

MELTING ICE CAUSING THE ARCTIC TO BOIL OVER:

AN ANALYSIS OF POSSIBLE SOLUTIONS TO A HEATED PROBLEM

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INTRODUCTION AND OVERVIEW

"Though force can protect in emergency, only justice, fairness, consideration and cooperation can finally lead men to the dawn of eternal peace." -United States President Dwight D. Eisenhower.¹

A. Brief Summary of the Issue

The Arctic ice cap is shrinking at an unprecedented rate, making billions of dollars worth of resources obtainable that were previously inaccessible due to the ice.² This potential availability of resources has triggered an international race to claim areas in the Arctic.³ There are currently five countries competing for territory claims in the Arctic: Russia, Norway, Canada, the United States, and Denmark (through its control of Greenland).⁴

The United Nations Convention on the Law of the Sea (UNCLOS),⁵ the international convention that currently controls territory disputes in the Arctic, is an ineffective way of dealing with both the current and potential future disputes regarding territorial claims in the area.⁶ Due to the uniquely circular way in which the Arctic nations surround the ocean, the potential extended claims of the nations overlap with one another.⁷ UNCLOS does not provide a

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1. Embassy of the United States, Democracy Quotes, <http://nicaragua.usembassy.gov/quotes.html> (last visited Apr. 2, 2009).

2. See generally Colin Woodard, *Who Resolves Arctic Oil Disputes? Antarctica Provides a Model for Settling Competing Claims*, THE CHRISTIAN SCI. MONITOR, Aug. 20, 2007, available at <http://www.csmonitor.com/2007/0820/p01s02-woeu.html?page=1>.

3. Clifford Krauss et. al., *As Polar Ice Turns to Water, Dreams of Treasure Abound*, N.Y. TIMES, Oct. 10, 2005, at A1, available at <http://www.nytimes.com/2005/10/10/science/10arctic.html>.

4. Woodard, *supra* note 2. The states at issue (Russia, Norway, Canada, the United States, and Denmark) are referred to collectively in this Note as the Arctic states.

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

6. See *infra* notes 64-125 and accompanying text.

7. See Woodard, *supra* note 2.

framework for dealing with overlapping claims and in fact leaves the states to work out the disputes themselves.⁸ In addition, not all of the Arctic states are signatories to the convention, which means that they are outside the scope of the Convention for all purposes.⁹

Because of the ineffective manner in which UNCLOS provides dispute resolution for the Arctic states, the states should consider negotiating a mutually beneficial agreement amongst them that is outside UNCLOS. This would require the cooperation of all of the Arctic states that have potential interests.¹⁰

This Note will provide information regarding the issues between the five Arctic states; analyze solutions that have already been proposed to solve the territorial disputes in the Arctic; and evaluate prior territorial disputes to determine if a viable solution can be derived. This Note will conclude with what the author believes to be the most practicable solution to the problem of overlapping territorial claims in the Arctic: the Arctic states need to cooperate with each other and should consider negotiating a mutually beneficial agreement outside the sphere of UNCLOS that will resolve current disputes and provide a framework for analyzing future claims.

Part I will introduce the issues affecting the Arctic states, provide an overview of the changing climate conditions in the Arctic, and detail the resources that may become available as Arctic ice melts further.¹¹ Part II will address the legal framework that currently governs the Arctic, including the background and history of the United Nations Convention on the Law of the Sea¹² and the Convention's application to the Arctic.¹³ Part II will also examine why the United States is not a party to the Convention¹⁴ and explain the ineffectiveness of the dispute settlement mechanisms in UNCLOS in relation to the Arctic.¹⁵ Part III will discuss the current disputes over areas of the Arctic, including the dispute over the Northwest Passage,¹⁶ Russia's claims against the other Arctic states,¹⁷ and the dispute over Hans Island (between Denmark and Canada).¹⁸ Part IV analyzes previously proposed models of solutions for the Arctic, including the Antarctica Model,¹⁹ an environmental model,²⁰ and the model that would result if all the Arctic states were to ratify UNCLOS.²¹ Part

8. See UNCLOS, *supra* note 5.

9. See *infra* notes 126-55 and accompanying text.

10. See *infra* notes 329-30 and accompanying text.

11. See *supra* notes 1-9 and accompanying text; see *infra* notes 25-52 and accompanying text.

12. See *infra* notes 53-63 and accompanying text.

13. See *infra* notes 64-125 and accompanying text.

14. See *infra* notes 126-55 and accompanying text.

15. See *infra* notes 156-78 and accompanying text.

16. See *infra* notes 183-98 and accompanying text.

17. See *infra* notes 199-218 and accompanying text.

18. See *infra* notes 219-25 and accompanying text.

19. See *infra* notes 228-46 and accompanying text.

20. See *infra* notes 247-64 and accompanying text.

21. See *infra* notes 265-75 and accompanying text.

V will examine potential solutions derived from previous territorial disputes between other nations, including the joint submission to the Commission on Continental Shelf Limits by France, Ireland, Spain, and the United Kingdom²² and the Australia and East Timor maritime boundary dispute.²³ Finally, Part VI will offer conclusions and recommendations regarding the most practical solutions for the Arctic states in order to mitigate potential future disputes, including the cooperation of the Arctic states and the possibility of negotiating a mutually beneficial agreement among the Arctic states outside of UNCLOS.²⁴

B. Overview of Arctic Climate Change

The current and potential future territorial disputes in the Arctic center around the recent drastic change in the Arctic climate. In 2007, the Arctic ice cap's loss through melting was ten times the recent annual average.²⁵ "Over all, the floating ice dwindled to an extent unparalleled in a century or more . . ."²⁶ The summer of 2007 was the first time in recorded history that the Northwest Passage was completely free of ice.²⁷ Some experts predict that the ice retreats will continue to expand because the winter freeze is beginning from an enormous ice deficit.²⁸ "At least one researcher . . . projects a blue Arctic Ocean in the summers by 2013."²⁹

However, there are experts who do not believe that the warming of the Arctic merits concern.³⁰ It is unclear what share of the recent thawing can be "attributed to natural cycles and how much to [the phenomenon of] heat-trapping pollution linked to recent global warming."³¹

22. See *infra* notes 282-309 and accompanying text.

23. See *infra* notes 310-27 and accompanying text.

24. See *infra* notes 328-33 and accompanying text.

25. James Graff, *Fight for the Top of the World*, TIME, Oct. 1, 2007, at 28. The article notes that the area of the melted ice is greater than the area of Texas and New Mexico combined. *Id.*

26. Andrew C. Revkin, *Arctic Melt Unnerves the Experts*, N.Y. TIMES, Oct. 2, 2007, at F1 [hereinafter *Arctic Melt*].

27. Graff, *supra* note 25.

28. *Arctic Melt*, *supra* note 26.

29. *Id.*

30. Krauss et al., *supra* note 3.

31. *Id.* See also *Arctic Melt*, *supra* note 26. "[S]ome scientists and government officials, particularly in Russia, are dismissive of assertions that a permanent change is at hand." Krauss et al., *supra* note 3. See also John McCaslin, *Inside the Beltway*, WASH. TIMES, Aug. 14, 2007, available at <http://www.washingtontimes.com/article/20070814/NATION02/108140063>. The article notes that a headline from the November 2, 1922 Washington Post read "Arctic Ocean Getting Warm, Seals Vanish and Icebergs Melt." *Id.* According to NASA estimates, four of the ten hottest years in the United States were actually in the 1930s, with 1934 the hottest of all. *Id.* In addition, Drake Bennett notes that fifty-five million years ago the average temperature in the Arctic was in the mid-70s and there were palm trees, crocodiles, and mosquitoes present. Drake Bennett, *Northern Exposure: As the Arctic Melts, Vast Deposits of Oil and Gas May be Opened up for Exploration. Will an Arctic Without Ice Only Prolong our Dependence on Fossil Fuels?*, THE BOSTON GLOBE, Feb. 18, 2007, available at http://www.boston.com/news/globe/ideas/articles/2007/02/18/northern_exposure/.

