEY, *supra* note 19, at 95.

135. See SHAPLEY, *supra* note 19, at 151-52 (explaining that conservationists view the enlarged zone of applicability as a victory because it is based not on human, artificial boundaries, but rather on the krill's natural habitat).

136. See Beck, *supra* note 36, at 245 (explaining that the question of coastal jurisdiction over marine resources brought the underlying issues of territorial sovereignty back to the forefront).

137. See CCAMLR, *supra* note 132, art. IV (providing that nothing in the Convention shall constitute a basis for a new claim, nor shall it be interpreted as renouncing, diminishing, or prejudicing any claim to the Antarctic continent).

138. See Christopher C. Joyner, *The Evolving Antarctic Legal Regime: Review Article*, 83 AM. J. INT'L L. 618, 630 (1989) (characterizing the joint control over maritime spaces as a "de facto regional Exclusive Economic Zone").

139. See Beck, *supra* note 36, at 245-46 (describing the situation as "bi-focalism" and concluding that bi-focalism may resolve conflicts with respect to the sovereignty issue, but weakens the rest of the CCAMLR's provisions). Rather than stating that the Parties exercise jurisdiction over the coastal areas adjacent to their claims, the CCAMLR provides few answers and establishes *de facto* joint control. *Id.*

ificity.¹⁴⁰ Additionally, the CCAMLR is weakened because it does not have an effective means of enforcement.¹⁴¹

4. *The Convention on the Regulation of Antarctic Mineral Resource Activities*

Six years lapsed between the entry into force of the CCAMLR and the promulgation of the Convention on the Regulation of Antarctic Mineral Resource Activities (CRAMRA),¹⁴² the mineral portion of a resource protection plan for Antarctica.¹⁴³ For the purposes of this Comment, the relevant provisions of the CRAMRA are its environmental and sovereignty laws, which need to be explored further.¹⁴⁴

140. See, e.g., William N. Bonner, *Recent Developments in Antarctic Conservation*, in *THE ANTARCTIC TREATY REGIME: LAW, ENVIRONMENT AND RESOURCES* 143, 145 (Gillian D. Triggs ed., 1987) (commenting that the CCAMLR has lofty aspirations, but insufficient means with which to enforce them). Once again, to avoid potential conflicts, the parties made the enforcement procedures deliberately ambiguous. TRIGGS, *INTERNATIONAL LAW*, *supra* note 43, at 196. The Convention does not address what would happen if a party attempted to enforce its domestic conservation legislation, or what would happen if two parties asserted jurisdiction over the same area. *Id.* at 197.

141. See CCAMLR, *supra* note 132, art. 21 (stating, in relevant part, that "[each Party] shall take appropriate measures within its competence to ensure compliance with the provisions of this Convention").

142. Convention on the Regulation of Antarctic Mineral Resource Activities, *opened for signature* Nov. 25, 1988, 27 I.L.M. 859 [hereinafter CRAMRA]. The CRAMRA is also called the "Wellington Convention" and the "Antarctic Minerals Convention." Andrew N. Davis, Note, *Protecting Antarctica: Will a Minerals Agreement Guard the Door or Open the Door to Commercial Exploitation?*, 23 *GEO. WASH. J. INT'L L. & ECON.* 733, 733 n.1 (1990). The CRAMRA may have been so long in the making because the Consultative Parties were occupied with negotiating sessions, during which they attempted to reach a consensus on the sovereignty issue. Beck, *supra* note 36, at 246.

143. See Christopher C. Joyner, *CRAMRA: The Ugly Duckling of the Antarctic Treaty System?*, in *THE ANTARCTIC TREATY SYSTEM IN WORLD POLITICS* 161, 166 (Arnfinn Jørgensen-Dahl & Willy Østrem eds., 1991) [hereinafter Joyner, *CRAMRA: The Ugly Duckling*] (stating that the CRAMRA is the natural completion of an environmental protection system that includes measures relating to fauna and flora, seals, and marine living resources); *but see* Barnes, *Protection of the Environment*, *supra* note 3, at 194 (asserting that the CRAMRA is not a conservation agreement, but rather a system that will allow mineral extraction).

144. For a thorough discussion of the entire act, see, e.g., Andrew N. Davis, Note, *Protecting Antarctica: Will a Minerals Agreement Guard the Door or Open the Door to Commercial Exploitation?*, 23 *GEO. WASH. J. INT'L L. & ECON.* 733 (1990) [hereinafter Davis, *Protecting Antarctica*] (analyzing the provisions of the CRAMRA, with particular attention to the environmental side-effects of mining activities); *see also* Douglas M. Zang, Note, *Frozen in Time: The Antarctic Mineral Resource Convention*, 76 *CORNELL L. REV.* 722 (1991) [hereinafter Zang, *Frozen in Time*] (discussing the CRAMRA and suggesting that an alternative system of mineral rights is needed to promote a truly international community of rights).

The CRAMRA states that before mineral activities may occur, the actor must evaluate the impact that the proposed activity will have on the environment.¹⁴⁵ If the activity might cause significant damage, it may not be performed.¹⁴⁶ The actor must also prepare an environmental impact assessment.¹⁴⁷ This document requires the potential miner to determine the effect that the proposed activity will have on air and water quality and the atmospheric, terrestrial, or marine environments.¹⁴⁸ The environmental aspects of the CRAMRA also provide that the actor will be held strictly liable for damage caused to the Antarctic environment or ecosystems.¹⁴⁹ Notwithstanding the safeguards set forth above, the environmental severity of potential mining activities is unclear.¹⁵⁰

The CRAMRA adopts the now standard protection of territorial interests language.¹⁵¹ Thus, although the CRAMRA goes beyond earlier efforts to protect the environment, it is burdened with the same problem that has plagued the Antarctic Treaty System since its inception:

145. See CRAMRA, *supra* note 142, art. 4 (setting forth a series of elements to be considered subjectively when deciding how the activity will affect the Antarctic environment). These elements include whether or not the proposed activity would cause any of the following:

- (a) significant adverse impacts on air and water quality;
- (b) significant changes in atmospheric, terrestrial, or marine environments;
- (c) significant changes in the distribution, abundance, or productivity of populations of species of fauna or flora;
- (d) further jeopardy to endangered or threatened species or populations of such species; or
- (e) degradation of, or substantial risk to, areas of special biological, scientific, historic, aesthetic or wilderness significance.

