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INTRODUCTION

Celebrating its 50th anniversary in 2009, the Antarctic Treaty[1] has been hailed as a successful model of international cooperation.[2] Such praise primarily stems from the continued cooperative governance of Antarctica for peaceful and scientific purposes, largely preventing Antarctica's disputed territorial claims from escalating into an international land feud.[3] By postponing the resolution of territorial claims in Antarctica, the Antarctic Treaty enabled the establishment of a system of governance founded on international cooperation. To date, this system of governance has worked relatively well to prevent excessive territorial resource exploitation. The same cannot be said, however, for the exploitation of the continent's aquatic

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1. Antarctic Treaty, Dec. 1, 1959, 12 U.S.T. 794, 402 U.N.T.S. 71.

2. Donald K. Anton, *False Sanctuary: The Australian Antarctic Whale Sanctuary and Long-Term Stability in Antarctica*, 8 SUSTAINABLE DEV. L. & POL'Y 17, 17 (2008).

3. Martin Lishexian Lee, *A Case for World Government of the Antarctic*, 9 GONZ. J. INT'L L. 73, 75 (2005).

resources.

The Antarctic Treaty was never intended to govern aquatic resources; expressly excluding the high seas from its application.[4] With the high seas outside the scope of the Antarctic Treaty, the regulation of the high seas and its resources fall under the current system of ocean governance, commonly known as the Law of the Sea. Under the Law of the Sea, territorial sovereignty is a necessary predicate for the application of sovereignty and sovereign rights over adjacent ocean space.[5] The lack of any territorial sovereignty on the continent of Antarctica precludes the extension of both sovereignty and sovereign rights over the adjacent Southern Ocean.[6] Consequently, the high seas begin at the continent's edge.

The Law of the Sea provides that in the high seas, all States possess rights collectively referred to as "high seas freedoms."[7] Included within these freedoms is the "freedom of fishing," which grants every State the right of access and exploitation to resources located on the high seas.[8] With every State possessing the equal right to exploit high seas resources, the management of those resources is achievable only through international treaties. Due to the classification of Antarctica's adjacent ocean space as high seas, international treaties for the management of Antarctica's marine living resources – such as the 1972 Convention for the Conservation of Antarctic Seals (Seals Convention)[9] and the Convention for the Conservation of Antarctic Marine Living Resources (CCAMLR)[10] – were adopted to address gaps left by the lack of municipal law. Although CCAMLR established a comprehensive management regime for Antarctica's marine living resources, its effectiveness is constrained by the inherent limitations of international treaties; namely, the inability to

4. Antarctic Treaty, *supra* note 1, at art. VI.

5. *See* United Nations Convention on the Law of the Sea, art. 2, Dec. 10, 1982, 1833 U.N.T.S. 397 [hereinafter UNCLOS].

6. *Id.*

7. *Id.* at art. 87.

8. *Id.* at art. 116.

9. Convention for the Conservation of Antarctic Seals, *opened for signature* June 1, 1972, 29 U.S.T. 441 [hereinafter Seals Convention].

10. Convention on the Conservation of Antarctic Marine Living Resources, *opened for signature* May 20, 1980, 33 U.S.T. 3476, 1329 U.N.T.S. 47 [hereinafter CCAMLR].

enforce treaty provisions against non-party States.[11] Lack of CCAMLR's enforcement against all States participating in Southern Ocean commercial fisheries has resulted in the exploitation of fisheries beyond sustainable levels.[12] In the absence of regulations with greater enforceability, commercial fisheries in the Southern Ocean are likely to be harvested to the point of over-exploitation or collapse, threatening the stability of Antarctica's ecosystem.

This Comment addresses how the lack of territorial sovereignty in Antarctica has affected the ability to implement enforceable fishery management measures in the Southern Ocean. It suggests that the lack of enforceability of international agreements against non-party States has resulted in the current regime's ineffectiveness in sustainably managing Antarctica's marine living resources. It further suggests, at least in the context of fishery management, that resolving the issue of sovereignty in Antarctica would greatly improve the effectiveness of fishery regulation, primarily through strengthening enforcement measures. Part I of this Comment provides the context for Antarctic fishery management by briefly describing Antarctica and the general state of the world's fisheries. Part II addresses the current management regime of Antarctica — its history leading up to the current state of affairs. Part III examines the applicable international instruments governing fishery resources in the Southern Ocean. Part IV discusses the establishment of sovereignty in Antarctica, focusing on the particular form sovereignty would take (a territorial versus an international regime), as well as the effects of sovereignty on fishery management. Part V concludes with a discussion of some of the problems associated with establishing sovereignty in Antarctica.

I. BACKGROUND

Antarctica's geographic isolation coupled with its harsh

11. *See* Rachel Baird, *Fishing the Southern Ocean: The Development of Fisheries and the Role of CCAMLR in their Management*, 16 U. TAS. L. REV. 160, 168-69 (1997).

12. *See id.* at 175 (discussing the demise of the *N. Rossii* stock (fin fish species) below levels sufficient to sustain an economically viable commercial fishery).

climate conditions has, until recently, functioned as a protective shield, preventing all but the most determined from exploiting the continent's resources.[13] The advent of new technologies has brought the ability to overcome the natural obstacles which, until recently, served as a barrier to the exploration and exploitation of Antarctica. For example, advances in fishing technologies such as echosounders, improvements in fishing gear efficiency, mesh size and bycatch reduction, the development of species and size-selective commercial fishing methods, as well as improvements in safety and fuel consumption have expanded the capacity of fishing fleets.[14] Fishing fleets are no longer geographically restrained, but are able to travel further afield and capable of withstanding extreme weather and environmental conditions.[15] Similarly, advances in technology have provided the capability to extract previously unreachable resources.[16] Add to the mix the increasing scarcity of natural resources and an estimated world population of over 6.7 billion,[17] and Antarctica is rapidly gaining attention as an untapped source of minerals, fuel energy, food and fresh water.[18]

Currently, the state of the world's fisheries indicates a fishing crisis: only 25% percent of fish stocks are harvested within their sustainable limits.[19] The remaining 75% percent of fish stocks are fully exploited, overexploited or depleted.[20] The status of fisheries

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13. Philip Bender, *A State of Necessity: IUU Fishing in the CCAMLR Zone*, 13 OCEAN & COASTAL L.J. 233, 233 (2008).

14. Stephen J. Walsh et al., *Improving Fishing Technology to Catch (of Conserve) More Fish: the Evolution of the ICES Fishing Technology and Fish Behavior Working Group During the Past Century*, 1-6 (2000), *available at* http://wgftfb.org/publications/history html files/history.pdf. *See also* ELLIOTT A. NORSE ET AL., *Place-Based Ecosystem Management in the Open Ocean*, *in* MARINE CONSERVATION BIOLOGY 302, 315 (Elliott A. Norse & Larry B. Crowder, eds., 2005).

15. *See* NORSE ET AL., *supra* note 14, at 315.

16. Allan Young, Note, *Antarctic Resource Jurisdiction and the Law of the Sea: A Question of Compromise*, 11 BROOK. J. INT'L L. 45, 46 (1985).

17. Estimated world population for 2009. CIA WORLD FACTBOOK https://www.cia.gov/library/publications/the-world-factbook/index.html (expand the "People" menu) (last visited Jan. 21, 2010).

18. Young, *supra* note 16, at 45.

19. U.N. FOOD & AGRIC. ORG. (FAO), THE STATE OF THE WORLD FISHERIES AND AQUACULTURE 29 (FAO Fisheries & Agric. Dept. ed., 2007), *available at* http://www.fao.org/docrep/009/A0699e/A0699e00.htm [hereinafter FAO].

20. *Id.* Fully exploited fish stocks are stocks currently harvested at a maximum level that sustains their population. *See* Katrina M. Wyman, *The Property Rights Challenge in Marine Fisheries*, 50 ARIZ. L. REV. 511, 524

in the Southern Ocean[21] is only slightly better, with 60% of the fish stocks either fully or overexploited.[22] While total fish production has increased to 142 million tonnes annually,[23] the amount of fish biomass[24] in the world's oceans has decreased significantly.[25] The resulting problem is increased fishing effort for fewer fish.

Comprising 8% of the world's ocean space[26] and having one of the world's highest concentrations of life, the Southern Ocean has a long history of exploitation beginning in 1790 with the harvesting of seals.[27] By 1825, seal populations in the Southern Ocean had been harvested to near extinction.[28] From 1825 to present, the sealing industry enjoyed only minor revivals with the last known substantial harvest occurring during 1983-1984 fishing season.[29] To date, seal populations are increasing with

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(2008). Overexploited and depleted stocks refer to fisheries that either are or have been harvested at a level that prevents them from sustaining their population. *Id.*

21. For the purpose of this Comment, the Southern Ocean is defined as the area south of 60° South latitude in accordance with Article I of CCAMLR. CCAMLR, *supra* note 10, at art. I.

22. Serge M. Garcia et al., *Global Trends in the State of Marine Fisheries Resources 1974-2004, in* FAO FISHERIES TECHNICAL PAPER 457 REVIEW OF THE STATE OF WORLD MARINE FISHERY RESOURCES, figure A2.2 (FAO Fisheries ed., 2005), *available at* http://www.fao.org/docrep/009/y5852e/Y5852E02.htm#ch1.

23. FAO, *supra* note 19, at 3.

24. Biomass is defined as the total quantity or weight of organisms in a given area or volume. OXFORD ESSENTIAL DICTIONARY 57 (Berkley 1998).