While scientists disagree about the forces behind the Arctic melt, currently, the ice is nevertheless steadily melting.³² Any amount of ice that melts results in an exponential loss of additional ice.³³ This is because ice reflects most of the solar energy of the sun, striking it back into space so that it does not warm the oceans.³⁴ Instead of reflecting solar energy, water absorbs most of the solar energy of the sun, which results in an increase of water temperature.³⁵ As a result, each area of ocean exposed by melting ice soaks up more heat, which melts more ice, which exposes more sea, which soaks up even more heat, etc., until there is no more ice left to melt.³⁶

A warmer Arctic region would have many additional environmental effects.³⁷ “Since more than half of the Arctic region consists of oceans, climatic variations will have a large impact on marine environments and marine-related activity.”³⁸ Such impacts could potentially include elevated sea levels; changes in ocean salinity, which could strongly affect regional climate; and the decline or extinction of marine species due to habitat loss.³⁹

C. Available Resources Uncovered by the Melt

As the Arctic ice melts, many resources will become available.⁴⁰ The resources were not accessible prior to the melting ice because it was logistically difficult or impossible to reach them.⁴¹ “Drilling operations in the far north

32. See generally *Arctic Melt*, *supra* note 26.

33. See Andrew C. Revkin, *No Escape: Thaw Gains Momentum*, N.Y. TIMES, Oct. 25, 2005, at F1 [hereinafter *No Escape*] (discussing how climate changes in the Arctic move faster than in other regions).

34. *Id.*

35. *Id.*

36. *Id.*

37. See generally Barry Hart Dubner, *On the Basis for Creation of a New Method of Defining International Jurisdiction in the Arctic Ocean*, 13 MO. ENVTL. L. & POL'Y REV. 1 (2005) (discussing the effects of a warmer arctic region).

38. *Id.* at 4.

39. *Id.* One of the species that many experts are particularly concerned about is the polar bear. Laura Navarro, *What About the Polar Bears? The Future of the Polar Bears as Predicted by a Survey of Success Under the Endangered Species Act*, 19 VILL. ENVTL. L.J. 169, 182 (2008). This is because sea ice is an integral part of the polar bears' habitat and when the increasing global temperatures cause the sea ice to recede, the polar bears' habitat is compromised. *Id.* The relationship between the polar bears and sea ice is one of dependence: the sea ice (1) serves as a place on which the polar bears can hunt and eat; (2) allows them to travel to other areas for maternity denning; and (3) serves as a location for such denning. *Id.* at 183. This has led to the consideration of listing the polar bear under the Endangered Species Act. *Id.* at 170; see also 16 U.S.C. §§1531-36 (2000) (containing the text of the Endangered Species Act). See generally Randall S. Abate, *Climate Change, The United States, and the Impacts of Arctic Melting: A Case Study in the Need for Enforceable International Environmental Human Rights*, 43A STAN. J. INT'L L. 3 (2007) for additional discussion regarding the loss of habitat of bears, seals, and reindeer, on which Inuit people depend for subsistence and cultural identity.

40. See generally Krauss et al., *supra* note 3.

41. Bennett, *supra* note 31.

have to deal with subzero temperatures, marauding ice floes [sic], violent seas, and the logistical difficulties that come with transporting oil and gas from remote, often offshore locations.”⁴² The most sought-after resource in the Arctic is the potential oil and gas reserves that are predicted to lie under the ocean floor.⁴³ According to the United States Geological Survey, the region may contain 25% of the world’s remaining oil and gas reserves.⁴⁴ The resources that will become accessible are estimated to be worth trillions of dollars.⁴⁵ Russia estimates the value of the potential minerals in its Arctic claim to be around \$2 trillion.⁴⁶ A conservative estimate values the oil, gas, and other resources in the area that the United States could claim at \$1.3 trillion.⁴⁷ In addition to oil and gas reserves, the polar thaw will also begin to unlock new cruise ship destinations and important commercial fisheries.⁴⁸

The melting of the Arctic ice will also open up various new shipping routes, the most important being the Northwest Passage.⁴⁹ The Northwest Passage connects the Atlantic and Pacific oceans and continues through the remote islands of Canada’s northern archipelago.⁵⁰ The passage could reduce the sea-route for cargo from Europe to Asia by about 4,000 miles.⁵¹

Although the melting of Arctic ice significantly improves access to previously unobtainable resources, other characteristics unique to the Arctic will continue to make resource extraction challenging:

[E]xploitation of the Arctic’s natural resources meets with numerous obstacles: adverse conditions [such as] cold,

42. *Id.*

43. See Woodard, *supra* note 2.

44. *Id.*; see also Steve Hargreaves, *The Arctic: Oil’s Last Frontier*, CNNMONEY.COM, Oct. 25, 2006, http://money.cnn.com/2006/09/27/news/economy/arctic_drilling/index.htm. “That number could be even higher as the study didn’t take into account unexplored regions, which most of the Arctic is.” *Id.*

45. See Stefan Anitei, *Ice Melting has Triggered the War for Arctic Riches*, SOFTPEDIA, Mar. 26, 2007, <http://news.softpedia.com/newsPDF/Ice-Melting-Has-Triggered-the-Race-for-Arctic-Riches-50275.pdf>.

46. *Id.* British Petroleum has signed a \$17 billion exploration agreement with Russia. Hargreaves, *supra* note 44.

47. Geoffrey Gagnon, *Foreigners Keep Out! High Tech Mapping Starts to Redefine International Borders*, WIRED MAGAZINE, Jan. 18, 2008, http://www.wired.com/science/planetearth/magazine/16-02/mf_continentalshelf.

48. Krauss et al., *supra* note 3. *But see* Anitei, *supra* note 45 (discussing how fishing stocks that are crucial to some regions are moving northward because of the warming, into another country’s fishing grounds causing many territorial issues).

49. James Stairs, *Melting Ice Heats Up Canada/US Arctic Dispute*, MONSTERSANDCRITICS.COM, Nov. 22, 2006, http://www.monstersandcritics.com/news/americas/features/article_1224906.php/melting_ice_heats_up_Canada_US_Arctic_dispute; see also Woodard, *supra* note 2.

50. Stairs, *supra* note 49.

51. Mark Jarashow et al., Note, *UNCLOS and the Arctic: The Path of Least Resistance*, 30 FORDHAM INT’L L.J. 1587, 1592 (2007). Currently, ships are routed through the Panama Canal. *Id.*

darkness, [and] remoteness make work extremely difficult and demanding and lead to high capital costs; the lack of infrastructure requires additional investment; offshore operations face additional threats such as damage of the equipment by sea ice or icebergs, which need extra precautionary measures; [and] long risky transport routes narrow the profit margin for operations in the Arctic.⁵²

I. LEGAL FRAMEWORK GOVERNING THE ARCTIC

The area of the Arctic at issue is governed by the United Nations Convention on the Law of the Sea (UNCLOS). The Convention is the product of ongoing international negotiations that began in 1930.⁵³ Currently, the Convention has many intricate Articles that relate to the dispute between the Arctic states; however, the Convention does not adequately resolve potential disputes in the Arctic and has been a source of criticism among many scholars who question its effectiveness.⁵⁴ In addition, not all of the Arctic states that could potentially be involved in territorial disputes are parties to the Convention, which also has consequences with regard to Arctic disputes.⁵⁵

A. *Background/History of United Nations Convention on the Law of the Sea*

Beginning in the seventeenth century, oceans had long been subject to the freedom-of-the-seas doctrine; the principle essentially limited national rights and jurisdiction over the oceans to a narrow belt of sea surrounding a nation's coast.⁵⁶ The remainder of the sea was proclaimed to be "free to all and belonging to none."⁵⁷ By the 1960s, the oceans were being exploited as never before and were generating a multitude of claims and sovereignty disputes.⁵⁸ In November of 1967, Malta's Ambassador to the United Nations asked the leaders of the world to open their eyes to the looming conflict over the world's oceans and the potentially devastating effects that such a conflict could have on

52. Dubner, *supra* note 37, at 6.

53. Candace L. Bates, *U.S. Ratification of the U.N. Convention on the Law of the Sea: Passive Acceptance is not Enough to Protect U.S. Property Interests*, 31 N.C.J. INT'L L. & COM. REG. 745, 747-50 (2006); see generally DONAT PHARAND, *THE LAW OF THE SEA OF THE ARCTIC WITH SPECIAL REFERENCE TO CANADA* (University of Ottawa Press 1973).