Id. art. 4(2).

146. CRAMRA, *supra* note 142, art. 4(2). Article 4 does not define significant impact. *Id.*

147. See CRAMRA, *supra* note 142, art. 4 (requiring the Party to show that the proposed mineral activity will not adversely affect the Antarctic environment, including its ecosystems).

148. See CRAMRA, *supra* note 142, art. 4(2) (requiring that an environmental impact assessment be performed).

149. See CRAMRA, *supra* note 142, art. 8(2)(d). The party causing damage to the Antarctic environment must return the area to its *status quo ante*, or if that is not possible, pay monetary damages. Davis, *Protecting Antarctica*, *supra* note 144, at 755. Additionally, the sponsoring state is liable for damages which would not have occurred but for its failure to comply with the CRAMRA. *Id.* at 756.

150. See Joyner, *CRAMRA: The Ugly Duckling*, *supra* note 143, at 169 (remarking that there is no way to determine how mining will affect the heretofore relatively pristine environment); Davis, *Protecting Antarctica*, *supra* note 144, at 741 (stating that the existence and exploitability of mineral and hydrocarbon resources is unknown, and no commercially valuable oil and gas deposits have been found).

151. See Beck, *supra* note 36, at 249-50 (stating that CRAMRA adopts the Treaty's Article IV language regarding the establishment, diminution, renunciation of, or prejudice to Antarctic claims).

the unwillingness to resolve the sovereignty issue. Sovereignty is an inherent issue when discussing mineral extraction.¹⁵² When a party decides to remove minerals from an area of land over which sovereignty is in dispute, it is unclear who can authorize or decline the move.¹⁵³ Rather than deciding the sovereignty issue, CRAMRA requires a majority decision on all issues of substance.¹⁵⁴ The enforcement procedures of the CRAMRA¹⁵⁵ also weaken its effectiveness because they do not require reports on exploration and development.¹⁵⁶

B. ENVIRONMENTAL EFFORTS FROM OUTSIDE THE ANTARCTIC TREATY SYSTEM

1. *The United Nations and Antarctica*

The United Nations Environmental Programme (UNEP) held a conference in June 1992, at which representatives discussed the major actions needed to safeguard the global environment.¹⁵⁷ Although UNEP has not been directly involved in Antarctic affairs, its members recognize that the polar regions play an important role in the global environment.¹⁵⁸ Commentators have, therefore, suggested that Antarctica should be subject to UNEP's requirements.¹⁵⁹

152. See Beck, *supra* note 36, at 248-51 (suggesting that minerals provoke the sovereignty issue more than living resources because they are fixed in one location and are non-renewable).

153. Beck, *supra* note 36, at 248-51.

154. See Beck, *supra* note 36, at 248-49 (explaining that major decisions cannot be made which are against the wishes of any one group, but that a single claimant can be out-voted).

155. See CRAMRA, *supra* note 142, art. 3 (stating that no mineral activity can take place which is not in accordance with the CRAMRA); see also *id.* art. 7 (setting forth the general compliance duties of the parties).

156. CRAMRA, *supra* note 142, art. 37(8)(c).

157. Sveneld Evteev, *Antarctica and its Place in the Contemporary Environmental Movement*, in THE ANTARCTIC TREATY SYSTEM IN WORLD POLITICS 147, 147 (Arnfinn Jørgensen-Dahl & Willy Østreng eds., 1991) [hereinafter Evteev].

158. See Evteev, *supra* note 157, at 147-50 (explaining that UNEP is concerned about events in Antarctica which affect the environment). UNEP uses a United States station in Antarctica as part of its Global Environmental Monitoring System. *Id.* at 150.

159. See Evteev, *supra* note 157, at 150-51 (suggesting that Antarctica should be subject to UNEP's requirements for Environmental Impact Assessments and review by all parties to strengthen control over Antarctic activities). The Antarctic environment affects the ecosystems of the Southern Ocean. *Id.* Therefore, those nations with an interest in the welfare of the Southern Ocean's ecosystems should receive assurance that the parties acting in Antarctica are aware that their actions impact the global ecosphere. *Id.*

Since the IGY, member nations have suggested that Antarctica should be governed by the United Nations.¹⁶⁰ This move would accept Antarctica, like the high seas and outer space, as a part of the global commons.¹⁶¹ The transfer would be advantageous because more countries would have a say in Antarctic activities.¹⁶² It would also allow the global community greater access to more information regarding Antarctic activities.¹⁶³

2. *Non-Governmental Organizations and Antarctica*

The two non-governmental organizations most involved in Antarctica are Greenpeace and the Antarctic and Southern Ocean Coalition (ASOC).¹⁶⁴ Both groups have urged that Antarctica be declared a World Park.¹⁶⁵ Under this concept, the claimant countries would relinquish their territorial claims in favor of administration by an international organization such as the United Nations.¹⁶⁶ It is unlikely that

160. See KLOTZ, *supra* note 27, at 105-15 (detailing the diplomatic assault aimed at placing Antarctica under the governance of the United Nations).

161. See Barnes, *Protection of the Environment*, *supra* note 3, at 214-15 (explaining that in 1990, the United Nations General Assembly voted overwhelmingly to designate Antarctica as a World Park, making it a part of the global commons).

162. KLOTZ, *supra* note 27, at 113.

163. See Christian Maquieira, *The Question of Antarctica in the United Nations: The End of Consensus?*, in ANTARCTIC CHALLENGE III: CONFLICTING INTERESTS, COOPERATION, ENVIRONMENTAL PROTECTION, ECONOMIC DEVELOPMENT 254, 264 (Rüdiger Wolfrum ed., 1988) [hereinafter Maquieira] (stating that the current Antarctic Treaty system is exclusive and information regarding the Parties' activities is inaccessible).