25. *See* Jorge Csirke, *Global Production and State of Marine Fishery Resources, in* FAO FISHERIES TECHNICAL PAPER 457 REVIEW OF THE STATE OF WORLD MARINE FISHERY RESOURCES, ¶ 6 (FAO Fisheries ed., 2005), *available at* http://www.fao.org/docrep/009/y5852e/Y5852E02.htm#ch1.1. A 10-year study indicates that over the last 50 years, the biomass of large predatory fish has decreased by 90%. *See* Benjamin K. Sovacool & Kelly E. Siman-Sovacool, *Creating Legal Teeth for Toothfish: Using the Market to Protect Fish Stocks in Antarctica*, 20 J. ENVTL. L. 15, 16 (2008). A recent estimate places the world's fish biomass at two billion tonnes. Press Release, University of British Columbia, UBC Researcher Gives First-Ever Estimate of Worldwide Fish Biomass and Impact on Climate Change (Jan. 21, 2010), *available at* http://www.publicaffairs.ubc.ca/media/releases/2009/mr-09-005.html.

26. GEORGE A. KNOX, BIOLOGY OF THE SOUTHERN OCEAN 476 (2d ed. 2007).

27. Ross Shotton, *Southern Ocean FAO Statistical Areas 48, 58 and 88, in* FAO FISHERIES TECHNICAL PAPER 457 REVIEW OF THE STATE OF WORLD MARINE FISHERY RESOURCES, ¶ 3 (FAO Fisheries ed., 2005), *available at* http://www.fao.org/docrep/009/y5852e/Y5852E07.htm#ch2.17.

28. *Id.*

29. KNOX, *supra* note 26, at 458-59.

some areas supporting population levels that are thought to be 78-94% greater than historic levels.[30] Whaling began in the region in 1904 and continued until 1987 with the enactment of the moratorium on whaling.[31] The close of the sealing industry coupled with the whaling moratorium has allowed Antarctica's marine mammal populations to begin recovering from the heavy exploitation pressures that once existed.[32]

Commercial fishing in the Southern Ocean is a relatively recent development.[33] Attempts to exploit Antarctic fish populations date back to the 1900s; however, successful large-scale commercial fisheries did not develop until the late 1960s.[34] Of the 270 fish species known to inhabit the Southern Ocean, only twelve are or have been commercially exploited. Past commercially exploited fish species include lanternfish, mackerel icefish, marbled rockcod, and Patagonian rockcod.[35] However, the majority of these species have been intensely overfished to the point where commercial fisheries are no longer viable.[36] At present, the most lucrative fishery within the Southern Ocean is the Patagonian toothfish,[37] which in the 2004 fishing season comprised 63% percent of the catch by weight.[38] To date, approximately nine million tonnes of fish and krill have been

30. Dominic A. Hodson and Nadine M. Johnston, *Inferring Seal Populations From Lake Sediments*, 387 NATURE 30, 30-31 (1997).

31. Shotton, *supra* note 27, at ¶¶ 3, 9. The International Whaling Commission (IWC) governs the conservation of whales and enacted a moratorium on whale harvesting in 1986 due to the lack of scientific certainty of whale stocks. International Whaling Commission (IWC), http://www.iwcoffice.org/commission/iwcmain.htm (last visited Jan. 29, 2010).

32. *See* KNOX, *supra* note 26, at 459, 465.

33. Karul-Hermann Knock et al., *Fisheries in the Southern Ocean: An Ecosystem Approach*, 362 PHILOS. TRANS. R. SOC. B 2333, 2334-2335 (2007). Commercial fishing in the Southern Ocean did not start until the late 1960s, and krill harvesting is even more recent, not having started until 1970s. *Id.*

34. *See* KNOX, *supra* note 26, at 454-55.

35. *Id.* at 455.

36. *Id.*

37. Patagonian Toothfish refers to Patagonian Toothfish (*Dissostichus eleginoides*) and Antarctic Toothfish (*Dissostichus mawsoni*), both of which are commercially fished and marketed as Chilean Sea Bass. Kevin W. Riddle, *Illegal, Unreported, and Unregulated Fishing: Is International Cooperation Contagious?*, 37 ODIL 265, 267 (2006); Sovacool & Siman-Sovacool, *supra* note 25, at 16-17.

38. Shotton, *supra* note 27, at ¶ 5.

harvested.[39]

The extreme environmental conditions of Antarctica and the Southern Ocean have influenced the ability of Antarctic fish species to recover from commercial exploitation.[40] Characteristics such as late age of sexual maturity and low growth rates have increased their susceptibility to overfishing, even at levels of low fishing activity.[41] As a result, fish not having reached sexual maturity tend to comprise a significant portion of the commercial catch, leading to the phenomenon of recruitment overfishing.[42] Recruitment overfishing occurs when the rate of fishing has depleted the stock to the point where the number of fish reaching sexual maturity is depressed such that the reproduction capacity of the stock is unable to keep up with the fishing pressure.[43] Over time, recruitment overfishing inhibits the ability of fish populations to recover from exploitation and eventually leads to collapse.[44]

The current management regime for marine living resources in the Southern Ocean is the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR).[45] CCAMLR, as an international treaty, is limited in the enforcement of its provisions. Its ability to enforce regulations regarding the management of Antarctica's marine living resources is restricted to only those States actually party to CCAMLR.[46] States not

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39. *Id.*

40. *See* Jennifer Angelini & Andrew Mansfield, Comment, *A Call for U.S. Ratification of the Protocol on Antarctic Environmental Protection*, 21 ECOLOGY L.Q. 163, 170 (1994). The slow maturity of Antarctic marine species due to cold water temperatures increases the time needed for commercially exploited stocks to recover.

41. KNOX, *supra* note 26, at 457.

42. *Id.*

43. *See id.*

44. Charles H. Peterson, *Recruitment Overfishing in a Bivalve Mollusc Fishery: Hard Clams (Mercenaria mercenaria) in North Carolina*, 59 CAN. J. FISH. AQUAT. SCI. 96, 96 (2002).

45. Andrew Clarke and Colin Harris, *Polar Marine Ecosystems: Major Threats and Future Change*, 30 ENVIR. CONS. 1, 18 (2003). A more detailed discussion of CCAMLR is provided in Part II(B) of this Comment.

46. Vienna Convention on the Law of Treaties, art. 26, May 23, 1969, 1155 U.N.T.S. 331, 8 I.L.M. 679 [hereinafter Vienna Convention], *available at* http://untreaty.un.org/ilc/texts/instruments/english/conventions/1_1_1969.pdf (discussing international treaties generally and how treaties that are in force are binding upon only the parties to it).

party to CCAMLR are able to disregard CCAMLR's regulations when exploiting Antarctica's marine living resources.[47] Given that the high seas is, by definition, an area of open access where all States have a right to resources contained within,[48] States exploiting marine living resources in the Southern Ocean are not necessarily party to CCAMLR. In fact, a number of States participating in the commercial exploitation of the Southern Ocean have not signed onto CCAMLR and are thus not bound by its regulations.[49] Inability to enforce CCAMLR against all users of Antarctica's marine living resources has created a need for a regulatory framework with enforcement capability against all States engaged in the exploitation of Antarctica's marine living resources.

II. CURRENT MANAGEMENT REGIME

Antarctica and the Southern Ocean are managed through an intricate network of international treaties and agreements. In exploring the relationship among sovereignty, enforcement and fisheries management within Antarctica, this Comment focuses on those instruments that affect the ability to sustainably manage fisheries in the Southern Ocean, namely, the 1982 United Nations Convention on the Law of the Sea (UNCLOS)[50] and the various treaties and agreements comprising the Antarctic Treaty System (ATS).

The Antarctic Treaty is the bedrock of Antarctica's current management regime.[51] It details the mechanisms that currently govern Antarctica, but is limited in its application to terrestrial matters.[52] The Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR) is the Antarctic Treaty's marine counterpart. It regulates Antarctica's marine living resources, exclusive of whales and seals, which are covered under

47. *See id.*

48. UNCLOS, *supra* note 5, at art. 87.

49. *See* Australian Antarctic Division, *CCAMLR Continues Efforts to Protect Toothfish*, http://www.aad.gov.au/ default.asp?casid=2051 (last visited Jan. 21, 2010).

50. UNCLOS, *supra* note 5.

51. *See* Steve T. Madsen, Comment, *A Certain False Security: The Madrid Protocol to the Antarctic Treaty*, 4 COLO. J. INT'L ENVTL. L. & POL'Y 458, 459-60 (1993).

52. *See generally* Antarctic Treaty, *supra* note 1.

separate international agreements.[53] Together, the Antarctic Treaty and CCAMLR comprise a complementary resource regulation regime; the Antarctic Treaty regulating terrestrial resources on the Antarctic continent[54] and CCAMLR regulating the marine resources in the Southern Ocean.[55]

UNCLOS is a separate international treaty detailing the current system of ocean governance.[56] UNCLOS essentially divides the world's oceans into different zones with each zone categorized by the degree of sovereign rights a coastal State can exert.[57] UNCLOS delineates seven zones: internal waters, territorial sea, the contiguous zone, archipelagic waters, the economic exclusive zone (EEZ), the continental shelf, and the high seas.[58] In all zones except the high seas, a coastal State can exercise some degree of sovereign rights.[59] The lack of a coastal State's ability to exercise sovereign rights over the high seas[60] in effect creates an ocean "commons" with all States possessing the right to use and exploit the resources contained therein.[61]

A. The Antarctic Treaty System (ATS)

ATS is comprised of six instruments,[62] the cornerstone of

53. CCAMLR, *supra* note 10, at art. VI. The management of Antarctica's seals is regulated under the Seals Convention while the management of whaling is regulated by the International Whaling Commission. *See generally* Seals Convention, *supra* note 9; IWC, *supra* note 30.