54. See *infra* notes 109-23 and accompanying text.

55. See *infra* notes 126-55 and accompanying text.

56. UNITED NATIONS DIVISION FOR OCEAN AFFAIRS AND THE LAW OF THE SEA, *THE UNITED NATIONS CONVENTION ON THE LAW OF THE SEA: A HISTORICAL PERSPECTIVE* (1998), available at http://www.un.org/Depts/los/convention_agreements/convention_historical_perspective.htm [hereinafter UNCLOS HISTORICAL PERSPECTIVE].

57. *Id.*

58. *Id.*

the world.⁵⁹ In response to the Ambassador's comments, the Third United Nations Conference of the Law of the Sea convened.⁶⁰ Its objective was to write a comprehensive treaty for the oceans.⁶¹ The Conference convened in New York in 1973 and ended nine years later in 1982 with the adoption "of a constitution for the seas – the United Nations Convention on the Law of the Sea."⁶² "[T]he Convention is an unprecedented attempt by the international community to regulate all aspects of the resources of the sea and uses of the ocean, and thus bring a stable order to mankind's very source of life."⁶³

B. UNCLOS Application to the Arctic

Under UNCLOS, every nation is entitled to an exclusive economic zone up to 200 miles from its shoreline.⁶⁴ However, the rules governing territorial claims beyond 200 miles of the shoreline remain controversial and ineffective.⁶⁵

The most significant aspect of UNCLOS's application to the Arctic is Article 76 which codifies a legal definition of "continental shelf,"⁶⁶ relying on

59. *Id.*

60. *Id.*

61. *Id.* The Conference:

devised new ways of conducting, and making decisions at, international gatherings, and became a model for other large assemblages of countries seeking to deal with complex problems. Its aim was to bring order and law where none existed or where customs were no longer respected and countries had begun to squabble. It dealt with such traditional and relatively straightforward matters as piracy, smuggling, and freedom of navigation on the high seas, on which there was little disagreement; and with hotly disputed ones, like the demarcation between the high seas and national waters, free passage through straits and through the waters of archipelagoes, pollution from ships passing a country's shores, and custody over resources, including food supplies and energy.

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, 262 (2007).

62. UNCLOS HISTORICAL PERSPECTIVE, *supra* note 56. "UNCLOS attempted to establish true erga omnes property rules for ocean space in which the bargained spatial delineations would be agreed to and respected by concomitant strong consensus." Prows, *supra* note 61, at 266.

63. UNCLOS HISTORICAL PERSPECTIVE, *supra* note 56.

Navigational rights, territorial sea limits, economic jurisdiction, legal status of resources on the seabed beyond the limits of national jurisdiction, passage of ships through narrow straits, conservation and management of living marine resources, protection of the marine environment, a marine research regime and, a more unique feature, a binding procedure for settlement of disputes between States – these are among the important features of the treaty.

Id.

64. Adam Wolfe, *Russian Claims to Pole Foreshadow More Arctic Disputes to Come*, WORLD POL. REV., Aug. 13, 2007, <http://www.worldpoliticsreview.com/article.aspx?id=1019>.

65. *Id.*

66. The physical description of the continental shelf is described as follows:

The seabed adjacent to the land territory of a coastal State typically (but not always) consists of three sections. The first, which might be described as the continental shelf proper, is a gradually sloping section from the low-water line. It

scientific and technical determinations of distance, geomorphology, and geology.⁶⁷ UNCLOS defines “continental shelf” as “comprising the seabed and subsoil of the submarine areas that extend beyond the territorial sea throughout the natural prolongation of the land territory to the continental margin’s outer edge.”⁶⁸ If that natural prolongation falls short of 200 nautical miles from the baselines, the legal continental shelf is regarded as continuing 200 nautical miles from the baselines.⁶⁹ If the natural prolongation exceeds 200 nautical miles from the baselines, the coastal state’s legal continental shelf continues until the natural prolongation ends, but under no circumstances may the continental shelf exceed either: (1) 350 nautical miles from the baselines or (2) 100 nautical miles beyond the 2,500 meter isobath.⁷⁰

The Arctic states have considerable interest in extending their claims beyond the 200 nautical miles because, under UNCLOS, they have the right to exploration and exploitation of the natural resources contained in the extended territory.⁷¹ Under Article 77 of UNCLOS, coastal states exercise sobering rights over their continental shelf for the purpose of exploring it and exploiting its natural resources.⁷² The right is exclusive “in the sense that if the coastal State does not explore the continental shelf or exploit its natural resources, no one may undertake these activities without express consent of the coastal state.”⁷³ The resources that Article 77 refers to are “mineral and other non-living resources of the sea-bed and subsoil together with living organisms belonging to sedentary species”⁷⁴ This definition clearly includes oil and gas reserves, which are a major economic interest to the Arctic states.⁷⁵ Thus, in order for the Arctic states to maximize the area that they are entitled to explore and exploit, they must make submissions to the Commission on the Limits of the Continental Shelf (CLCS) that would extend their continental

is the part of the seabed adjacent to the continent forming a large submerged terrace that dips gently seaward. The second, called the continental slope, drops away more steeply from the shelf into greater depth. It extends from the shelf edge to the top of the continental rise, or to the top of the deep ocean floor where no rise exists. The third, the continental rise (where it exists), lies beyond the slope and again falls away more gradually to the deep ocean floor. The shelf and the slope normally have geological characteristics typical of continental crust, often overlain by thick layers of sedimentary rock, the sediments having been washed down from the continent. . . . The three sections together are commonly known as the continental margin, but are referred to in UNCLOS also as the continental shelf.

Huw Llewellyn, *The Commission on the Limits of the Continental Shelf: Joint Submission by France, Ireland, Spain, and the United Kingdom*, 56 INT'L & COMP. L.Q. 677, 679 (2007).

67. UNCLOS, *supra* note 5, art. 76; Prows, *supra* note 61, at 271.

68. Sean D. Murphy, *U.S. Reaction to Russian Continental Shelf Claim*, 96 AM. J. INT'L L. 969, 969 (2002).

69. *Id.*

70. *Id.* The isobath is a line which connects the depth of 2,500 meters. *Id.*

71. UNCLOS, *supra* note 5, art. 77; Llewellyn, *supra* note 66, at 679-80.

72. UNCLOS, *supra* note 5, art. 77(1).

73. UNCLOS, *supra* note 5, art. 77(2).

74. UNCLOS, *supra* note 5, art. 77 (4).

75. Llewellyn, *supra* note 66, at 680.

shelf to the maximum limit permitted.⁷⁶

In order to claim territory beyond the 200 mile area that every nation is entitled to, states must engage in a delineation process.⁷⁷ There are three stages of the delineation process: submission preparation, review by CLCS,⁷⁸ and delineation deposit.⁷⁹ During the submission preparation phase, states must acquire and interpret data before a submission can be prepared for review.⁸⁰ After submission, CLCS is “to consider, make recommendations, and provide requested scientific and technical advice regarding coastal States’ continental shelf submissions on the basis of its Scientific and Technical Guidelines and Rules of Procedure.”⁸¹

CLCS will then review the information and make a recommendation to the coastal state regarding the delineation of the continental shelf.⁸² “If the coastal state establishes its continental shelf on the basis of those recommendations, then the recommendations are ‘final and binding.’”⁸³

Article 76 also establishes the CLCS,⁸⁴ which is made up of twenty-one individuals.⁸⁵ CLCS’s purpose is to assess each nation’s claim to extend territorial claims beyond 200 miles.⁸⁶ CLCS plays a unique role in international law.⁸⁷ It is not an adversarial or adjudicatory body with the ability to prescribe binding bilateral boundaries.⁸⁸ It is also unlike legal non-compliance

76. See generally *id.* (discussing the benefits of extending the States’ continental shelf beyond 200 nautical miles).

77. UNCLOS, *supra* note 5, art. 76.

78. Also referred to in this Note as the Commission.

79. Prows, *supra* note 61, at 273.

80. *Id.* at 274. See *id.* at 273-74 for a detailed discussion of the scientific research involved in data acquisition and interpretation.