164. See Barnes, *Protection of the Environment*, *supra* note 3, at 186-91 (outlining the goals of NGOs involved in Antarctica, which include implementing a conservation strategy that focuses on the ecosystem as a whole); see also James N. Barnes, *Environmental Protection and the Future of the Antarctic: New Approaches and Perspectives are Necessary*, in THE ANTARCTIC TREATY REGIME: LAW, ENVIRONMENT, AND RESOURCES 150, 152 (Gillian D. Triggs ed., 1987) (explaining that ASOC is comprised of over 150 organizations in more than 30 nations and was formed to provide a forum in which NGOs could act on Antarctic environmental issues); but see *Greenpeace Quits Antarctica Base*, Reuters, Feb. 6, 1992, available in LEXIS, Nexis Library, Reuters File (announcing that Greenpeace will close its base in Antarctica because it is confident that the new environmental measures will preserve the continent).

165. James N. Barnes, *Legal Aspects of Environmental Protection in Antarctica*, in THE ANTARCTIC LEGAL REGIME 241, 257 (Christopher C. Joyner & Sudhir K. Chopra eds., 1988) [hereinafter Barnes, *Legal Aspects*].

166. See *Legal Aspects*, *supra* note 165, at 256-57 (explaining the history of the World Park concept and the support given to the idea by New Zealand). Under the World Park concept, the claimant parties would surrender their claims in favor of a global administration. Barnes, *Protection of the Environment*, *supra* note 3, at 214-16. Antarctica would be fully open to the United Nations, international organizations, and NGOs. *Id.* at 216. Even though the formation of Antarctica as a World Park would mean that the Consultative Parties would lose their interests in Antarctica, Australia has supported the move for environmental reasons. BLAY, ANTARCTICA AFTER 1991,

claimant states would be willing to renounce their claims at the behest of an NGO, even if it were for the benefit of the global environment.¹⁶⁷

III. PROTOCOL TO PROTECT THE ANTARCTIC ENVIRONMENT: PROVISIONS

The Parties issued the Protocol on October 4, 1991¹⁶⁸ after two years of negotiation.¹⁶⁹ President Bush submitted it to the United States Senate for ratification on February 14, 1992.¹⁷⁰ The Senate Foreign Relations Committee accepted the Protocol on June 11, 1992.¹⁷¹

A. PURPOSE AND SCOPE OF THE PROTOCOL

The preamble of the Protocol broadly defines its goal as the protection of the Antarctic environment.¹⁷² The Protocol reaffirms that Ant-

supra note 3, at 18. New Zealand supports the proposition, but only if all the other Parties also give up their rights. Barnes, *Legal Aspects*, *supra* note 165, at 257. Chile would only support the World Park if it could retain its claim. *Id.*

167. See Maquieira, *supra* note 163, at 255-56 (describing the United Kingdom's response to a Malaysian proposal that the United Nations discuss the question of control over Antarctica).

168. Protocol, *supra* note 7.

169. *Antarctica Ecological Pact Signed*, CHI. TRIB., Oct. 5, 1991, at C2.

170. *Bush Submits Antarctic Treaty to Senate*, UPI, Feb. 14, 1992, available in LEXIS, Nexis Library, UPI File.

171. *Administration Opposes House Bill That Would Implement Antarctica Treaty*, Int'l Envtl. Daily (BNA) (July 2, 1992).

172. Protocol, *supra* note 7, at pmbl. The preamble to the Protocol reads as follows:

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 Antarctica 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 Antarctica and the special responsibility of the Antarctic Treaty Consultative Parties to ensure that all activities in Antarctica are consistent with the purposes and principles of the Antarctic Treaty;

Recalling the designation of Antarctica 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 Antarctica 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;

arctica is to be used for peaceful purposes only.¹⁷³ The Preamble emphasizes that protection of the Antarctic environment is necessary for scientific reasons,¹⁷⁴ as well as in the interest of mankind.¹⁷⁵ Article 2 further enunciates the purpose of the Protocol and commits the Parties to the protection of the environment.¹⁷⁶

B. RELEVANT PROVISIONS OF THE PROTOCOL

1. General Provisions

Article 1 defines the key terms used in the Protocol.¹⁷⁷ Article 4 explains that the Protocol does not modify or amend the Treaty, but instead is supplementary.¹⁷⁸ Further, it explains that the Protocol does not alter the rights and obligations of the parties.¹⁷⁹ Article 5 instructs the parties to use the new provisions in conjunction with existing instruments of the Antarctic Treaty.¹⁸⁰ Because the Protocol applies to the Antarctic Treaty area,¹⁸¹ it does not apply to the high seas.¹⁸² It does, however, apply to the area below 60° South Latitude, including ice shelves.¹⁸³

Have agreed as follows. . . .

Id.

173. See Protocol, *supra* note 7, at pmb. (providing that Antarctica is to be used for peaceful purposes and should not be the cause or location of international conflict).

174. See Protocol, *supra* note 7, at pmb. (acknowledging that Antarctica affords unique opportunities for scientific research of global importance).

175. Protocol, *supra* note 7, at pmb.

176. Protocol, *supra* note 7, art. 2. Article 2 provides that "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." *Id.*

177. See Protocol, *supra* note 7, art. 1 (defining "Antarctic Treaty", "Antarctic Treaty area", "Antarctic Treaty Consultative Meetings", "Antarctic Consultative Parties", "Antarctic Treaty system", "Arbitral Tribunal," and "Committee").

178. Protocol, *supra* note 7, art. 4.

179. Protocol, *supra* note 7, art. 4.

180. Protocol, *supra* note 7, art. 5. Article 5 provides as follows:

The Parties shall consult and co-operate [sic] 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.

Id.

181. Protocol, *supra* note 7, art. 3(1). See *id.* art. 1(b) (defining the Antarctic Treaty area as the area to which the Treaty applies, in accordance with Article VI).

182. See *supra* note 90 and accompanying text (explaining that under Article VI of the Treaty, the Treaty does not apply to the high seas).