54. *See* Antarctic Treaty, *supra* note 1, at art. VI.

55. *See* CCAMLR, supra note 10, at art I.

56. *See* Peter Prows, *Tough Love:The Dramatic Birth and Looming Demise of UNCLOS Property Law (and What is to Be Done About It)*, 42 TEX. INT'L L.J. 241, 243 (2007).

57. *See generally* UNCLOS, *supra* note 5.

58. *See* UNCLOS, *supra* note 5, at art. 8 (internal waters), art. 2-4 (territorial sea), art. 33 (contiguous zone), art. 49 (archipelagic waters), art. 55-57 (EEZ), art. 76-78 (continental shelf) and art. 86-90 (high seas).

59. *See generally* UNCLOS, *supra* note 5.

60. *Id.* at art. 89.

61. *See id.* at art. 87. For a detailed analysis of the impacts associated with a shared limited resource, see Garrett Hardin, *The Tragedy of the Commons*, 162 SCIENCE 1243-1248 (1968), *available at* dieoff.org/page95.htm.

62. *See* Sovacool & Siman-Sovacool, *supra* note 25, at 21-22. Antarctic Treaty, *supra* note 2; the 1964 Agreed Measures for the Conservation of Antarctic Fauna and Flora (*effective* Sep 1, 1966, 17 U.S.T. 991 [hereinafter Agreed Measures]); the 1972 Convention for the Conservation of Antarctic Seals, *supra* note 9; the 1980 Convention on the Conservation of Antarctic Marine Living Resources, *supra* note 10; 1988 Convention for the Regulation

which is the 1959 Antarctic Treaty, which entered into force in 1961.[63] The Antarctic Treaty is essentially a by-product of international tensions stemming from the political climate at the time: the Cold War.[64] The international consensus of Antarctica as *terra nullius* — land owned by no-one — opened the continent to an international land grab as various States asserted territorial claims over portions of Antarctica.[65] Britain asserted the first formal claim to Antarctica, first for itself, and later on behalf of its colonies, New Zealand and Australia.[66] France, without setting foot on the continent, followed suit by claiming Terre Adélie.[67] Norway, fearing a competing claim by Germany, claimed Dronning Maud Land.[68] Argentina and Chile each asserted claims based on various principles, including, geographical contiguity and the right of legal inheritance from Spain.[69] Japan, in response to Chile's claim, formally reserved rights in Antarctica, and both the United States and the former Soviet Union (now Russia) refused to recognize the various land claims, while at the same time reserving the right to make claims of their own.[70] Competing land claims, the Cold War, and the successful scientific cooperation in Antarctica in the wake of the

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of Antarctic Mineral Resource Activities (*opened for signature* June 2, 1988, 27 I.L.M. 868 [hereinafter CRAMRA]), and the 1991 Protocol on Environmental Protection to the Antarctic Treaty (Oct. 4, 1991, 30 I.L.M. 1455 (1991) [hereinafter Madrid Protocol]). CRAMRA is legally dead due to its rejection by Australia and France in 1989. Angelini & Mansfield, *supra* note 40, at 192; *see also* Madsen, *supra* note 51, at 464. The regulation of mineral exploitation has since been addressed in articles VII and XXV of the Madrid Protocol placing a prohibition on mineral exploitation. Madrid Protocol, *supra* note 62.

63. *See* Antarctic Treaty, *supra* note 1.

64. Lee, *supra* note 3, at 75; Angelini & Mansfield, *supra* note 40, at 182.

65. *See* LORRAINE M. ELLIOT, INTERNATIONAL ENVIRONMENTAL POLITICS PROTECTING THE ANTARCTIC 26 (St. Martin's Press 1994).

66. *Id.*

67. *Id.* at 26-27. Terre Adélie, which is in the southeast part of East Antarctica, is the name of the section of Antarctica claimed by France.

68. *Id.* at 27. Dronning Maud Land is the name of the section of Antarctica claimed by Norway, which is in the northern portion of Antarctica.

69. *Id.* Both Chile and Argentina maintain claims to Antarctica based on historic right, contiguity and proximity, geological affinity, and Pan-American primacy. *See* Patrick Bergin, *Antarctica, the Antarctic Treaty Regime, and Legal and Geopolitical Implications of Natural Resource Exploration and Exploitation*, 4 FLA. INT'L L.J. 1, 10-13 (1988).

70. ELLIOT, *supra* note 65, at 27.

International Geophysical Year (IGY)[71] together formed the catalyst for the negotiation of the Antarctic Treaty.[72]

At its core, the Antarctic Treaty revolves around three principles: (1) the suspension of territorial claims, (2) international scientific cooperation, and (3) the use of Antarctica for peaceful purposes.[73] The treaty established Antarctica as a neutral continent where the interests of science prevail. Its provisions on the prohibition of military use and nuclear activities effectively transformed Antarctica into the first nuclear-free zone.[74] The Antarctic Treaty takes no position as to the validity of States' territorial claims.[75] Instead, it freezes all territorial claims,[76] leaving unresolved the issue of sovereignty in Antarctica. To date, the Antarctic Treaty has been considered successful in its governance of Antarctica.[77] However, increasing economic pressures to exploit Antarctica's potential resources may strain the status quo to the point where the resolution of territorial claims becomes necessary.

The Antarctic Treaty, in theory, is an open membership agreement. Under Article XIII, any member State of the United Nations may accede to the treaty, and any non-United Nations member State may accede upon invitation by the Contracting Parties (those States party to the Antarctic Treaty).[78] For the purposes of decision making, membership is divided into two categories: States with Consultative Party status and those with Non-Consultative Party status.[79] Of the forty-nine States that have acceded to the Antarctic Treaty, twenty-eight have

71. The International Geophysical Year (IGY) was designed to facilitate cooperation among States using the medium of science. From July 1957 – December 1958, a total of twelve States participated in scientific research aimed at observing various geophysical phenomena with a particular emphasis on Antarctica. *See id.* at 30; Bergin, *supra* note 69, at 19-20.

72. *See* ELLIOT, *supra* note 65, at 30-32.

73. *See id.* at 35-36.

74. Antarctic Treaty, *supra* note 1, at art. I, art. V.

75. *See generally id.*

76. *Id.* at art. IV.

77. *See* Marie Jacobsson, *The Antarctic Treaty System: Legal and Environmental Issues – Future Challenges for the Antarctic Treaty System, in* ANTARCTICA: LEGAL AND ENVIRONMENTAL CHALLENGES FOR THE FUTURE 1, 3 (Gillian Triggs & Anna Riddell eds., 2007).

78. Antarctic Treaty, *supra* note 1, at art. IV.

79. Angelini & Mansfield, *supra* note 40, at 183.

Consultative Party status and the remaining nineteen have Non-Consultative Party status.[80] In order to achieve Consultative Party status, and thus participate in decision making, a Contracting State must maintain "substantial scientific research activity" in Antarctica.[81] States acceding to the Antarctic Treaty but not meeting the "substantial scientific research activity" requirement are automatically granted Non-Consultative Party status and are unable to vote on recommendations affecting the governance of Antarctica.[82]

This two-tiered membership system effectively limits participation in the governance of Antarctica to States wealthy enough to finance scientific research in Antarctica. As a result, a growing number of States, especially those in the developing world, view the Antarctic Treaty as creating an elite "club," managing Antarctica's resources for its exclusive benefit;[83] resources the developing world views as belonging to the international community. The view of the Antarctic Treaty Consultative Party members as an elite club has resulted in the refusal by nearly all States to recognize any territorial claims to Antarctica.[84] In addition, there is mounting pressure to designate Antarctica as a "common heritage of mankind" and manage it under a separate authority.[85]

Two issues absent from the Antarctic Treaty, but subsequently addressed in later-enacted instruments, were

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80. Bureau of Oceans and International Environmental and Scientific Affairs, *Antarctic Treaty Fact Sheet*, http://www.atcm2009.gov/c26719.htm (last visited Jan. 21, 2010).

81. Antarctic Treaty, *supra* note 1, at art. IX; Angelini & Mansfield, *supra* note 40, at 184. Unanimous decisions are required for recommendations to become binding on both Consultative and Non-Consultative parties. Angelini & Mansfield, *supra* note 40, at 184. India has effectively blocked all recommendations from 1983 to present from coming into force by not ratifying any recommendations since attaining Consultative status in 1983. *Id.*

82. *See* ELLIOT, *supra* note 65, at 39.

83. *See id.* at 48.

84. *See* Jennifer Frakes, Comment, *The Common Heritage of Mankind Principle and the Deep Seabed, Outer Space, and Antarctica: Will Developed and Developing Nations Reach a Compromise?*, 21 VIS. INT'L L.J. 409, 430 (2003).

85. See Scott J. Shackelford, *The Tragedy of the Common Heritage of Mankind*, 28 STAN. ENVTL. L. J. 109, 114 (2009).

resource exploitation and environmental protection.[86] At the time of its creation, the Antarctic Treaty was viewed primarily as a security agreement by the signatory States to prevent international conflict form erupting in Antarctica.[87] Resource exploitation and environmental protections took a back seat and were not substantively addressed. Over time, implementation of the Antarctic Treaty led to the realization that certain issues were either not covered as thoroughly as previously thought or not covered at all. As a result, several agreements covering various issues, including environmental protection and resource exploitation, have since been ratified or enacted under the Antarctic Treaty such as CCAMLR[88] and the Madrid Protocol.[89] Of the various agreements that addressed resource exploitation, this Comment focuses on CCAMLR, which established the regulatory framework for the management of fish stocks in Antarctica.[90]

B. Convention for the Conservation of Antarctic Marine Living Resources (CCAMLR)

CCAMLR is the primary instrument under which fisheries in the Southern Ocean are managed.[91] Entering into force in 1982, CCAMLR is technically part of the Antarctic Treaty System (ATS).[92] CCAMLR, however, is also a separate international treaty.[93] As such, membership is not restricted to those States that are party to the Antarctic Treaty.[94] To date, thirty-four States have acceded to CCAMLR.[95]

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86. *See id.* at 41.