81. *Id.* at 274; UNCLOS, *supra* note 5, art. 76 (8); see also CLCS, *Scientific and Technical Guidelines of the Commission on the Limits of the Continental Shelf*, para. 1.7, U.N. Doc. CLCS/11 (May 13, 1999); CLCS, *Rules of Procedure of the Commission on the Limits of the Continental Shelf*, 17-19, U.N. Doc. CLCS/40 (July 2, 2004).

82. Murphy, *supra* note 68, at 969.

83. *Id.*

84. The members serve a five year term and are then eligible for re-election. The current term began in 2007 and will continue through 2012. The current members of the Commission are from Brazil, Argentina, Nigeria, Norway, Mexico, Trinidad and Tobago, Ireland, Mauritius, Romania, Malaysia, Georgia, Cameroon, Russia, China, Ghana, Korea, Portugal, India, Seychelles, Australia, and Japan. UNITED NATIONAL OCEANS AND LAW OF THE SEA, COMMISSION ON THE LIMITS OF THE CONTINENTAL SHELF (CLCS) MEMBERS OF THE COMMISSION (2007), available at http://www.un.org/Depts/los/clcs_new/commission_members.htm#Members.

85. UNCLOS, *supra* note 5, art. 76.

86. Andrew King, Note, *Thawing a Frozen Treaty: Protecting United States Interests in the Arctic with a Congressional – Executive Agreement of the Law of the Sea*, 34 HASTINGS CONST. L.Q. 329, 333 (2007).

87. Prows, *supra* note 61, at 275. “It has been characterized variously as a ‘canary in the mineshaft,’ ‘policeman,’ ‘watchdog,’ and ‘legitimitor’ of would be extended continental shelf claims.” *Id.*; see also Ted L. McDorman, *The Role of the Commission on the Limits of the Continental Shelf: A Technical Body in a Political World*, 17 INT’L MARINE & COASTAL L. 301, 319-21 (2002).

88. Robert W. Smith & George Taft, *Legal Aspects of the Continental Shelf*, in

mechanisms engaged in corrective or punitive measures when international commitments are not satisfied.⁸⁹

CLCS is a science-based body composed of members who are “experts in the field of geology, geophysics or hydrography.”⁹⁰ In fact, none of the CLCS members have any legal training.⁹¹ The decision to rely on science was intended to depoliticize delineation; however, the process is still dependent on the biases of the scientists involved.⁹²

The fact that CLCS lacks legal expertise has been subject to some criticism.⁹³ However, this fact is mitigated because the Commission can ask the Legal Counsel of the United Nations for legal advice.⁹⁴

[T]he primary competence to interpret Article 76 must rest with the UNCLOS State Parties, the view has been expressed that the Commission should in general accept the interpretation made by the submitting coastal State; and that only if the Commission considers that that interpretation departs from what can reasonably be considered to be in accordance with the Convention should it reject it.⁹⁵

It is very difficult to determine the effectiveness of CLCS in the delineation process because the method of formulating recommendations is obscure. CLCS sessions are closed to all parties except the state whose submission is being evaluated.⁹⁶ CLCS is bound by states’ requests to keep their submission information confidential.⁹⁷ This results in a lack of details of the CLCS’s deliberations.⁹⁸ CLCS also refuses to consider interventions from states that are not opposite from or adjacent to the submitting state.⁹⁹ “Without

CONTINENTAL SHELF LIMITS: THE SCIENTIFIC AND LEGAL INTERFACE (Peter J. Cook & Chris M. Carleton eds., 2000); Prows, *supra* note 61, at 275.

89. See generally Marti Kiskenniemi, *Breach of Treaty of Non-Compliance? Reflections on the Enforcement of the Montreal Protocol*, 3 Y.B. INT'L ENVTL. L. 123 (1992).

90. UNCLOS, *supra* note 5, annex II, art. 2(1).

91. Prows, *supra* note 61, at 275.

92. *Id.*

93. Llewellyn, *supra* note 66, at 683.

94. See Letter Dated 98/03/11 From the Legal Counsel, Under-Secretary-General of the United Nations for Legal Affairs, Addressed to the Commissions on the Limits of the Continental Shelf: Legal Opinion on the Applicability of the Convention on the Privileges and Immunities of the United Nations to the Members of the Commission, Mar. 11, 1998, CLCS/5, available at <http://documents.un.org/mother.asp>; see also Llewellyn, *supra* note 66, at 683.

95. Llewellyn, *supra* note 66, at 683.

96. CLCS, *Rules of Procedure of the Commission on the Limits of the Continental Shelf*, 17-19, U.N. Doc. CLCS/40, rules 23, 52 (July 2, 2004).

97. *Id.* annex II.

98. Prows, *supra* note 61, at 275-76.

99. CLCS, *Statement by the Chairman of the Commission on the Limits of the Continental Shelf on the Progress of Work in the Commission*, para. 17, U.N. Doc. CLCS/42 (Sept. 14, 2004). “These policies only make it more difficult for other States to contribute to and learn from others’ submissions about how the best science should be brought to bear in support of different types of claims.” Prows, *supra* note 61, at 276.

more practice and transparency, it is similarly difficult to assess the efficiency of the CLCS in interpreting and applying international law.”¹⁰⁰

Article 76(4) provides the methods for calculating the outer edge of the continental margin, which includes two alternate formulas.¹⁰¹ Article 76(4) provides that:

4. (a) For the purposes of this Convention, the coastal State shall establish the outer edge of the continental margin wherever the margin extends beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured, by either:

(i) a line delineated . . . by reference to the outermost fixed points at each of which the thickness of sedimentary rocks is at least 1 percent of the shortest distance from such point to the foot of the continental shelf; or

(ii) a line delineated . . . by reference to fixed points not more than 60 nautical miles from the foot of the continental slope.

(b) In the absence of evidence to the contrary, the foot of the continental slope shall be determined as the point of maximum change in the gradient at its base.¹⁰²

The Irish formula, contained in Article 76(4)(i), places the outer limits out to a point where hydrocarbon-rich sedimentary rocks have settled down the continental margin in detectable thickness.¹⁰³ The Hedberg formula, contained in Article 76(4)(ii), calculates the outer limit as sixty miles from the foot of the continental slope, “which itself is an estimate of where the land mass begins its rise from the deep ocean floor.”¹⁰⁴ The maximum width for the extended continental shelf under either formula is 350 miles from shore, or for non-ridge claims, 100 miles beyond the 2,500 meter isobath.¹⁰⁵

When the continental shelf extends past 200 nautical miles, the coastal state is supposed to delineate the outer limits of the continental shelf.¹⁰⁶ The Convention requires that no later than ten years after a coastal state becomes a