183. Treaty, *supra* note 5, art. VI.

2. Environmental Principles

Article 3 sets forth the environmental principles addressed by the Protocol.¹⁸⁴ To conform to these principles, the parties must minimize adverse environmental impacts when acting in Antarctica.¹⁸⁵ The effects that the Protocol seeks to minimize are set forth in Article 3(2)(b).¹⁸⁶ When planning or conducting an activity, the actor must use information that is sufficient to form a good assessment of the potential environmental impacts.¹⁸⁷ The actor is not only responsible for assessing possible risks, but also for monitoring the activity once it begins.¹⁸⁸ Parties must do so this to facilitate early detection of adverse environmental impacts.¹⁸⁹

The Protocol instructs parties to cooperate when planning and conducting activities within the Antarctic Treaty area.¹⁹⁰ Parties are also directed to cooperate with third parties to minimize adverse environ-

184. See Protocol, *supra* note 7, art. 3 (declaring that the underlying principle of the Protocol is the protection of the Antarctic environment, which is both inherently valuable and also useful as an area for scientific research).

185. See Protocol, *supra* note 7, art. 3(2)(a) (stating that both the planning and performing stages of an activity must be conducted so as to limit any adverse impact on the environment).

186. Protocol, *supra* note 7, art. 3(2)(b). Activities should be planned and conducted to avoid the following:

- (i) adverse effects on the 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 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

Id.

187. See Protocol, *supra* note 7, art. 3(2)(c) (setting forth considerations for assessing potential environmental impacts). Assessments should take full account of the scope of the activity, its cumulative impacts, its potential detrimental effects on other activities, whether there are safer alternatives, whether it is possible to fully monitor the activity's effects on the environment, and whether it would be possible to respond quickly in case of an emergency. *Id.*

188. See Protocol, *supra* note 7, art. 3(2)(d) (instructing that Parties must regularly monitor and assess the environmental effects of ongoing activities).

189. See Protocol, *supra* note 7, art. 3(2)(e) (instructing that regular and effective monitoring is necessary to detect unforeseen effects of activities both inside and outside the Antarctic Treaty area).

190. See Protocol, *supra* note 7, art. 6(1) (stating that parties should help each other by providing assistance in the preparation of environmental impact statements and by providing information relevant to any potential environmental risk).

mental effects.¹⁹¹ If a planned activity will have harmful effects on the environment or ecosystems, the actor must modify, suspend, or cancel the endeavor.¹⁹²

3. Mineral Resource Activities

The Protocol prohibits all mineral resource activities, unless they are for scientific research.¹⁹³ This was the most disputed provision of the Protocol, and there is some speculation that the United States will not ratify the document because of the mining ban.¹⁹⁴

4. Administration of the Protocol

The Committee for Environmental Protection will administer the Protocol.¹⁹⁵ This Committee is responsible for presenting a report of all its sessions to the Antarctic Treaty Consultative Meeting.¹⁹⁶ Additionally, the Committee is responsible for providing advice and formulating recommendations to the parties with respect to the administration of the Protocol.¹⁹⁷

191. See Protocol, *supra* note 7, art. 6(3) (providing that "the Parties shall cooperate 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 do not have adverse environmental impacts on those areas").

192. Protocol, *supra* note 7, art. 3(4).

193. Protocol, *supra* note 7, art. 7. Article 7, entitled "Prohibition of Mineral Resource Activities," reads as follows: "Any activity relating to mineral resources, other than scientific research shall be prohibited." *Id.*

194. See [Current Developments] Int'l Env'tl. Rep. (BNA) 386 (July 17, 1991) (stating that the United States argued for language which would allow any participating nation to withdraw from the ban and engage in unregulated mining after 50 years); see also Gannett News Service, June 22, 1992, available in LEXIS, Nexis Library, Gannett File, Key Word: Flattau (chastising President Bush for calling himself the "environmental president" when he was the impetus for the United States' insistence that the Protocol include a walk-away clause with respect to the permanent mining ban).

195. See Protocol, *supra* note 7, art. 11 (establishing the Committee for Environmental Protection and providing that each Party is entitled to membership on the Committee). Contracting parties may have observer status on the Committee. *Id.*

196. Protocol, *supra* note 7, art. 11.

197. Protocol, *supra* note 7, art. 12(1). Article 12(1) provides:

The function of the Committee shall be to provide advice and formulate recommendations to the Parties in connection with the implementation of this Protocol 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;

5. *Environmental Impact Assessments*

The Protocol establishes a document called an Environmental Impact Statement (EIS) that parties must complete before conducting a new activity.¹⁹⁸ Activities are labelled according to their impact on the environment.¹⁹⁹ Parties prepare an EIS, from which the impact is determined. If a proposed activity has *no more* than a minor or transitory impact, it may proceed.²⁰⁰

However, if an activity has *more* than a minor or transitory impact, and a Comprehensive Environmental Evaluation (CEE)²⁰¹ is not prepared, the concerned party must prepare an Initial Environmental Evaluation (IEE).²⁰² Like the EIS, if the IEE indicates that the activity will have *no more* than a minor or transitory impact, the activity may proceed.²⁰³ However, if the IEE indicates that the proposed activ-

-
- (e) means of minimising [sic] 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
 - (k) the need for scientific research, including environmental monitoring, related to the implementation of this Protocol.

Id.

198. See Protocol, *supra* note 7, art. 8(2) (establishing that for every activity for which advance notice is required under Article VII (5) of the Antarctic Treaty, each party shall comply with the assessment procedures set forth in Annex I); see also Annex I to the Protocol on Environmental Protection to the Antarctic Treaty [hereinafter Annex I] (setting forth the steps in preparing an Environmental Impact Statement (EIS)). The Annex separates the EIS into three different documents: the preliminary stage, the Initial Environmental Evaluation, and the Comprehensive Environmental Evaluation. *Id.* art. 1-3.

199. See Protocol, *supra* note 7, art. 8 (identifying three levels of environmental impact: (1) less than a minor or transitory impact; (2) a minor or transitory impact; or (3) more than a minor or transitory impact). The Protocol does not define the above terms. *Id.* art. 1.

200. Annex I, *supra* note 198, art. 1(2).

201. See *infra* note 204 and accompanying text (describing the CEE, the type of information that it contains, and how it is prepared).