87. *See* Lee, *supra* note 3, at 75. *See also* Bergin, *supra* note 69, at 3-4.

88. *See* CCAMLR, *supra* note 10 (establishing a framework for the regulation of Antarctica's marine living resources).

89. *See* Madrid Protocol, *supra* note 62 (establishing provision for the environmental protection of Antarctica).

90. CCAMLR, *supra* note 10.

91. Clarke & Harris, *supra* note 45.

92. *See* Sovacool & Siman-Sovacool, *supra* note 25, at 21-22.

93. *See id.* (discussing how the ATS is comprised of several specific agreements, one of which is CCAMLR).

94. CCAMLR, *supra* note 10, at art. III.

95. Argentina, Australia, Belgium, Brazil, Bulgaria, Canada, Chile, People's Republic of China, Cook Islands, European Community, Finland, France, Germany, Greece, India, Italy, Japan, Republic of Korea, Mauritius, Namibia, Netherlands, New Zealand, Norway, Peru, Poland, Russia, South

CCAMLR applies to all areas south of 60°S latitude as well as those areas north of 60°S latitude within the Antarctic Convergence — a circumpolar curve where the cold waters of the Southern Ocean mix with the warmer waters of the sub-Antarctic.[96] In contrast, the Antarctic Treaty by definition only applies to land; it expressly prohibits application to the high seas located south of 60°S latitude.[97] Thus, CCAMLR tends to be viewed as a counterpart to the Antarctic Treaty, regulating marine living resources that fall outside the Antarctic Treaty's coverage area.

CCAMLR was enacted in response to concerns about the overfishing of finfish stocks as well as the effects an expanding krill fishery would have on the Southern Ocean ecosystem.[98] Krill, tiny shrimplike crustaceans, are of particular importance because they form the basis of the Antarctic food web.[99] All species in Antarctica depend either directly or indirectly on krill for survival, making the sustainable management of a krill fishery essential for the continued existence of Antarctica's ecosystem.[100] CCAMLR was thus enacted with the unique goal of "safeguarding . . . the integrity of the ecosystem of the seas surrounding Antarctica."[101] To that end, CCMALR established a regulatory framework utilizing an ecosystem approach in the management, conservation and sustainable utilization of krill and other Antarctic marine living resources.[102] It recognizes the inherent

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Africa, Spain, Sweden, Ukraine, United Kingdom, United States of America, Uruguay, and Vanuatu. *See* CCAMLR website, http://www.ccamlr.org/pu/e/ms/intro.htm (last visited Jan. 21, 2010).

96. *See* Shotton, *supra* note 27, at ¶ 1 (discussing the seasonally variation of the Antarctic Convergence's boundary); Bender, *supra* note 13, at 234 (discussing CCAMLR's application to those areas of ocean space between 60°S latitude and the Antarctic Convergence). *See also* CCAMLR, *supra* note 10, at art. I (geographic coordinates establishing an approximation of the Antarctic Convergence).

97. Article VI of the Antarctic Treaty expressly prohibits application to areas designated high seas and within 60° South latitude, the area encompassed by the treaty. Antarctic Treaty, *supra* note 1, at art. VI.

98. KNOX, *supra* note 26, at 475.

99. Philip Bender, *The Precautionary Approach and Management of the Antarctic Krill*, 18 J. ENVTL. L 229, 229 (2006).

100. *Id.*

101. CCAMLR, *supra* note 10, at para. 1.

102. KNOX, *supra* note 26, at 476. CCAMLR expressly excludes regulation of seals and whales, both of which are regulated by their respective

interdependencies between various marine species, and that the ability to maintain a functioning and productive Southern Ocean is dependent on the management of the ecosystem as a whole, rather than on the management of discrete individual marine species.[103]

Conservation, under CCAMLR, includes the concept of "rational use" which provides for the exploitation of marine living resources, but only to the extent that their population levels are sustainable.[104] Thus, CCAMLR essentially functions as a regional fisheries management organization tasked with striking a balance between the competing ideologies of conservation and exploitation.[105] The Commission, the decision-making body charged with implementing policies and procedures in furtherance of CCAMLR,[106] has adopted over 200 measures aimed at the protection of Antarctica's marine living resources.[107] These measures have imposed constraints on both the harvesting of specific marine species as well as fishery practices, and have included such measures as gear restrictions, implementation of catch limits, vessel licensing systems, vessel monitoring systems, catch documentation schemes, as well as area and seasonal closures.[108]

Similar to the Antarctic Treaty, which makes no claim on the territory of Antarctica, CCAMLR makes no possessory claim on the marine living resources of the Southern Ocean.[109] It only establishes a system under which management of those resources

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conventions—the Convention for the Conservation of Antarctic Seals and the International Convention for the Regulation of Whaling. *See* CCAMLR website, http://www.ccamlr.org/pu/e/gen-intro.htm (last visited Jan. 21, 2010).

103. *See* Alan Brown, *Some Current Issues Facing the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR), in* ANTARCTICA LEGAL AND ENVIRONMENTAL CHALLENGES FOR THE FUTURE 88, 91 (Gillian Triggs & Anna Riddell eds., 2007); *see also* Stuart Kaye, *IUU Fishing in the Southern Ocean: Challenge and Response, in* ANTARCTICA LEGAL AND ENVIRONMENTAL CHALLENGES FOR THE FUTURE 39, 51 (Gillian Triggs & Anna Riddell, eds., 2007).

104. CCAMLR, *supra* note 10, at art. II.

105. Bender, *supra* note 13, at 235.

106. *Id.*

107. Brown, *supra* note 103, at 85.

108. *See id.* at 97-98; *see also* Kaye, *supra* note 103, at 51.

109. Brown, *supra* note 103, at 91.

is achieved through the cooperation and participation of those States interested in exploiting the resources.[110] Consequently, the success of CCAMLR (i.e. effectively managing the marine living resources of the Antarctic) is dependent on the goodwill of its members. CCAMLR's effectiveness faces severe challenges from States not party to the treaty (non-party States) as well as from illegal, unreported and unregulated (IUU) fishing.[111]

C. United Nations Convention on Law of the Sea (UNCLOS)

The 1982 United Nations Convention on Law of the Sea codified the majority of customary international law as it relates to the oceans.[112] It established a comprehensive regime governing the world's oceans; specifically, it created a fair and "equitable international economic order" over ocean space.[113] Hailed as the "[c]onstitution for the [o]ceans,"[114] UNCLOS contains 320 articles and nine annexes addressing issues such as commercial activities, environmental protection, scientific research, dispute resolution, and the extent of sovereignty and sovereign rights.[115] With 157 States currently party to UNCLOS,[116] its acceptance by the international community as a regulatory framework for the oceans is firmly established.

The need for a comprehensive ocean management regime was not recognized until the mid-twentieth century. Up to that point, the view advocated by Dutch jurist Hugo Grotius in his seminal work *Mare Liberum* governed.[117] *Mare Liberum* advanced the

110. *See* CCAMLR, *supra* note 10, at art. IX.

111. *See* Bender, *supra* note 13, at 233.

112. *See* Young, *supra* note 16, at 59-60.

113. U.N. Division for Ocean Affairs and the Law of the Sea Office of Legal Affairs, THE LAW OF THE SEA at 1, U.N. Sales No. E.97.V.10 (2001).

114. Tommy T.B. Koh, President of the Third U.N. Conference on the Law of the Sea, Remarks, 'A Constitution for the Oceans' (Dec 6 & 11, 1982), *available at* http://www.un.org/Depts/los/convention_agreements/texts/koh_english.pdf.

115. *See* UNCLOS, *supra* note 5.

116. Ocean & Law of the Sea, http://www.un.org/Depts/los/index.htm (follow the "United Nations Convention on Law of the Sea" and then follow "chronological list of ratifications/accession/successions/" hyperlink) (last visited Jan. 21, 2010).

117. The Dutch jurist Hugo Grotius advocated the concept of *res communis*—oceans as an open access resource under which anyone could exercise the right of fishing—to justify the Dutch East India Company's trade routes in the Far East, in spite of Portugal's existing maritime claims in the

view of an open ocean; oceans were considered *res communis,* freely accessable to all and incapable of being enclosed by any State.[118] Sovereignty over ocean space was non-existant except for the territorial sea, a three nautical mile (nm) band of ocean space directly adjacent to a State's coastline.[119] The concept of *res communis* sufficed while fish stocks were thought to be inexhaustible and only a few States had extensive maritime capabilities.[120] With the increase in worldwide fishing and advances in technology, however, it became increasingly apparent that the concept of *res communis* and the framework of ocean governance that had developed around it were insufficient to deal with the evolving and competing uses of ocean space.[121]

UNCLOS differs from Grotius's *Mare Liberum* by zoning the ocean; it divides the ocean into differing zones, each distinguished by the degree of sovereign rights a coastal State may exercise.[122] Many of the UNCLOS zones overlap or encompass other zones.[123] The degree of sovereign rights a coastal State enjoys is inversely related to distance with sovereign rights decreasing the further seaward one is from land. For purposes of this Comment, only the economic exclusive zone (EEZ) is material to fishery management. The EEZ, however, completely encompasses two other zones, the territorial sea and the contiguous zone. Each of these zones is defined in order to provide a broader understanding of UNCLOS:

The territorial sea extends 12 nm from the baseline and is essentially viewed as an extension of the coastal State and is subject to the coastal State's sovereignty;[124]

The contiguous zone extends to a maximum of 24 nm from the baseline and the exercise of sovereign rights is limited to the extent necessary to prevent infringement of the coastal State's "customs, fiscal, immigration or sanitary laws and regulations within its territory or territorial sea;"[125] and

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region. *See* Prows, *supra* note 56, at 249-50.
118. *See id.* at 250.
119. *See generally id.* at 251.
120. *See id.* at 248.
121. *See id.*
122. *See generally* UNCLOS, *supra* note 5.
123. *See* UNCLOS, *supra* note 5.
124. UNCLOS, *supra* note 5, at art. 2-3.
125. *Id.* at art. 33.