100. Prows, *supra* note 61, at 276.

101. UNCLOS, *supra* note 5, art. 76 (4); Prows, *supra* note 61, at 272.

102. UNCLOS, *supra* note 5, art. 76 (4).

103. Prows, *supra* note 61, at 272; *see* UNCLOS, *supra* note 5, art. 76 (4)(i).

104. Prows, *supra* note 61, at 272; *see* UNCLOS, *supra* note 5, art. 76 (4)(ii).

105. Prows, *supra* note 61, at 272.

106. Murphy, *supra* note 68, at 969.

party to the Convention that it submit oceanographic information relevant to the limits of its continental shelf to the CLCS.¹⁰⁷ “The first continental shelf claim submission deadline faced by the 129 early-adopter States Parties is May 13, 2009.”¹⁰⁸

However, there are concerns about the effectiveness of Article 76. “Given that approximately twenty-five percent of the sea-bed is potentially claimable as a continental shelf, it is reasonable to expect . . . difficulties as Article 76 is implemented.”¹⁰⁹ The full Article 76 mechanism has yet to be tested by any state that has deposited its final and binding delineation with the United Nations Secretary-General, or by exercising its jurisdiction in a claimed extended continental shelf area.¹¹⁰ There are also many uncertain situations created by Article 76 that remain to be determined.¹¹¹ Conflict over the uncertain situations has the potential to “fragment and undermine the whole continental shelf outer limit regime.”¹¹²

Another point of contention regarding Article 76 comes during the “final and binding” continental shelf outer limit delineation on the basis of CLCS’s recommendations.¹¹³ No state has deposited its CLCS delineation with the United Nations Secretary-General, so it is difficult to evaluate the success of Article 76.¹¹⁴ “It is foreseeable . . . that conflict could arise where a coastal State and its opposite, adjacent, and distant-water colleagues disagree over whether the delineation is appropriately based on the CLCS recommendations and thus undoubtedly ‘final and binding.’”¹¹⁵

107. *Id.* At the 2001 annual State Parties meeting, the parties agreed to extend the time allowed for coastal states to prepare and make extended continental shelf submissions. The Parties took this action because the CLCS had not adopted the Scientific and Technical Guidelines on which submissions would be reviewed until May 1999, which made the original 2004 deadline unreasonable. Prows, *supra* note 61, at 268.

108. Prows, *supra* note 61, at 270. Of more than sixty countries that could claim a continental shelf, only seven submissions have been made to CLCS. *Id.*

109. *Id.*

110. *Id.*

111. *Id.* at 270-71. Some of the unanswered questions that are outside the scope of this Note include the following:

If, for example, a State misses the 2009 deadline, does it prejudice any claim to an extended continental shelf in favor of a more general interest in the seabed common heritage? What if the scientists who compose the CLCS make a legal interpretation of Article 76 that prejudices a coastal State’s asserted rights and obligations under UNCLOS? And, if in the meantime an oil well is prospected in a marginal area that may or may not be claimed as legal shelf, would drilling fall under UNCLOS Part VI or Part XI?

Id.

112. *Id.* at 271.

113. *See id.* at 276.

114. *Id.*

115. *Id.* at 276-77; see also UNCLOS, *supra* note 5, art. 76 (8) which states that “[t]he Commission shall make recommendations to coastal states on matters related to the establishment of the outer limits of their continental shelf. The limits of the shelf established by a coastal State on the basis of these recommendations shall be final and binding.”

There are several problems with the method of delineation of territory set out in Article 76 of UNCLOS. First, the Arctic region is a very unique place; it is the only place in the world where a number of countries form a circle around an enclosed ocean.¹¹⁶ This means that there is a lot of overlap in territorial claims.¹¹⁷ The overlap is of particular concern because CLCS is prohibited from making recommendations regarding territory that is claimed by more than one state.¹¹⁸ The states with competing claims are supposed to work it out amongst themselves.¹¹⁹ The second problem with the method is that ocean mapping systems are not very accurate.¹²⁰ "Overall, maps of Mars are about 250 times better than maps of the earth's ocean floor."¹²¹ This also contributes to competing claims, as it is difficult for a state to determine the precise delineation of the continental shelf without accurate data.¹²² "The critical task of delineating a true outer limit to the continental shelf is now a matter of implementing the delicate balance between applied science and supervised unilateral claims embodied in Article 76 of UNCLOS."¹²³

Thus, while UNCLOS appeared to be an ideal method of governing the world's oceans at the time of its adoption, there are many problems with it regarding Arctic territory claims.¹²⁴ The uncertainty of Article 76 regarding claims to the Arctic is of particular importance. The uncertainty of UNCLOS may lead to additional disputes over Arctic territory. Therefore, "[a]lthough UNCLOS as a political bargain and legal regime may aspire to universality, it is undoubtedly an imperfect and incomplete instrument."¹²⁵

116. King, *supra* note 86, at 335.

117. *Id.* The boundaries of the five nations "converge the way sections of an orange meet at the stem." Krauss et al., *supra* note 3.

118. UNCLOS, *supra* note 5, art. 83 (1); Woodard, *supra* note 2. "Delimitation between opposite or adjacent States is . . . left to 'equitable agreement on the basis of international law.'" Prows, *supra* note 61, at 271.

119. Prows, *supra* note 61, at 271.

120. Robert Lee Hotz, *U.S. Draws Map of Rich Arctic Floor Ahead of Big Melt*, WALL ST. J., Aug. 31, 2007, at B1.

121. *Id.*

122. *See id.* It is also very difficult to determine the exact points of a slope's beginning. *See* Gagnon, *supra* note 47.

Think of a continent as a big rock sitting in a bathtub, and imagine that a chunk of it rises out of the water. The question for scientists is, where does the rock end and the acrylic tub begin? It sounds simple enough, but imagine . . . that [the] tub is also made of rock, and that smaller rocks are piled up all over the place.

Id.

123. Prows, *supra* note 61, at 241. "The stated scientific criteria - - despite the attempt to make the criteria definitive- remain vague and ambiguous, in addition to suffering from the uncertainties inherent in any nascent scientific endeavor." *Id.*

124. *See supra* notes 64-133 and accompanying text.

125. Prows, *supra* note 61, at 245.

C. *Signatories to UNCLOS- Why is the United States not on the List?*

As of 2007, there were 155 signatories to UNCLOS.¹²⁶ The most recent signatories added in 2007 were Moldova, Morocco, and Lesotho.¹²⁷ All of the Arctic states have ratified the treaty, except for the United States.¹²⁸

Many are concerned that until the United States¹²⁹ ratifies UNCLOS, it will be left out of any claims for Arctic territory.¹³⁰ Although President Bill Clinton signed the amended UNCLOS on July, 29, 1994, and, on October 7, 1994, submitted it to the United States Senate as required under Article II, Section 2 of the Constitution, the Senate still has not ratified it by the required two-thirds majority.¹³¹ As of 2007, the Bush Administration was still trying to get Senate approval for UNCLOS.¹³² On February 7, 2002, President Bush designated UNCLOS as one of five treaties in urgent need of Senate approval.¹³³ Senator Richard Lugar (R-Ind.), who became chairman of the Senate Foreign Relations Committee in 2003, held hearings on the Convention both in 2003 and 2004.¹³⁴ On February 25, 2004, the Committee voted to recommend ratification of the treaty and submitted it to the full Senate for approval.¹³⁵

126. UNITED NATIONS DIVISION FOR OCEAN AFFAIRS AND THE LAW OF THE SEA: CHRONOLOGICAL LISTS OF RATIFICATIONS OF, ACCESSIONS AND SUCCESSIONS TO THE CONVENTION AND RELATED AGREEMENTS AS OF 26 OCTOBER 2007, *available at* http://www.un.org/depts/los/reference_files/chronological_lists_of_ratifications.htm [hereinafter UNCLOS SIGNATORY LIST].