202. See Annex I, *supra* note 198, art. 2(1) (indicating that an IEE must contain sufficient detail to assess the level of environmental impact). Relevant information includes the purpose, location, duration, and intensity of the proposed activity and consideration of alternatives. *Id.*

203. See Annex I, *supra* note 198, art. 2(2) (allowing an activity which will have no more than a minor or transitory impact to proceed, if procedures are adopted to assess and verify the proposed activity's impact).

ity will have *more* than a minor or transitory impact, another document, called a Comprehensive Environmental Evaluation (CEE), must be prepared.²⁰⁴ The decision on whether to proceed is based on the final CEE.²⁰⁵

6. *Enforcement and Dispute Resolution*

To ensure compliance with this Protocol, the parties must adopt appropriate laws and regulations.²⁰⁶ When a party performs any activity that affects the implementation of the Protocol, it must notify the other parties of these measures.²⁰⁷ The Consultative Parties must also arrange inspections of the stations in Antarctica.²⁰⁸ The parties may create rules and procedures regarding damages arising from violations of the Protocol.²⁰⁹

Disputes arising from the Protocol are heard in either the International Court of Justice or the Arbitral Tribunal.²¹⁰ The Arbitral Tribunal lacks authority to decide any matter based on Article IV²¹¹ of the Treaty.²¹² The Arbitral Tribunal uses a *prima facie* standard in determining whether it has jurisdiction to resolve a dispute.²¹³

204. Annex I, *supra* note 198, art. 3(1). *See id.* art. 3(2) (listing the information that must be present in the CEE, such as a description of the proposed activity, a prediction of future environmental impact and the methods used to make the predictions, consideration of the activity's cumulative impact, identification of measures to minimize the impact, identification of unavoidable impacts, identification of gaps in knowledge and uncertainties, a non-technical summary, and the name and address of the CEE's preparer). A draft CEE must be forwarded to the Committee for Environmental Protection at least 120 days before the next Consultative Meeting. *Id.* art. 3(4). The draft CEE must also be made publicly available for comment. *Id.* at 3(3). The activity may not proceed until there has been opportunity for evaluation of the CEE by the Antarctic Treaty Consultative Meeting. *Id.* art. 3(5). A final CEE must be prepared which incorporates the comments received on the draft CEE. *Id.* art. 3(6).

205. Annex I, *supra* note 198, art. 4.

206. *See* Protocol, *supra* note 7, art. 13(3) (stating that the Parties 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").

207. Protocol, *supra* note 7, art. 13(3).

208. *See* Protocol *supra* note 7, art. 14(3) (stating that the inspections must be made in accordance with Article VII(3) of the Antarctic Treaty).

209. Protocol, *supra* note 7, art. 16.

210. *See* Protocol, *supra* note 7, art. 19(1) (stating that when signing, ratifying, accepting, approving or acceding to the Protocol, a Party may choose one or both means for resolution of future disputes). If a Party does not choose a form of dispute resolution, the Party will be deemed to have chosen the Arbitral Tribunal. *Id.* art. 19(3). Parties who have chosen different (or both) means of resolution shall submit their dispute to the Arbitral Tribunal, unless they agree otherwise. *Id.* art. 19(5).

211. *See supra* notes 95-103 and accompanying text (describing the scope of Article IV).

212. Protocol, *supra* note 7, art. 20(2).

213. Protocol, *supra* note 7, at Schedule to the Protocol: Arbitration, art. 6(1).

IV. PROTOCOL TO PROTECT THE ENVIRONMENT: APPLICATION

A. IMPLEMENTATION OF THE PROTOCOL

The Protocol will enter into force after all the Consultative Parties have ratified it.²¹⁴ The Protocol sets forth the means of implementation, but also allows the individual Parties to promulgate their own implementing legislation.²¹⁵ To this end, the United States House of Representatives introduced legislation which would implement the Protocol.²¹⁶

B. NECESSITY OF THE PROTOCOL

The October 4, 1991 Protocol is the most comprehensive statement on the Antarctic Environment to date. Whereas the CCAMLR dealt with one entire ecosystem,²¹⁷ the Protocol regulates all life on the

214. Protocol, *supra* note 7, art. 23. Article 23 provides as follows:

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 the 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.

Id. The Protocol instructs the Parties to deposit instruments of ratification with the United States government. *Id.* art. 22(3).

215. See Protocol, *supra* note 7, arts. 11-12 (explaining that the Committee for Environmental Protection will oversee the Treaty under the authority of the Consultative Parties); *id.* art. 13 (setting forth the means by which the Parties will ensure compliance with the Protocol, including adopting appropriate laws and regulations); *id.* art. 14 (providing for inspection of stations, installations, equipment, ships or aircraft); *id.* art. 15 (describing the means by which the Parties can respond to environmental emergencies); *id.* art. 16 (explaining that the Parties should develop rules and procedures with respect to liability for environmental damages); *id.* art. 17 (stating that the Parties must report the actions they have taken to implement the Protocol to the other Parties and to the Committee for Environmental Protection); *id.* arts. 18-20 (explaining the dispute resolution procedure); *id.* arts. 21-23 (describing how and when the Protocol will enter into force).

216. See *Administration Opposes House Bill That Would Implement Antarctica Treaty*, Int'l Env'tl. Daily (BNA) (July 2, 1992) (discussing the bill that would establish the National Oceanic and Atmospheric Administration as the implementing agency). The Executive Branch opposes the bill because it would rather have the National Science Foundation administering United States activities in Antarctica. *Id.* The Administration also opposes the bill because its provisions are more stringent than those of the Protocol. *Id.*

217. *Supra* note 132 and accompanying text.

Antarctic Continent.²¹⁸ Unlike the Agreed Measures,²¹⁹ the Protocol establishes a means of enforcing its aims,²²⁰ albeit only within the Antarctic Treaty system.²²¹

1. *Inability of the Antarctic Treaty System to Effectively Deal with Environmental Issues without the Protocol*

Without the Protocol there is insufficient regulation of actions which affect the Antarctic environment. The clearest example of this was the French effort to build an airstrip at Pointe Géologie.²²² The French government performed an environmental analysis,²²³ and construction began in 1982.²²⁴ Although many criticized the French environmental analysis,²²⁵ the government had no obligation to submit its plan to any international body for approval.²²⁶ Due to extensive protests by environ-

218. See Protocol, *supra* note 7, art. 2 (declaring the parties' commitment to all life in Antarctica). Article 2 states that "[t]he 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." *Id.*

219. *Supra* note 122 and accompanying text.