The exclusive economic zone (EEZ) extends to a maximum of 200 nm from the baseline,[126] within which the exercise of sovereign rights is limited to the "purpose of exploring and exploiting, conserving and managing the natural resources, whether living or non-living" within the water, seabed and subsoil "and with regard to other activities for the economic exploitation and exploration of the zone . . . ."[127]

The remaining ocean space seaward of the EEZ is designated as the "high seas."[128] UNCLOS's definition of the high seas is an exclusive definition, defining the high seas by what they are not rather than by what they are.[129] Under Article 86, the rules of the high seas apply to "all parts of the sea that are not included in the exclusive economic zone, in the territorial sea or in the internal waters of a State . . . ."[130] Ocean space characterized as high seas is defined by the principle of open access;[131] all States are free to use the high seas, however, none may subject any part of the high seas to its sovereignty.[132]

UNCLOS's demarcation of ocean space creates a gradation of a coastal State's sovereign rights; sovereign rights diminish the further seaward one travels, eventually extinguishing at the EEZ boundary, 200 nm from the baseline.[133] The degree of sovereign rights a coastal State possesses determines the amount of control a State can exert on the management of fish stocks occurring within its EEZ. A coastal State possesses exclusive management over those stocks occurring within its EEZ.[134] Fishing fleets, domestic and international, must abide by the fishery regulations

126. *Id.* at art 57.
127. *Id.* at art. 56.
128. *See id.* at art. 86.
129. *Id.*
130. UNCLOS, *supra* note 5, at art. 86.
131. *See id.* at art. 87-90. Grotius' concept of *res communis*—an open ocean with access by all—is now only applicable to the high seas. All other zones of jurisdiction as defined in UNCLOS retain some restraint on use by the coastal state. *See supra* text accompanying notes 119-122.
132. R.R. CHURCHILL & A.V. LOWE, THE LAW OF THE SEA 204 (3d ed. 1999) (1983).
133. *See* UNCLOS, *supra* note 5, at art. 57. Boundaries with the continental shelf which has the potential to extend a coastal State's jurisdiction beyond 200 nm are not considered in this Comment.
134. Montserrat Gorina-Ysern, *World Ocean Public Trust: High Seas Fisheries After Grotius – Towards A New Ocean Ethos?*, 34 GOLDEN GATE U.L. REV. 645, 673 (2004); UNCLOS, *supra* note 5, at art. 56.

established by the coastal State.[135] While this puts the success of management on the coastal State for those stocks contained within its EEZ, many fish species, including a majority of commercially viable species, do not observe political and geographical boundaries due to their migratory nature. As a result, the management of highly migratory species[136] and straddling stocks[137] is dependent on international cooperation in accordance with the provisions in UNCLOS.

III. FISHERY MANAGEMENT UNDER THE CURRENT REGIME

The effective management of fisheries in the Southern Ocean suffers from several consequences of the current Antarctic Treaty regime. Lack of effective enforcement measures is the crucial problem. As previously discussed, the Antarctic Treaty suspends all territorial claims, effectively leaving Antarctica devoid of sovereignty.[138] Under UNCLOS, territorial sovereignty is a necessary prerequisite for the establishment of limited jurisdiction over adjacent ocean space.[139] Antarctica's lack of sovereignty prevents the extension of sovereign rights over the adjacent ocean space in accordance with UNCLOS, which in turn prevents the establishment of an Antarctic EEZ. Without an EEZ, fishing fleets are not required to comply with any promulgated fishing regulations, unless the State under which the vessel operates is a party to the agreements establishing fishing regulations.[140] In

135. As a result of coastal States retaining jurisdiction over natural resources in their EEZ, domestic vessels must abide by the regulations promulgated by the coastal State. In addition, since the EEZ is recognized under both UNCLOS and customary international law, international vessels are obligated to abide by the regulations as well while within the EEZ. *See* UNCLOS, *supra* note 5, at art. 58.

136. Highly migratory species are those species that travel through several EEZs and the high seas. OCED Glossary of Statistical Terms, http://stats.oecd.org/glossary/index.htm. (search for "highly migratory species") (last visited Jan. 21, 2009). *See* UNCLOS, *supra* note 5, at art. 64.

137. Straddling stocks are defined as stocks of the same or associated species that occur either within the EEZ of two or more coastal states or occur both within the EEZ and in the area beyond and adjacent to it (essentially the high seas). UNCLOS, *supra* note 5, at art. 63.

138. *See supra* note 76 and accompanying text; Lee, *supra* note 3, at 78; Angelini & Mansfield, *supra* note 40, at 182; Young, *supra* note 16, at 48.

139. *See* UNCLOS, *supra* note 5, at art. 2.

140. *See id.* at art. 116.

the absence of the ability to delineate an EEZ, and any other UNCLOS zone, the entire Southern Ocean from the edge of the Antarctic continent seaward is classified as high seas.[141] Classifying ocean space as high seas creates certain internationally recognized rights, termed high seas freedoms, which all States enjoy.[142] One particular freedom, the freedom of fishing, allows any State to exploit the marine living resources contained within the high seas.[143] The freedom of fishing is conditioned on States exercising "due regard for the interests of other States in their exercise of the freedom of the high seas . . . ."[144] However, what responsibilities this provision actually places on States is far from clear. The inability to claim an Antarctic EEZ, coupled with the high seas classification of the Southern Ocean, restricts management of fish stocks to international treaties such as CCAMLR.[145]

International treaties, however, are an inherently weak form of management because they invariably require a balance of cooperation, compliance, enforcement and self-policing.[146] In an effort to obtain agreement from a majority of States, compromises are struck, often decreasing the effectiveness of the treaty.[147] CCAMLR is no exception, with evidence of compromise illustrated by the inclusion of an opt-out clause.[148] Opt-out clauses provide States with a way to avoid obligations previously agreed to under a treaty. In the context of CCAMLR, the opt-out clause permits non-compliance with a Convention Measure by a State when, within 90 days of the adoption of the measure, the State formally claims an "inability to accept the measure" for any reason.[149] The presence of this opt-out clause preserves the possibility of a complete evisceration of CCAMLR's management of Antarctica's

141. UNCLOS, *supra* note 5, at art. 86.
142. *Id.* at art. 87.
143. Gorina-Ysern, *supra* note 134, at 675; UNCLOS, *supra* note 5, at art. 116.
144. UNCLOS *supra* note 5, at art. 87 para. 2.
145. *See* Gorina-Ysern, *supra* note 134, at 675.
146. *See* David Freestone, *A Decade of the Law of the Sea Convention: Is it a Success?*, 39 GEO. WASH. INT'L L. REV. 499, 501 (2007) (discussing UNCLOS as a compromise that left issues unresolved in an effort to produce a treaty that would gain support from a majority of States).
147. *Id.*
148. *See* Baird, *supra* note 11, at 173.
149. *Id.*

marine living resources. Should a significant number of party States begin utilizing this exception, management of marine living resources will become illusory and effectively nonexistent.

A. Enforcement Against Non-Contracting Parties

The inability to enforce CCAMLR against non-contracting parties is a substantial threat to the effective management of Antarctic fisheries. Consent to be bound governs the enforceability of treaties against States.[150] States consenting to a treaty are the only States against which the treaty can be enforced, unless the treaty has become part of customary international law.[151] CCAMLR has yet to be accepted as customary international law. As a result, CCAMLR's provisions and promulgated regulations, which advance a comprehensive management regime for marine living resources, are only binding and enforceable against party States.[152] All non-party States, under UNCLOS's high seas freedoms,[153] have the right to exploit the Southern Ocean's marine living resources in manners inconsistent with, or even in contravention of, CCAMLR. The jurisdictional deficiency of CCAMLR prevents CCAMLR and its promulgated regulations from being enforced against non-party States thereby reducing the effectiveness of CCAMLR and its management regime. With only a portion of commercial fishery participants bound by CCAMLR and its regulations, CCAMLR's ability to achieve effective management of Antarctica's marine living resources is significantly limited.

150. Vienna Convention, *supra* note 46, at art. 34; Bender, *supra* note 13, at 246.

151. Vienna Convention, *supra* note 46, at art. 38. *See also* Madsen, *supra* note 51, at 470. Customary international law is different from international law developed by treaty in that it generally is not expressly written down. *See* Bender, *supra* note 99, at 238. Customary international law is developed by "evidence of State practice supporting the custom and evidence that States have an intention to be legally bound by the custom (i.e. *opinio juris*)." *Id.* *See also* RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW §§ 102(2)-(103) (1987). One State's practice of a custom becomes customary international law only when a significant number of States also observe and consent to be bound by the custom. *See* Christiana Ochoa, *The Individual and Customary International Law Formation*, 48 VA. J. INT'L L. 119, 132-34 (2007).

152. Assuming the opt-out clause is not utilized as previously discussed. *See supra* notes 148-49 and accompanying text.