127. *Id.*

128. *Id.* Denmark became a signatory on November 16, 2004. Canada became a signatory on November 7, 2004. The Russian Federation became a signatory on March 12, 1997. Norway became a signatory on June 24, 1996. *Id.*

129. Even though the United States has not ratified the treaty, in some cases the treaty has been treated as international law. The courts in the following cases have reached the conclusion that despite the submission of UNCLOS to ratification and failure by the Senate to ratify it, UNCLOS reflects international common law: *United States v. Alaska*, 503 U.S. 569 (1992); *United States v. Kun Yun Jho*, 465 F. Supp.2d 618 (E.D. Tex. 2006); and *United States v. Royal Caribbean Cruises, Ltd.*, 11 F. Supp.2d 1358 (S.D. Fla. 1998). The courts in the following cases, relying in part on the Restatement Third, Foreign Relations Law §312(3) and international conventions, ruled that upon submission of the UNCLOS to the Senate by the President, even though Congress did not ratify the treaty, UNCLOS carried the weight of law and the United States was obliged to refrain from acts that would defeat the object and purpose of the agreement, or the like: *Mayaguezanos por la Salud y el Ambiente v. United States*, 198 F.3d 297 (1st Cir. 1999) and *Mansel v. Baker Hughes, Inc.*, 203 F. Supp.2d 745 (S.D. Tex. 2002). There is also case law expressly noting that since UNCLOS was submitted for Senate ratification but it was not ratified, it did not have the force of law: *United States v. Best*, 304 F.3d 308 (3d Cir. 2002). Jay M. Zitter, *Construction and Application of United Nations Convention of the Law of the Sea - Global Cases*, 21 A.L.R. FED. 2D 109 (2007).

130. See generally King, *supra* note 86. Estimates suggest that the United States could claim at least 386,000 square miles of territory. Gagnon, *supra* note 47.

131. King, *supra* note 86, at 336.

132. *Id.*

133. *Id.*

134. *Id.*

135. *Id.*

Despite the apparent support for UNCLOS, the Senate has still not ratified the treaty.¹³⁶ In 2006, Senate Majority Leader Bill Frist refused to schedule a floor vote on the Convention.¹³⁷ Senator Frist claims that there is an inadequate understanding of what the Law of the Sea Treaty actually is and what it does.¹³⁸ “Ratification of the treaty has long been opposed by conservatives, who consider it a shackle on US sovereignty”¹³⁹

During the current push for ratification many organizations have testified in support of UNCLOS, including the Department of State, Office of the Secretary of Defense, the U.S. Navy, the U.S. Coast Guard, and the Commerce Department.¹⁴⁰ Additionally, in the private sector, “every major ocean industry, including shipping, fishing, oil and natural gas, drilling contractors, ship builders, and telecommunications companies that use underwater cables, support U.S. accession to the Law of the Sea and are lobbying in favor of it.”¹⁴¹

Many prominent environmental institutions, including the Natural Resource Defense Council and the Ocean Conservancy, have also joined with the oil and gas companies in support of UNCLOS because of the environmental provisions in the Treaty.¹⁴² “Many proponents of the treaty, including the Pentagon, the American Petroleum Institute and Senator John McCain . . . say [that failure to ratify the treaty] leaves the United States on the sidelines while others carve up an ocean.”¹⁴³

The United States must ratify UNCLOS in the near future in order to protect its Arctic claims:

To maintain its economic dominance in the [international] community, the United States must join the Convention on the Law of the Sea. It is in the best economic, military, and environmental interests for the United States to join the Convention, and adherence to its guidelines would encourage others to join, resulting in more stability in the laws governing the ocean.¹⁴⁴

If the United States fails to ratify UNCLOS, its claims would be

136. *Id.* at 338.

137. *Id.* at 337.

138. *Id.*

139. Graff, *supra* note 25.

140. *Id.*; John Norton Moore, United States Adherence to the Law of the Sea Convention: A Compelling National Interest, Prepared Testimony Before the House Committee on International Relations (May 12, 2004), available at <http://www.virginia.edu/colp/pdf/house-testimony.pdf>.

141. Senator Richard G. Lugar, Chairman, Senate Comm. on Foreign Relations, The Law of the Sea Convention: The Case for Senate Action, Address at Brookings Institution (May 4, 2004) (transcript available at <http://www.brookings.edu/comm/events/20040504lugar.htm>).

142. *Id.*

143. Krauss et al., *supra* note 3.

144. Bates, *supra* note 53, at 791-92.

subordinate to any country claiming competing territory, as CLCS will not evaluate the claims of states that are not parties to the treaty.¹⁴⁵ Senator Lugar has commented that CLCS

will soon begin making decisions on claims to continental shelf areas that could impact the United States' own claims in the area and resources of our broad continental margin. Russia is already making excessive claims in the Arctic. Unless we are party to the Convention, we will not be able to protect our national interest in these discussions.¹⁴⁶

In response to the need for UNCLOS to be ratified, and the refusal of a few Senate members to present the treaty, some advocates have proposed that the President should “withdraw the treaty from the Senate and work with both Houses of Congress to foster a Congressional-Executive agreement”¹⁴⁷ In a Congressional-Executive Agreement “the President, with the authorization or approval of Congress, may make an international agreement dealing with any matter that falls within the powers of Congress and of the President under the Constitution.”¹⁴⁸ Those who support a Congressional-Executive Agreement think that it would create “fresh political impetus to get the Convention approved.”¹⁴⁹ “The Convention powerfully serves our security interests and *no* United States oceans interest is better served by non-adherence.”¹⁵⁰

Even though the United States has not yet ratified UNCLOS, it is taking measures to ensure that if it ever ratifies the Convention its interests will be protected. In August 2007, the United States launched the \$1 million Healy expedition to map the ocean floor of the Arctic.¹⁵¹ The Healy expedition is the United States' third seafloor mapping venture of the Arctic since 2003.¹⁵² “The Healy's voyage is part of a broader U.S. effort to extend its undersea zone of military and economic authority should it adopt the 25-year-old U.N. accord.”¹⁵³

145. See King, *supra* note 86, at 338-40.

146. Lugar, *supra* note 141.

147. See King, *supra* note 86, at 330; see also RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW § 303 (1987).

148. RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW § 303 (1987). “It is within the [P]resident's prerogative to decide whether to submit an international agreement as an Article II treaty or an Article I Congressional-Executive agreement It is not an unconstitutional leap to say that the president can also withdraw an Article II treaty from consideration in the Senate and resubmit it to Congress as a Congressional-Executive agreement.” King, *supra* note 86, at 353.

149. King, *supra* note 86, at 352. Resubmitting the Convention could generate new media coverage and momentum in the House of Representatives. *Id.*

150. Moore, *supra* note 140, at 5.

151. Hotz, *supra* note 120.

152. *Id.*

153. *Id.*

Hence, in order for the United States to protect its interests in both the Arctic and other areas of the world's oceans, it is imperative that it become a signatory to UNCLOS.¹⁵⁴ Even in the event that the Arctic states attempt to negotiate an agreement outside of UNCLOS, becoming a signatory will be beneficial to the United States because it will be able to protect its interests in areas outside of the Arctic.¹⁵⁵

D. Dispute Settlement Mechanisms Contained within UNCLOS

While UNCLOS contains provisions for dispute resolution under the Convention, the prescribed methods will likely be ineffective at quelling disputes in the Arctic.¹⁵⁶ Under Article 287 of UNCLOS, a party to the convention can choose, through a written declaration, one or more of the following means for the settlement of disputes concerning interpretation or application of the Convention: the International Tribunal for the Law of the Sea;¹⁵⁷ the International Court of Justice; an arbitral tribunal constituted in accordance with Annex VII of UNCLOS; and/or a special arbitral tribunal constituted in accordance with Annex VIII¹⁵⁸ for one or more categories of disputes specified.¹⁵⁹ If the parties to a dispute have selected the same procedure, they may only use that procedure, unless they agree otherwise.¹⁶⁰ If the parties to a dispute have not agreed upon the same procedure, the dispute may only be submitted to arbitration under Annex VII of UNCLOS.¹⁶¹

The four Arctic states that are parties to UNCLOS have not all selected the same method for dispute resolution.¹⁶² Canada has selected submission to either the International Tribunal for the Law of the Sea or an arbitral tribunal in accordance with UNCLOS Annex VII.¹⁶³ Denmark and Norway have both

154. See King, *supra* note 86, at 336-40.

155. See generally Bates, *supra* note 53, at 771-92.

156. See UNCLOS, *supra* note 5, art. 287.

157. Established in accordance with UNCLOS, *supra* note 5, annex VI. See International Tribunal for the Law of the Sea, General Information-Overview, http://www.itlos.org/start2_en.html (last visited Apr. 3, 2009) for additional information regarding the International Tribunal for the Law of the Sea.