220. See *supra* notes 206-13 and accompanying text (explaining that the Protocol instructs the Parties to prepare implementing laws and regulations). Disputes are heard by either the Arbitral Tribunal or the International Court of Justice. *Id.*

221. Protocol, *supra* note 7, art 5. Article 5 entitled "Consistency with the Other Components of the Antarctic Treaty System" reads as follows:

The Parties shall consult and co-operate [sic] 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.

Id.

222. See Barnes, *Legal Aspects*, *supra* note 165, at 258 (describing the French plan). The French government planned to build an airstrip near their base at Pointe Géologie. *Id.* The move was controversial because the station monitored Emperor penguins, the rarest of all penguins, and environmentalists worried that the construction would jeopardize the penguins' existence. *Id.* Pointe Géologie was also recommended as a site for monitoring the Southern Ocean ecosystem. *Id.*

223. See Barnes, *Legal Aspects*, *supra* note 165, at 258 (stating that the French National Academy of Science characterized the French environmental analysis as "naïve" and inadequate). The French environmental analysis only considered the affects on fauna in the actual construction zone, and did not evaluate effects on nearby birds. *Id.*

224. See Barnes, *Legal Aspects*, *supra* note 165, at 258 (stating that the start of construction was secretive).

225. See *supra* note 223 and accompanying text (setting forth criticisms of the analysis).

226. See Barnes, *Legal Aspects*, *supra* note 165, at 258 (explaining that France did not submit its proposal to any international body or to any other country, and that France did not provide an opportunity for independent scientists or environmentalists to express views).

mental groups,²²⁷ French authorities temporarily halted construction in 1984²²⁸ and set up a committee of experts to reassess the impact of the airstrip.²²⁹ In the end, the French ignored the recommendation of the committee and continued construction.²³⁰ Commentators suggest the French were able to build the airstrip, regardless of environmental effects, because there were insufficient means of enforcing the Agreed Measures.²³¹

Had the Protocol been in force when the French proposed constructing the airstrip, they probably would not have built it. Under the Protocol, the French government would have had to prepare an Environmental Impact Statement,²³² and could not have commenced building without the consent of the Parties.²³³ Given the opposition to the airstrip,²³⁴ it is unlikely that the Parties would have approved the plan.

227. See, e.g. UPI, June 29, 1984, available in LEXIS, Nexis Library, UPI File, Keyword: Penguins (describing the protest of a group of ecologists from Greenpeace who dressed as penguins to demonstrate the damage being done to the Emperor penguins' breeding and feeding grounds by the construction of the French airstrip); *Police, Protestors Hurt in Demo Over Antarctic Airstrip*, Reuters North European Service, Dec. 6, 1984, available in LEXIS, Nexis Library, Reuters File (recounting a Greenpeace effort to stop a French-chartered boat from docking in Tasmania to protest the destruction of penguin breeding grounds and commenting that the French suspended construction pending consideration of a study); *Greenpeace Protests Against French Antarctic Airstrip*, Reuters, Feb. 26, 1987, available in LEXIS, Nexis Library, Reuters File (describing a Greenpeace protest at the Dumont d'Urville base in Antarctica); *Greenpeace Protestors Clash with French Workers in Antarctic*, Reuters, Jan. 9, 1989, available in LEXIS, Nexis Library, Reuters File (stating that Greenpeace staged two incidents at the Dumont d'Urville base in an effort to convince France to stop the construction); *Two Environmentalists Arrested for Antarctic Ship Stowaway*, Reuters, Feb. 4, 1992, available in LEXIS, Nexis Library, Reuters File (detailing the stowaway of two environmentalists on a French Antarctic supply ship in protest of the airstrip construction).

228. Barnes, *Legal Aspects*, *supra* note 165, at 259.

229. See Barnes, *Legal Aspects*, *supra* note 165, at 259 (stating that the team of experts unanimously requested that a new environmental impact statement be prepared by a multinational group of scientists).

230. See Barnes, *Legal Aspects*, *supra* note 165, at 259 (explaining that the construction continued even though ASOC circulated a briefing paper and an analysis of possible violations of the Treaty to the Consultative Parties and to the United Nations); see also *Greenpeace Protestors Clash with French Workers in Antarctic*, Reuters, Jan. 9, 1989, available in LEXIS, Nexis Library, Reuters File (stating that the airstrip is scheduled to be completed in 1992).

231. See VICUÑA, ANTARCTIC MINERAL EXPLOITATION, *supra* note 100 at 279 (asserting that although the Parties have promulgated measures which bind them, there are insufficient means of enforcement).

232. See *supra* notes 198-204 and accompanying text (setting forth the procedures for preparing an Environmental Impact Assessment).

233. See Annex I, *supra* note 198, arts. 3-4 (explaining that the Parties base their decisions upon the Comprehensive Environmental Evaluation prepared by the Party wishing to act).

234. See Barnes, *Legal Aspects*, *supra* note 165, at 259 (stating that both Australia and New Zealand asked France for more information about the consequences of the

Another example of the inability of the pre-Protocol system to effectively regulate the environment is the shipwreck of an Argentinean supply ship in 1989.²³⁵ As the ship sank, it released thousands of gallons of oil into Antarctic waters, jeopardizing the nearby ecosystems.²³⁶ Under the Protocol, the Parties would have been able to assess liability and damages against Argentina for harming the Antarctic environment.²³⁷

2. *Ineffectiveness of Using Domestic Legislation to Protect the Antarctic Environment*

Heretofore, the United States has been a leader in environmental law, and other countries have yet to exceed the standard set by the United States regarding extraterritorial²³⁸ application of environmental legislation.²³⁹ Whether Antarctica is considered a foreign country, thereby requiring extraterritorial treatment, is somewhat unclear.²⁴⁰ United States case law has indicated that the United States will not enforce its environmental laws extraterritorially unless there is a clear

construction after the reports were circulated); *see also Cousteau Calls on France to Stop Building Airstrip in Antarctic*, Reuters, Apr. 18, 1991, available in LEXIS, Nexis Library, Reuters File (referring to oceanographer Jacques Cousteau's appeal to the French government to halt construction on the airstrip to preserve the delicate ecological balance); *Greenpeace Accuses Australia Over French Antarctic Airstrip*, Reuters North European Service, Oct. 15, 1986, available in LEXIS, Nexis Library, Reuters File (explaining that the Australian Foreign Ministry in Canberra recommended that a French request for specialized equipment to be used in the airstrip construction be denied).