153. UNCLOS, *supra* note 5, at art. 87.

B. Flags of Convenience

The prevalence of fishing vessels operating under flags of convenience is another substantial problem for fisheries management in the Southern Ocean. A flag of convenience is a foreign flag under which a vessel is registered for purposes of reducing operational costs.[154] Generally, the nationality of the vessel owner is different from the State in which the vessel is registered.[155] All vessels are required to be registered in the State under whose flag they sail.[156] Once registered, the flag denotes the laws of the State the vessel is operating under, which will apply in the event of an admiralty case.[157] Thus, the vessel must comply with both the domestic laws of the flag State as well as with any international agreements to which the flag State is a party. Outside the territorial seas, the jurisdiction of the flag State is supreme, especially on the high seas, and the ability of non-flag States to enforce either domestic or international treaty regulations is severely limited,[158] and in the case of the high seas, practically non-existent.[159]

Under flags of convenience, vessels are allowed to "fish with impunity in area(s) subject to conservation measures," as they are not bound under international law due to the flag State's non-party status.[160] With the entire Southern Ocean from Antarctica's coastline seaward classified as high seas, CCAMLR's effectiveness is severely limited by vessels' ability to undermine its fishery management regime through the use of flags of

154. *See* Bimal Patel, *A Flight Plan Towards Financial Stability – The History and Future of Foreign Ownership Restrictions in the United States Aviation Industry*, 73 J. AIR L. & COM. 487, 519 (2008).

155. *See* Francis C. Nolen, III, *Vessel Financing Issues*, C931 A.L.I.-A.B.A 187, 190 (1994).

156. *See id.* at 189.

157. *See* Laurence Blakely, Comment, *The End of the* Viarsa *Saga and the Legality of Australia's Vessel Forfeiture Penalty of Illegal Fishing in its Exclusive Economic Zone*, 17 PAC. RIM L. & POL'Y J. 677, 680 (2008).

158. Past the territorial sea, coastal states can only enforce regulations for violations of the rights reserved to them under UNCLOS. *See generally* UNCLOS, *supra* note 5.

159. Blakely, *supra* note 157, at 680.

160. *See* Ashley Lillian Erickson, Comment, *Out of Stock: Strengthening International Fishery Regulations to Achieve a Healthier Ocean*, 34 N.C. J. INT'L L. & COM. REG. 281, 294 (2008).

convenience.[161] Flags of convenience also allow vessel owners of Contracting Parties to circumvent CCAMLR's conservation measures. Since a vessel's nationality relates to its flag and not the nationality of its owner, vessels engaging in commercial fishing in the Southern Ocean may be flagged under States not party to CCAMLR. The disconnect between the nationality of the vessel and that of the vessel owner provides a mechanism for bypassing compliance with CCAMLR's conservation measures.[162]

IV. SOVEREIGNTY IN ANTARCTICA

Enforceability of CCAMLR and its regulations is crucial in ensuring an effective fisheries management regime in the Southern Ocean. The lack of enforceability against non-party States, an inherent quality of multilateral international agreements, prevents CCAMLR's ecosystem-based management regime from reaching the comprehensive level of regulation necessary to attain CCAMLR's goal of protecting and preserving the Antarctic environment. To achieve this goal, a system of governance other then the Antarctic Treaty System may be necessary. One which provides enforcement against all participants in the commercial harvesting of Antarctica's marine living resources regardless of vessel nationality. One solution is the resolution of territorial claims and the establishment of sovereignty in Antarctica.

A. Sovereignty in the Context of Fisheries Management

Establishing sovereignty in Antarctica would assist in

161. *See* Budislav Vukas & Davor Vidas, *Flags of Convenience and High Seas Fishing: The Emergence of a Legal Framework*, *in* GOVERNING HIGH SEAS FISHERIES THE INTERPLAY OF GLOBAL AND REGIONAL REGIMES 53, 56-57 (Olav Schram Stokke ed., 2001).

162. Baird, *supra* note 11, at 180 (stating that some vessels flying under the flags of Panama and Belize, known flags of convenience, are thought to be Argentinean vessels, and that Argentina is a party to both the Antarctic Treaty and CCAMLR). For an example of the utilization of flags of convenience for non-fisheries reasons see Stephen Thomas, Jr., *State Regulation of Cruise Ship Pollution: Alaska's Commercial Passenger Vessel Compliance Program as a Model for Florida*, 13 J. TRANSNAT'L & POL'Y 533, 540 (2004) (discussing how all major cruise lines, Carnival, Royal Caribbean, Star Cruise, Norwegian Cruise Lines and Orient Line, register their ships with flags of convenience).

alleviating some of the problems currently plaguing fisheries management in the Southern Ocean, primarily through the creation of an EEZ. As previously discussed, territorial sovereignty is a necessary predicate for the establishment of sovereign rights over water space adjacent to a coastal State. [163] Once established, the coastal State has exclusive rights over exploitation and exploration of resources, both living and non-living, within the EEZ. [164] Those resources, while located in the EEZ, become the property of the coastal State, which is charged with their management.

One author suggests that actual territorial sovereignty may not be necessary for establishing an Antarctic EEZ.[165] He reasons that under the current structure of governance, the Antarctic Treaty members, as a single entity, essentially assert absolute control over Antarctica.[166] Their control over every type of activity is tantamount to sovereignty, which allows the assertion of a collective claim to an Antarctic EEZ and its associated rights. Article 55 of UNCLOS defines an EEZ "as an area beyond and adjacent to the territorial sea,"[167] which suggests a territorial sea is necessary for establishing an EEZ. The relevant portions of UNCLOS define a territorial sea as an extension of a coastal State's sovereignty,[168] which presupposes the existence of a coastal State. In light of the unresolved territorial claims, and the refusal of most of the world to recognize those claims, it is unlikely that Antarctica would be considered a State. Absent recognition as a State, a claim for an Antarctic EEZ is unlikely to be sustained under UNCLOS.

Resolving the issue of sovereignty in Antarctica would establish the necessary territorial claim for the creation of an EEZ. The creation of a separate and independent Antarctic State would trigger the creation of an EEZ which would establish a 200 nm buffer around the continent,[169] essentially withdrawing a swath of adjacent ocean space from what is currently considered

163. *See supra* Part III.
164. UNCLOS, *supra* note 5, at art. 56.
165. *See* Bergin, *supra* note 69, at 35-36.
166. *Id.*
167. UNCLOS, *supra* note 5, at art. 55.
168. *See id.* at art. 2.
169. *Id.* at art. 57.

the high seas. The breadth of Antarctica's EEZ would not encompass the entire Southern Ocean nor would it correspond to CCAMLR's present geographical extent. Rather, the creation of an EEZ would place the first 200 nm of ocean space seaward of Antarctica's coastline under a separate management regime created and administered by the Antarctic State.[170]

Article 56 of UNCLOS would vest the exclusive sovereign rights of "exploring and exploiting, conserving and managing the natural resources, whether living or non-living" in the Antarctic State.[171] The resources within the EEZ would become the property of Antarctica, and the management thereof would become the exclusive province of the Antarctic State. The Antarctic State, not an international agreement, would dictate the conditions under which harvesting of fish stocks could take place, including: gear restrictions, the timing of the seasons, area accessibility, catch limits, and licensing requirements.

Sovereignty in Antarctica and the resulting EEZ would create the opportunity for an intensity in fishery regulation that has been absent in the Southern Ocean. No longer would the entire Southern Ocean be open to fishing, subject only to voluntary management measures. Instead, compliance with management measures would be mandatory within the Antarctic EEZ. Additionally, enforcement ability would no longer be predicated on whether a State is party to CCAMLR. Resources within the EEZ would be the property of the Antarctic State and as such vessels fishing in the EEZ would be subject to compliance with promulgated fishery management measures as well as boarding, arrest and/or monetary fine.

Notwithstanding the creation of sovereignty in Antarctica, international instruments currently governing marine living resources in the Southern Ocean, such as CCAMLR and the Seals Convention, would still be applicable. Although the Antarctic State would have authority to create its own management regime, it could incorporate present international agreements, such as CCAMLR and the Seals Convention, into its domestic law. Incorporation of international treaties into the official management regime of the Antarctic State would require the

170. *See id.* at art. 56-57.
171. *Id.* at art. 56.

passage of legislation for the express purpose of domestic implementation of treaty provisions.[172] Under this scenario, compliance with CCAMLR and the Seals Convention would be mandatory within the EEZ; all States authorized to fish within the EEZ would be required to comply with CCAMLR, the Seals Convention and the regulations promulgated under both.[173] Retaining CCAMLR, in particular, would provide the Antarctic State with a readymade management regime; it has been operational for nearly thirty years, adjusted over time to compensate for various problems and shortcomings, and has been relatively successful given the inherent limitations of international agreements. Changes would be necessary to tailor CCAMLR to the specific needs and goals of the Antarctic State, such as developing a vessel authorization scheme to license vessels to fish in the Antarctic EEZ. However, CCAMLR would remain substantively the same.

Additionally, the adoption of CCAMLR as part of Antarctica's domestic law would eliminate the problems of treaty enforcement against non-contracting parties and flags of convenience that currently plague CCAMLR's enforcement ability on the high seas.[174] Within the EEZ, enforcement of regulations promulgated under CCAMLR would be possible against all vessels engaging in fishing, regardless of the State flag under which they sail.[175]

B. Sovereignty in Antarctica: A Territorial Regime?

Legitimacy is crucial for the establishment of sovereignty in Antarctica. Without legitimacy, other States will not recognize any fisheries management regime established by Antarctica and will continue to fish with impunity in the Southern Ocean. With international legitimacy a necessary requirement for a recognized Antarctic State, territorial sovereignty under the control of one of more existing States would be unacceptable. Seven States have already staked territorial claims to Antarctica, with three other

172. *See* Michael Stokes Paulsen, *The Constitutional Power to Interpret International Law*, 118 YALE L. J. 1762, 1810 (2009) (discussing the power of Congress to enact domestic law to implement international treaty provisions).