158. The categories of disputes eligible for special arbitration are those relating to: fisheries, protection and preservation of the marine environment, marine scientific research, and navigation, including: pollution from vessels and by dumping. UNCLOS, *supra* note 5, annex VIII art. 1.

159. UNCLOS, *supra* note 5, art. 287(1). Any declarations made pursuant to this article remain in force until three months after a notice of revocation is deposited with the Secretary-General of the United Nations. *Id.* at art. 287(6).

160. *Id.* at art. 287(4).

161. *Id.* at art. 287(5).

162. DIVISION FOR OCEAN AFFAIRS AND THE LAW OF THE SEA: SETTLEMENT OF DISPUTES MECHANISM (2007), available at http://www.un.org/Depts/los/settlement_of_disputes/choice_procedure.htm [hereinafter SETTLEMENT OF DISPUTES MECHANISM].

163. *Id.*

chosen submission to the International Court of Justice.¹⁶⁴ Russia has elected three methods: submission to the International Tribunal for the Law of the Sea for matters relating to detained vessels and crews; submission to a special arbitral tribunal for matters that are in accordance with UNCLOS Annex VIII;¹⁶⁵ and submission to arbitration in accordance with UNCLOS Annex VII for all other matters.¹⁶⁶ Thus, because most of the states have selected different dispute resolution mechanisms, any dispute between the states would likely be arbitrated in accordance with UNCLOS Annex VII, unless the parties agree otherwise.¹⁶⁷

However, under UNCLOS Article 298, states may declare in writing that they do not accept one or more of the procedures they have selected under Article 287 for several types of disputes.¹⁶⁸ Specifically, states can declare that they do not accept the dispute procedures they have selected for disputes concerning UNCLOS Article 83, which involves the delineation of continental shelves between states with opposite or adjacent coasts.¹⁶⁹ Denmark and Norway will not accept an arbitral tribunal in accordance with Annex VII for disputes under Article 83 of UNCLOS.¹⁷⁰ Canada and Russia have also declared that they will not accept their selected methods of dispute under Article 287 regarding UNCLOS Article 83.¹⁷¹

As a result, if Denmark or Norway were engaged in a dispute regarding UNCLOS Article 83 with a state that had not selected the same dispute mechanism under UNCLOS Article 287, instead of appearing before an arbitral tribunal under Annex VII, the dispute resolution would be pursuant to Article 298.¹⁷² Under UNCLOS Article 298, if the parties do not reach an agreement as to a method of dispute in a reasonable period of time, at the request of any of the parties the matter can be submitted to conciliation under UNCLOS Annex V, Section 2.¹⁷³ In conciliation, a conciliation commission simply makes non-binding proposals to the parties with a view of reaching an amicable settlement.¹⁷⁴ In addition, if Canada and Russia have a dispute with any state regarding delimitation of continental shelves under UNCLOS Article 83 they will also be subject to conciliation if they cannot reach an agreement in a reasonable amount of time.¹⁷⁵

164. *Id.*

165. *Id.* See also UNCLOS, *supra* note 5, annex VII.

166. SETTLEMENT OF DISPUTES MECHANISM, *supra* note 162.

167. UNCLOS, *supra* note 5, art. 287 (5).

168. *Id.* at art. 298.

169. *Id.* at arts. 83, 298(1)(a)(i). See UNCLOS, *supra* note 5, art. 298 for a listing of all types of disputes where states can elect not to accept the declared dispute resolution mechanisms under UNCLOS Article 287.

170. SETTLEMENT OF DISPUTE MECHANISMS, *supra* note 162.

171. *Id.*

172. UNCLOS, *supra* note 5, arts. 83, 287 & 298.

173. UNCLOS, *supra* note 5, art. 298.

174. UNCLOS, *supra* note 5, annex v, art. 6.

175. UNCLOS, *supra* note 5, art. 298.

Because of the lack of binding dispute resolution mechanisms available to the Arctic states regarding UNCLOS Article 83, it will be very difficult to settle any disputes that may arise under the current dispute resolution framework of UNCLOS. The insufficiency of the dispute resolution mechanisms under UNCLOS, specifically regarding UNCLOS Article 83, basically means that the Arctic states will be left to their own devices, with only the help of a non-binding conciliation committee, if a dispute should arise regarding the delimitation of continental shelves.¹⁷⁶

The foregoing summary of the legal framework governing territorial disputes in the Arctic Ocean indicates several observations regarding the current situation in the Arctic. First, UNCLOS has many pitfalls in its methods of delimitating the extended continental shelves of the Arctic states.¹⁷⁷ The Arctic states should consider whether UNCLOS is adequate to ensure their potential claims to Arctic territory. Perhaps it would be beneficial for the Arctic states to negotiate a mutually beneficial agreement regarding the delimitation of the Arctic, outside of UNCLOS. An agreement outside of UNCLOS could eliminate all of the inefficient and ineffective terms that are contained within UNCLOS. Second, even if an agreement is made outside of UNCLOS regarding the Arctic, the United States should become a signatory to UNCLOS. This would ensure that all of the United States' ocean interests are protected, even those outside of the Arctic.¹⁷⁸

II. AREAS IN DISPUTE

While the most potentially heated part of the dispute between the Arctic states will likely come from submissions to CLCS that overlap one another,¹⁷⁹ there are also several other ongoing disputes between some of the five Arctic states. The current disputes include a disagreement between the United States and Canada regarding the Northwest Passage,¹⁸⁰ tensions between Russia and all of the other Arctic states following several aggressive actions Russia has taken in the Arctic,¹⁸¹ and contention between Canada and Denmark regarding Hans Island.¹⁸²

176. See *supra* notes 172-75 and accompanying text.

177. See *supra* notes 64-125 and accompanying text.

178. See generally Bates, *supra* note 53, at 771-92 (discussing why passive acceptance of UNCLOS is not enough to protect the United States' property interests).

179. Woodard, *supra* note 2.

180. See generally Christopher Mark Macneill, *Gaining Command & Control of the Northwest Passage: Strait Talk on Sovereignty*, 34 *TRANSP. L.J.* 355 (2007) (discussing the ongoing dispute over the Northwest Passage).

181. See generally Woodard, *supra* note 2 (discussing Russia's recent actions in the Arctic).

182. See generally Christopher Stevenson, *Hans Off!: The Struggle for Hans Island and the Potential Ramifications for International Border Dispute Resolution*, 30 *B.C. INT'L & COMP. L. REV.* 263, 267 (discussing the history of the dispute over Hans Island and the reasons for the heated dispute over the small island).

A. United States and Canada - The Northwest Passage

The melting of the Arctic ice has reignited a longstanding feud between Canada and the United States over who controls the Northwest Passage.¹⁸³ The United States has long claimed that the Northwest Passage is an international strait through which it has transit passage.¹⁸⁴ The United States has "continually refus[ed] to acknowledge Canadian Sovereignty over the Arctic Archipelago, and thus, the Northwest Passage."¹⁸⁵ Canada claims that it has internal jurisdiction over the waterway.¹⁸⁶ The Canadian claim is founded on the International Court of Justice's decision in the Norwegian Fisheries Case.¹⁸⁷ Canada's claims stem from the argument that the "straits composing the Northwest Passage amount to inland seas, and therefore are subject to Canadian sovereignty, just as the United States controls Lake Michigan. The United States replies that these straits are part of the high seas, and thus anyone can enter them without obtaining Canada's consent."¹⁸⁸ The United States' claim is supported by the Corfu Channel case.¹⁸⁹

While Canada may not have a valid argument that it has sovereignty over the Northwest Passage, it may be in the best interest of the rest of the world that it does, even if it will reap the greatest profit and have the formal power to keep the rest of the world out.¹⁹⁰ "Canada has an interest in protecting the passage and exploiting its resources, which the rest of the world can purchase."¹⁹¹ This

183. See generally Jarashow et al., *supra* note 51 (discussing the dispute over the Northwest Passage); Michael A. Becker, *International Law of the Sea*, 41 INT'L L. 671 (2007) (discussing the renewed tensions surrounding the Northwest Passage); Macneill, *supra* note 180 (discussing the Northwest Passage).