235. *See* Bruce C. Manheim, *Antarctica: The Fragile Last Frontier*, CHRISTIAN SCI. MONITOR, Mar. 23, 1989, at 19 (describing the shipwreck of the Argentinean ship, the *Bahia Parasio*, as the worst environmental disaster to ever occur in Antarctica).

236. *See id.* (explaining that the spill would endanger the existence of seals, penguins, and seabirds).

237. *See* Protocol, *supra* note 7, art. 16 (stating that the Parties may elaborate rules and procedures consistent with the objectives of the Protocol).

238. *See* BLACK'S LAW DICTIONARY 588 (6th ed. 1990) (defining extraterritoriality). "Extraterritoriality" is defined as "[the] operation [of laws] upon persons, rights, or jural relations, existing beyond the limits of the enacting state or nation, but still amenable to its laws." *Id.*

239. *See generally*, Recent Developments, *Extraterritorial Environmental Regulation*, 104 HARV. L. REV. 1609, 1617-39 (1991) (explaining that the extraterritorial practices of the United States are followed by most nations, therefore there is little extraterritorial application of environmental law).

240. *See* *Beattie v. United States*, 756 F.2d 91, 93-94 (D.C. Cir. 1984) (holding that because Antarctica is not subject to the sovereignty of any foreign state, it cannot be considered a foreign country); *contra* *Smith v. United States*, 932 F.2d 791, 792 (9th Cir. 1991) (disagreeing with *Beattie* and holding that Antarctica is a foreign country).

legislative intent to do so.²⁴¹ In fact, a recent case, *Environmental Defense Fund v. Massey*,²⁴² held that the National Environmental Policy Act (NEPA) did not apply to Antarctica.²⁴³ The United States House of Representatives has proposed legislation which would implement the Protocol,²⁴⁴ but because the Bush administration is opposed to the bill, it is unlikely to become law, let alone be enforced extraterritorially.²⁴⁵ There is little to suggest that other countries would be more willing to apply their environmental laws to Antarctica than the United States has been,²⁴⁶ so attention once again turns to the enforceability of the measures within the Antarctic Treaty system, namely the Protocol.

C. ENFORCEABILITY OF THE PROTOCOL

The chief problems with the Protocol are those that have plagued earlier measures: sovereignty and enforceability. The Protocol explicitly exempts the issue of sovereignty from matters which the Arbitral Tribunal may decide.²⁴⁷ Once again, the Parties have agreed to disagree.²⁴⁸ Earlier efforts within the Antarctic Treaty System to protect the Antarctic environment have been binding on the Parties, but because there are insufficient means of enforcement, they have been ineffective.²⁴⁹

241. See *Equal Employment Opportunity Comm'n v. Arabian Am. Oil Co.*, 111 S.Ct. 1227, 1230 (1991) (holding that absent clearly expressed legislative intent, legislation is presumed to apply only within the United States); *Defenders of Wildlife v. Lujan*, 911 F.2d 117 (8th Cir. 1990) (holding that the Endangered Species Act does not apply outside the United States because there is no explicit extraterritorial provision).

242. *Environmental Defense Fund v. Massey*, 772 F. Supp. 1296 (D.D.C. 1991).

243. See *id.* (holding that NEPA does not contain a clear expression of extraterritoriality and therefore does not extend to Antarctica). The Environmental Defense Fund (EDF) sought to enjoin the National Science Foundation (NSF) from incinerating garbage at McMurdo Station in Antarctica. *Id.* at 1297.

244. See *supra* note 216 and accompanying text (explaining that the proposed legislation contains provisions which are more stringent than the Protocol).

245. *Supra* note 216 and accompanying text.

246. See, e.g. VICUÑA, ANTARCTIC MINERAL EXPLOITATION, *supra* note 100, at 280 (stating that extraterritorial application of British law would require specific legislative authority, of which there is currently no indication); Int'l Env'tl. Rep. (BNA) (July 31, 1991) (stating that Argentina currently has no broad, standard-setting legislation).

247. *Supra* note 211 and accompanying text.

248. See *supra* notes 137, 151-52 and accompanying text (explaining that the previous agreements regarding the Antarctic environment have refused to resolve the sovereignty issue, but rather have maintained a somewhat uneasy compromise by making the topic a non-issue).

249. See VICUÑA, ANTARCTIC MINERAL EXPLOITATION, *supra* note 100, at 279-80 (commenting that the lack of enforcement procedures has led to disregard of environmental guidelines).

The problem of enforceability²⁵⁰ is one which none of the Antarctic environmental measures have fully resolved.²⁵¹ The Protocol is unlikely to be any more successful. The Protocol provides for the establishment of enforcement measures,²⁵² but because they will operate within the Antarctic Treaty System, there will be insufficient administrative support to ensure compliance.²⁵³

It is unlikely that third parties will be bound by the Protocol²⁵⁴ because there is little indication that the Protocol was intended to reach non-parties.²⁵⁵ If it is not possible to enforce the provisions of the Protocol against third parties, the Protocol will be unable to fulfill its stated purpose of protecting the Antarctic environment.²⁵⁶ Third parties will be able to begin or continue activities which have adverse environmental impact without fear of liability.