173. *See* UNCLOS, *supra* note 5, at art. 56.

174. *See supra* Part III and accompanying sources.

175. *See* UNCLOS, *supra* note 5, at art. 56.

States reserving that right.[176] Once discussion of Antarctica's sovereignty begins, States will likely defend their claims as vigorously as they did during the Antarctic Treaty negotiations.[177] It is doubtful that any State will concede its territorial claim, making single State control over Antarctica by an existing State unlikely.

Similar opposition would be forthcoming to a territorial regime utilizing the sector approach, which would divide Antarctica into mini-sovereigns. Divvying up Antarctica would raise a number of fundamental questions; namely, who is entitled to a portion of Antarctica. Theoretically, every internationally recognized State could claim a portion of Antarctica. Division of Antarctica among every internationally recognized State would result in each State receiving 71,795 km^2;[178] a piece roughly the size of Sierra Leone.[179]

Situating 195 States on one continent will lead to some practical problems, one of which is access. Depending on the geographical configuration of each Antarctic mini-sovereign, a considerable number of States may be landlocked. Due to the nature of landlocked States, cooperation from other States would be necessary in order to obtain access to their portion of Antarctica. Antarctica's land mass is not homogenous. Each portion of Antarctica would contain different land features and

176. The seven States having claimed portions of Antarctica are Argentina, Australia, Chile, France, New Zealand, Norway, and the United Kingdom. *See* ELLIOT, *supra* note 65, at 28. In addition, Japan, USSR (now Russia) and the United States have reserved the right to make claims. *Id.* at 27-28.

177. Even after the signing of the Antarctic Treaty, sovereignty continues to be disputed. One example is the Falkland War of 1982, which involved a dispute between Argentina and the United Kingdom over the sovereignty of two sub-Antarctic islands, Falkland Island and South Georgia. *See* Nina M. Serafino, *Historical Setting, in* PERSPECTIVES ON NEGOTIATION FOUR CASE STUDIES AND INTERPRETATIONS 54, 56-57 (Diane B. Bendahmane & John W. McDonald, Jr. eds., 1986). Following the two months of conflict, Argentina surrendered to the United Kingdom. *Id.* at 57. Argentina, however, still maintains its claim to sovereignty over the two islands. *Id.* at 59.

178. VICTOR PRESCOTT and CLIVE SCHOFIELD, THE MARITIME POLITICAL BOUNDARIES OF THE WORLD 531 (2d ed. 2005) (stating that the area of continental Antarctica is approximately 14 million km^2). Area of Antarctica/total number of States = 71,795 km^2.

179. CIA WORLD FACTBOOK, *supra* note 17 (expand the "Geography" menu) (last visited Dec. 22, 2009).

different possibilities for resource exploitation. Consequently, the process by which States obtain a portion of Antarctica is important as it will define a State's right to various resources as well as its ability to access them. There are an infinite number of processes by which States could be assigned a portion of Antarctica. A lottery, where each State is drawn at random and assigned a portion of Antarctica seems the most fair, as it eliminates favoritism. Potential drawbacks to this approach include increased political tension from hostile States being situated next to each other.

Dividing Antarctica among 195 States would defeat the purpose behind establishing sovereignty. The purpose behind resolving sovereignty in Antarctica is to enable a stronger management regime for Antarctica's marine living resources. Fracturing Antarctica into 195 different States would weaken the management regime not strengthen it. Rather than a unified circumpolar EEZ, several smaller EEZs would exist, potentially 195, if each State retained a pie-shaped slice of Antarctica. The creation of 195 EEZs would make cohesive management of Antarctica's marine ecosystem nearly impossible. Not only would the myriad of fishing regulations make compliance impractical, it would make the preservation of Antarctica's marine living resources impractical as well, given that 195 States would need to agree on various fishing regulations in order to prevent commercial fish stocks from overfishing and collapse.

In order to maintain CCAMLR's goal of protecting and preserving Antarctica's marine living resources Antarctica would have to be divided among a significantly smaller number of States. This would reduce the number of different fishing regulations vessels must comply with and increase the probability of cooperation among States towards the preservation and sustainable management of marine living resources.

Assuming agreement to divide Antarctica among a select number of States, the issue becomes how many and which States. If the division of Antarctica is limited to the twelve original signatories[180] of the Antarctic Treaty, then the issue of competing

180. Argentina, Australia, Belgium, Chile, the French Republic, Japan, New Zealand, Norway, the Union of South Africa, the Union of Soviet Socialist Republics (now Russia), the United Kingdom of Great Britain and Northern Ireland, and the United States of America. *See* Antarctic Treaty,

territorial claims, a major issue behind the negotiation of the Antarctic Treaty, resurfaces.[181] Of the twelve original signatories, only seven have made claims, three of which overlap,[182] three States have reserved the right to make claims[183] and the remaining two States have not made or reserved the right to make claims.[184] With outstanding territorial claims from five States, it is likely that once all claims are made, more claims will overlap. In light of the inability to resolve Antarctica's territorial disputes in 1959, it seems likely that resolution of territorial claims will not be forthcoming anytime soon.

Regardless of the number of States claiming a portion of Antarctica a selection process is needed. Developing a selection process acceptable to a majority of States would be nearly impossible, as inevitably, some State or group of States would take issue with the process.[185] Considering the practical challenges that exist in dividing Antarctica between existing States and the disincentive such a division would create in managing Antarctica as a collective unit, a regime predicated on multiple, individual State ownership is likely undesirable.

C. World Governance in Antarctica

World governance is the only type of governance likely to avoid an international upheaval and, at the same time, maintain the level of conservation that Antarctica and its ecosystem desperately need. An international regime would, theoretically, involve participation from all States in the management of Antarctica. This would alleviate the developing world's concern

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supra note 1.

181. *See supra* Part II(A) and accompanying sources.

182. *See supra* note 176. The territorial claims of Argentina, Chile and the United Kingdom overlap to some degree. *See* ELLIOT, *supra* note 65, at 28.

183. *Supra* note 176.

184. Belgium and South Africa are the only two States of the original signatories to the Antarctic Treaty that have neither made territorial claims in Antarctica or reserved the right to do so.

185. Given the stance of the developing States it is unlikely that they will support any process which does not allow them some degree of access to Antarctica and its resources. *See, e.g.*, Bergin, *supra* note 69, at 32 (quoting the Sri Lanka Ambassador as saying "[t]here are still areas of this planet where opportunities remain for constructive and peaceful cooperation . . . for the common good of all rather than the benefit of a few" . . . "such an area is the Antarctic continent").

about participation based on wealth and resource allocation, as developing States would be entitled to participate in discussions concerning the management of Antarctica.

The concept of international governance of Antarctica is nothing new. In the 1940s, prior to Antarctic Treaty negotiation, when the idea of managing Antarctica was in its infancy, several forms of international governance were proposed for Antarctica, including a United Nations trustee-ship and a condominium regime,[186] both of which were rejected.[187] The most recent regime proposed by the developing world is the "common heritage of mankind" or *res communis* concept.[188] Under this regime, all existing territorial claims to Antarctica would be annulled, and international sovereignty would be established with the express purpose of managing resource exploitation for the benefit and use of all States.[189]

Adherents to the Antarctic Treaty are naturally hostile towards any proposal changing the current regime, especially those resulting in the forfeiture of territorial claims. In the words of one author, "Sovereignty is real. It remains real, notwithstanding the fact that other states do not acknowledge that it is validly exercised; and it would be quite unrealistic to entertain the belief that sovereignty will be abandoned either in form or in substance."[190] Thus, a proposal for world governance of Antarctica, in any form, would likely meet severe resistance as it would require certain States to relinquish the control they currently enjoy over Antarctica.

An international regime combining aspects of the existing management regime under the Antarctic Treaty System and a "common heritage of mankind" regime would establish a more

186. Trustee-ship is a regime where an entity manages a territory for the benefit of all. *See* Bergin, *supra* note 69, at 30-31. A condominium regime is one where territory is owned or managed by two or more States. *Id.* at 29. In the case of Antarctica, a permanent secretariat and a full legal personality were proposed. *See id.* at 32.

187. ELLIOT, *supra* note 65, at 28-29.

188. *See id.* at 47.

189. Bergin, *supra* note 69, at 31.

190. Keith Brennan, *Criteria for access to the resources of Antarctica: alternatives, procedure and experience applicable, in* ANTARCTIC RESOURCES POLICY: SCIENTIFIC, LEGAL AND POLITICAL ISSUES 218 (Franciso Orrego Vicuna ed., 1983).

integrated regime with greater enforceability against all States. Incorporating the concept of international entitlement would finally resolve the issue of territorial ownership. By recognizing Antarctica as a benefit for all, and not solely a privilege for a few wealthy States, the developing States' primary objection to the current Antarctic regime, the exclusion of developing States from access to Antarctica's resources, would be neutralized. Under an international regime, developing States would receive access to a forum and the opportunity to be heard regarding their agenda for Antarctic management.[191]

Global recognition of international ownership of Antarctica would extinguish all individual claims to Antarctica and establish international sovereignty over the continent. Under the proposed international regime, the main principles enumerated in the Antarctic Treaty would still apply, namely the use of Antarctica for scientific and peaceful purposes and the continued demilitarization of Antarctica.[192] In light of the focus on Antarctica's resources as relief from the developing resource shortage, activities on the Antarctic continent should be limited to only scientific endeavors. The contention over sovereignty in Antarctica stems from the fact that sovereignty defines ownership to the entire vertical column (subsoil, land and air) and the resources contained therein. Foreclosing the ability to exploit resources, at least with respect to resources located on the continent and the seabed/continental shelf, would prevent any one State from being unfairly advantaged. It would also eliminate the problem of resource allocation; deciding how resources belonging to the international community should be apportioned among individual States.

Specific revisions to the Antarctic Treaty should include narrowing the use of Antarctica to only scientific purposes, expressly excluding the exploitation of resources located on the continent, in the seabed and on the continental shelf. Exploitation of marine living resources should be permitted and executed

191. These ideas are part of why the United States has been successful and admired. *See, e.g.*, DINESH D'SOUZA, WHAT'S SO GREAT ABOUT AMERICA, 64-65 (discussing the success and appeal of American democracy: "Democracy is based on a broad human aspiration: the aspiration to be heard and to participate in decision-making.").

192. Antarctic Treaty, *supra* note 1, at art. I, art. II, art. V.

under the current international instruments: CCAMLR and the Seals Convention, with whaling regulated by the International Whaling Commission (IWC). Article IX of the Antarctic Treaty should be changed to eliminate the requirement reserving voting rights to only those States with "substantial scientific research activity" and the remaining articles modified to reflect the change.[193] With an increased number of States entitled to voting rights, adoption of measures should no longer be by consensus, but rather by a three-fourths majority.[194] As previously mentioned, CCAMLR and the Seals Convention should remain in force as the management regime for Antarctic marine living resources. Territorial sovereignty, having been established in an international body, would permit the extension of jurisdiction to the adjacent water space allowing the assertion of a 200 nm EEZ. As a result, compliance with CCAMLR and the Seals Convention would be mandatory and enforceable against all States in the EEZ and against party States on the high seas.[195]

V. PROBLEMS WITH SOVEREIGNTY IN ANTARCTICA BASELINE DELINEATION

Regardless of the form sovereignty in Antarctica takes, in order to discern the geographical breadth of the EEZ, the baselines of the continent must be delineated. Baselines are the

193. *See id.*, at art. IX.

194. The author has not considered the exact standard by which measures would be passed, but suggests that it be something less then consensus and something more than simple majority. A facet of the system would be its ability to facilitate compromise and negotiation while also implementing agreements in the face of resistance by only a few members. While consensus is ideal, it would not be practical for an effective management regime with a goal of conservation of Antarctica. *See, e.g.*, *supra* note 81, (discussing India blocking every measure since it received voting rights).

195. The creation of an Antarctic State complete with sovereignty and administered by the international community as proposed in this Comment stretches the bounds of the concept of traditional sovereignty. Traditional sovereignty generally requires a human component, the governed, in order for sovereignty to attach. Antarctica is devoid of natural human inhabitants and thus the creation of a legal fiction which recognizes sovereignty despite the absence of a native population is necessary for the establishment of an Antarctic State and a system of governance as proposed in this Comment. An in-depth discussion of the creation of an Antarctic State and its relation to the concept of traditional sovereignty is beyond the scope of this Comment and the author welcomes examination of this issue.

starting point from which UNCLOS zones of jurisdiction are measured.[196] Generally, baselines are measured from the low-water mark, but UNCLOS has several provisions regarding the intricacies of baseline delineation.[197]

Baseline delineation of Antarctica is problematic due to the uncertainty surrounding the legal identity of ice shelves.[198] Currently, ice shelves have yet to be accorded any legal identity with respect to baseline delineation.[199] Antarctica is a continent whose boundaries are extended by ice shelves that have been in existence for centuries. Deciding whether ice shelves are included in delineating Antarctica's baselines will have a significant impact on the location of the outer EEZ boundary. As a result of the permanence and durability of ice shelves, a persuasive argument exists for their inclusion as baselines.[200] Yet, the reality remains that both ice calving[201] and the recent phenomenon of climate change inhibit the permanence of ice shelves, and thus may prevent their use as stable baselines.[202]

Another fundamental problem with using ice shelves as baselines is the variability of their seaward extent. The breadth of ice shelves varies with the seasons; to a greater extent in winter and a shorter extent in summer.[203] Thus, assuming Antarctica's ice shelves have sufficient permanence to be included as baselines, the question remains at what point in the year should ice shelf extent be indicative of Antarctica's baselines. The author suggests that the historical average of the ice shelves should be used as the baseline from which the UNCLOS zones of jurisdiction are measured.[204] This average baseline takes into account ice shelf

196. UNCLOS, *supra* note 5, at art. 3 (breadth of territorial sea), art. 33 (breadth of contiguous zone), art. 48 (breadth of ocean zone with regard to Archipelagic States), and art. 57 (breadth of EEZ).

197. *Id.* at art. 5-16.

198. Christopher C. Joyner, *Ice-Covered Regions in International Law*, 31 NAT. RESOURCES J. 213, 229 (1991).

199. *Id.*

200. *Id.*

201. Ice calving is the breaking off of a piece of ice from its parent glacier, iceberg or ice shelf. *See* United States Geological Survey (USGS), *Glossary*, http://pubs.usgs.gov/of/2004/1216/c/c.html (Calving) (last visited Dec. 22, 2009).

202. *See* Joyner, *supra* note 198, at 229.

203. *Id.*

204. For a more in-depth analysis of the delineation of baselines in polar

variation over time and seasons.

A. Vessel Permitting System

Another problem with establishing sovereignty in Antarctica is the development of a vessel permitting system for those vessels allowed to harvest marine living resources within the EEZ. Once sovereignty and the EEZ have been established, the resources within the EEZ would become the property of Antarctica. Only its nationals and any vessels permitted would have the right to exploit resources, and then only under the rules and regulations promulgated by Antarctica.[205] Antarctica, being devoid of natural human inhabitants, has no permanent population, thus any harvesting of resources would be through the express consent of the Antarctic sovereign. Consequently, some type of permitting system would need to be developed, through which specific vessels would be entitled to exploit the resources in Antarctica's EEZ.

B. Enforcement of CCAMLR within the EEZ

A primary reason behind establishing sovereignty in Antarctica is the ability to claim an EEZ—to effectively close off a 200 nm zone of ocean space surrounding Antarctica. Establishing an EEZ grants the Antarctic sovereign the ability to exclude other States from exploiting resources in the EEZ, however, the ability to exclude is only as good as the means available to enforce it. Success in providing stringent protection for Antarctica's marine living resources will hinge on a robust enforcement of CCAMLR within the EEZ. Currently, member States are the only bodies able to enforce CCAMLR.[206] An international sovereign entity, taking over enforcement of CCAMLR lacks its own independent naval forces at its disposal to patrol against IUU fishing and other violations. Accordingly, authorization to enforce CCAMLR measures against vessels within the EEZ, at least in the beginning, will need to be granted to the naval forces of various States. The costs associated with having States' naval forces

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regions, *see* Christopher C. Joyner, *Ice-Covered Regions in International Law*, *in* ANTARCTIC LEGAL AND ENVIRONMENTAL CHALLENGES FOR THE FUTURE 10, 229-231 (Gillian Triggs & Anna Riddell eds., 2007).

205. *See* UNCLOS, *supra* note 5, at art. 56.

206. CCAMLR, *supra* note 10, at art. IX (discussing the implementation of convention measures by member States).

patrol the EEZ, or the creation of Antarctica's own enforcement fleet, could be calculated into the cost of a fishing permit.

CONCLUSION

This Comment addresses the effects establishing sovereignty in Antarctica would have with regard to marine living resources. The lack of sovereignty in Antarctica has resulted in the designation of the Southern Ocean in its entirety as high seas, precluding strict enforcement of CCAMLR, the current international instrument regulating fishery resources in the Southern Ocean. Establishing Antarctica as its own sovereign would, in the case of fisheries management, enable the creation of a circum-continental EEZ providing for enforcement of CCAMLR regulations against any violating vessel, regardless of the vessel's nationality.

The resolution of sovereignty in Antarctica is a contentious issue that will undoubtedly trigger dispute within the international community. A form of world governance incorporating the principle of international ownership over Antarctica and its resources holds the most promise for replacing the current management regime. Restricting the use of Antarctica to scientific purposes and preventing exploitation of territorial, seabed and continental shelf resources will reduce the magnitude of the international dispute by eliminating the problem of allocating resources among individual States.

An important limitation of this Comment, having more to do with the scope of this Comment than as a consequence of establishing sovereignty, is the effect an international regime would have on territorial, seabed and continental shelf resource exploration and exploitation. This Comment specifically addresses the benefits and consequences of a sovereign Antarctica in the context of fisheries management. Any change in the current management regime must evaluate the benefits of the proposed regime in terms of its effects on all aspects of Antarctic management rather than just the subset focused on within this Comment. This Comment only seeks to illustrate the effect of sovereignty, or the lack thereof, on the ability to manage fishery resources in the Southern Ocean. The author welcomes others to examine the effects an international regime, such as the one proposed in this Comment, would have with regard to other

resource exploration and exploitation not specifically addressed. As one expert pointed out over thirty years ago, Antarctica remains the last, great, unspoiled region on Earth: "any delay in taking immediate action toward a new, internationally acknowledged legal ordering of Antarctica will only make resolution of the . . . resource problem more difficult to achieve."[207] As natural resources become increasingly scarce, any further delay could indeed lead to the very destruction of Antarctica.

207. Frank C. Alexander, Jr., *A Recommended Approach to the Antarctic Resource Problem*, 33 U. MIAMI L. REV. 371, 402 (1978).