Even assuming, *arguendo*, that the documents which make up the Antarctic Treaty System, including the Protocol, bind third parties under either customary international law²⁵⁷ or the objective treaty the-

250. See *supra* notes 141, 155-56 and accompanying text (explaining that it is unlikely that third parties are bound by the Antarctic Treaty System). Within the Antarctic Treaty System, the likelihood that a Party will report another's environmental infractions is slight, because to this time no Party has reported against another. MYHRE, *supra* note 30, at 126.

251. See *supra* notes 141, 155-56 and accompanying text (explaining why the enforcement measures under the CCAMLR and the CRAMRA are insufficient).

252. See Protocol, *supra* note 7, art. 13 (stating that the Parties shall take appropriate measures to ensure compliance with the goals of the Protocol).

253. See *supra* notes 111-18 and accompanying text (explaining that the Parties' reluctance to set up any type of administrative system has resulted in an inability to enforce the measures which make up the Antarctic Treaty system). See also *NSF Hopes Antarctica Waste Disposal Rule Will Become Effective By March 1993*, Int'l Envtl. Daily (BNA) (July 9, 1992) (reporting that although the United States supports a permanent secretariat, Argentina opposes the idea due to cost).

254. See *supra* notes 100-02 and accompanying text (discussing how third parties may be bound by treaties).

255. See Protocol, *supra* note 7, art. 6 (setting forth the obligations of the Parties with regard to the protection of the environment, but not mentioning the role of non-parties); *id.* art. 8 (discussing how the Parties should assess the environmental impact of their activities, but not stating that non-parties are obliged to prepare Environmental Impact Assessments); *but see id.* art. 13(5) (stating the Consultative Meetings shall make any non-party State aware of any of its activities that affect the implementation of the purposes of the Protocol).

256. Protocol, *supra* note 7, art. 3. The Protocol instructs the Parties to inform non-Party states if their actions do not comply with the principles and objectives of the Protocol. *Id.* art. 13(5). It does not, however, specifically include non-Parties in the dispute resolution process. *Id.* arts. 18-20.

257. See TRIGGS, INTERNATIONAL LAW, *supra* note 43, at 147-50 (considering the argument that Article IV creates a customary norm, and rejecting the contention because States generally do not recognize the validity of Antarctic claims).

ory,²⁵⁸ it is still unlikely that the Protocol could be enforced. Thus, the Protocol leaves Antarctica in essentially the same vulnerable position as the earlier measures did. The Antarctic Treaty system has promulgated worthy environmental legislation that cannot be enforced given the inadequacies of the system.

RECOMMENDATIONS

The Antarctic Treaty system has successfully maintained the status quo for over thirty years.²⁵⁹ Given its loose construction,²⁶⁰ however, it has been unable to respond to the growing need to protect the Antarctic environment.²⁶¹ Accordingly, it is necessary to restructure the administration of Antarctica.

Currently, environmental treaties are viewed as ineffective because they lack enforcement mechanisms.²⁶² In order for the new Antarctic administration to be effective, it must create a system in which rules concerning the environment can be enforced. The first hurdle to overcome is the sovereignty issue. This can be achieved by establishing a condominium regime.²⁶³ A condominium regime is feasible because it does not require any of the claimant states to relinquish their rights,²⁶⁴ but rather to pool them with the other nations. Although this system would resolve the sovereignty issue, it would still require an authoritative entity.²⁶⁵

In light of the increased role of the United Nations in world politics following the Persian Gulf war,²⁶⁶ it seems a natural choice. The Gen-

258. See TRIGGS, *INTERNATIONAL LAW*, *supra* note 43, at 140-47 (describing how the objective theory of treaties makes it possible to apply treaty provisions to third parties, but concluding that the Treaty, by itself, does not create an objective regime).

259. See Willy Østreng, *The Conflict and Alignment Pattern of Antarctic Politics: Is a New Order Needed?*, in *THE ANTARCTIC SYSTEM IN WORLD POLITICS* 433, 433 (Arnfinn Jørgensen-Dahl & Willy Østreng eds., 1991) (observing that the Antarctic Treaty system has maintained peace, stability, and scientific cooperation in Antarctica).

260. *Supra* notes 114-18.

261. See *supra* notes 3 & 10 and accompanying text (describing the increased realization that Antarctica is environmentally crucial to both its own ecosystems and to the Earth as a whole).

262. See Ronald A. Taylor, *U.N. Pact is a Spur, Not a Law*, *WASH. TIMES*, May 24, 1992 at A6 (remarking that one of the few effective methods of enforcing environmental agreements is moral duty).

263. See BLAY, *ANTARCTICA AFTER 1991*, *supra* note 3, at 14 (stating that under a condominium regime, the Parties would pool their rights and interests). The rights to Antarctica would be shared equally between claimants and non-claimants. *Id.*

264. See *supra* note 70 (defining the term "multiple condominium").

265. *Supra* note 70.

266. *World Leaders Optimistic on Future; UN Declaration*, *FIN. TIMES*, Feb. 1, 1992 at 3.

eral Assembly would likely support this selection given its earlier enthusiasm over the World Park concept.²⁶⁷ Antarctica could be administered by the United Nations Commission on Environment and Development (UNCED), which likely will play a larger geopolitical role following the June 1992 UNCED Conference. Antarctica would thus be turned over to a group which is concerned about its environment and would receive the benefits of a pre-existing administrative structure. The claimant nations, although required to pool their claims, would not surrender their interests to any one nation, but rather, maintain an interest which is shared by the global community.

CONCLUSION

The Protocol is an excellent example of environmental policy, but nevertheless has weaknesses in the areas of sovereignty and enforceability.²⁶⁸ For the first time, a piece of environmental regulation promulgated within the Antarctic Treaty has established a working administrative body to ensure that its policies are followed.²⁶⁹ The Protocol establishes an elaborate system to assure that no new environmentally harmful activities will take place on the continent. Unfortunately, it is unlikely that any of these policies will ever be enforced because they were crafted in a system which refuses to establish any type of administrative control. Therefore, it is necessary to refurbish the Antarctic system by entrusting its management to the United Nations.

267. *Supra* note 161 and accompanying text.

268. *Supra* notes 245-56 and accompanying text.

269. *Supra* notes 195-97.