184. Jarashow et al., *supra* note 51, at 1592.

185. *Id.* The European Union, led by the influence of the United Kingdom, in recognizing its own economic interest, has supported the United States' position that the Northwest Passage is an international strait; Russia has expressed its support for Canada's claim on complete control. Macneill, *supra* note 180, at 366.

186. Jarashow et al., *supra* note 51, at 1592.

187. Macneill, *supra* note 180, at 382; see also Fisheries Case (U.K. v Nor.), 1951 I.C.J. 116 (Dec. 18) (establishing elements of straight baseline test).

188. Eric Posner, *The New Race for the Arctic*, WALL ST. J., Aug. 3, 2007, at A8. If the United States were to acquiesce that the Northwest Passage is Canadian internal waters, the United States would exclusively qualify as a neighboring land-locked state with a right of traffic in transit, as a transit state under UNCLOS Article 124(1)(b). Macneill, *supra* note 180, at 368-69. UNCLOS Article 124 provides that: "transit State means a State, with or without a sea-coast, situated between a land-locked State and the sea, through whose territory traffic in transit passes." UNCLOS, *supra* note 5, art. 124(1)(b). "Alaska is effectively land-locked from convenient and effective land based access to the continental [United States], and therefore, stands to benefit from transit passes through the Canadian Arctic coastline." Macneill, *supra* note 180, at 369.

189. Macneill, *supra* note 180, at 382; see also Corfu Channel Case (U.K. v Alb.), 1949 I.C.J. 4 (Apr. 9) (defining innocent passage and other associated rights).

190. Posner, *supra* note 188.

191. *Id.*

is because common areas of the ocean are subject to exploitation.¹⁹² Overfishing has commonly been the predictable consequence of uncontrolled oceans.¹⁹³ Common areas of the ocean are also subject to increased environmental harm, as there is no one nation that enforces environmental protection laws.¹⁹⁴ “If no one can control the oceans, then the problem cannot be solved by giving a country nominal title to them.”¹⁹⁵ However, many speculate that because of its military weakness, Canada cannot control the Northwest Passage without the support of the United States.¹⁹⁶ One proposal posits that if the United States supports Canada’s claim to the Northwest Passage in return for some sort of guarantee of United States military and civilian access, the two countries may strengthen their claims against Russia.¹⁹⁷ “As the world heats up, the two countries need to prepare themselves for the re-emergence of old rivalries, and in the battle over control of the Arctic, the U.S. and Canada are natural allies.”¹⁹⁸

B. Russia and all Other Arctic Nations

Russia is the Arctic nation that is most aggressively trying to claim as much Arctic territory as it can.¹⁹⁹ On August 2, 2007, two Russian submarines traveled over two miles under the Arctic Ocean and planted a titanium Russian flag on the seafloor of the North Pole, claiming the underwater territory for Russia.²⁰⁰ While the flag planting does not have any legal effect towards UNCLOS claims, it signaled Russia’s seriousness regarding the Arctic territory.²⁰¹ Further, in spite of its legal insignificance, the Russian flag-planting mission generated backlash from most of the Arctic countries, especially Canada.²⁰² Canada’s Foreign Minister Peter McKay dismissed the Russian effort as show.²⁰³ “This isn’t the 15th century . . . [y]ou can’t go around the world and just plant flags and say ‘we’re claiming this territory.’”²⁰⁴ In Washington, Ariel Cohen of the Heritage Foundation said of the flag-planting

192. *Id.*

193. *Id.*

194. See generally Shi-Ling Hsu & Austen L. Parrish, *Litigating Canada-U.S. Transboundary Harm: International Environmental Lawmaking and the Threat of Extraterritorial Reciprocity*, 48 VA. J. INT’L L. 1 (2007).

195. Posner, *supra* note 188.

196. Macneill, *supra* note 180, at 382.

197. *Id.*

198. Posner, *supra* note 188.

199. See generally Wolfe, *supra* note 64.

200. *Id.*

201. Woodard, *supra* note 2. “Russia really meant something when it planted that flag: that it is taking the Arctic carve-up very seriously.” *Id.* “[I]t gave the Russians as much legal claim to the undersea Arctic as the US got to the moon when Armstrong and Aldrin put up the Stars and Stripes in the Sea of Tranquility.” Gagnon, *supra* note 47.

202. Graff, *supra* note 25.

203. *Id.*

204. *Id.*

incident, "Russia's attempted grab is a cause for concern," and called on the United States government to "formulate a strong response."²⁰⁵

Russia is the only Arctic nation thus far to submit a claim regarding its continental shelf to CLCS.²⁰⁶ On December 20, 2001, the Russian Federation proposed the outer limits of its continental shelf.²⁰⁷ The Russian claim was for 1.2 million square kilometers of territory, including the North Pole—nearly half of the Arctic Ocean.²⁰⁸ In June 2002, CLCS ruled that there was not sufficient data to support the assertion.²⁰⁹ CLCS asked the Russian Federation to make a revised submission with respect to its extended continental shelf.²¹⁰ Russia has until 2009 to prove its claim, in order to fall within the ten-year time period mandated by CLCS.²¹¹ Russia is still in the process of verifying the claim it submitted in 2001.²¹²

The 2007 Russian flag-planting mission was also aimed at proving that the seabed beneath the North Pole, known as the Lomonsov Ridge, is an extension of the Eurasian continental shelf, and thus falls under Russian control.²¹³ Countering Russia's claim, Canada and Denmark are pursuing scientific proof that Lomonsov Ridge is connected to Ellesmere Island²¹⁴ and Greenland respectively.²¹⁵ Both Denmark and Canada have coordinated research missions designed to counter the Russian claim to the Lomonosov Ridge.²¹⁶

Russia is currently regarded as the dominant force in the Arctic. The Russian flag-planting mission, along with its significant claim to the Arctic in 2001, is just one of the ways that Russia is attempting to assert its dominance and intent to exert control over the Arctic.²¹⁷ Russia is also a dominant force in the Arctic because "it has the world's largest fleet of icebreakers and long experience developing its icy Northern coastline."²¹⁸

205. *Id.*

206. Murphy, *supra* note 68.

207. *Id.*

208. Jarashow et al., *supra* note 51, at 1595.

209. Wolfe, *supra* note 64.

210. Murphy, *supra* note 68.

211. Wolfe, *supra* note 64.

212. *Id.*

213. *Id.*

214. Ellesmere Island is the third largest island in Canada and the most northerly island in the Arctic Archipelago. TheCanadianEncyclopedia.com, Ellesmere Island, <http://www.thecanadianencyclopedia.com/index.cfm?PgNm=TCE&Params=A1ARTA0002578> (last visited Apr. 3, 2009).

215. Wolfe, *supra* note 64.

216. *Id.*

217. See Posner, *supra* note 188.

218. Graff, *supra* note 25.

C. Denmark and Canada - Hans Island

Denmark and Canada are disputing the sovereignty of Hans Island, “a half-square-mile rock, 13% the size of New York’s Central Park,” which is located between Canada’s Ellesmere Island and Danish Greenland.²¹⁹ The island has been a subject of silent conflict for more than twenty years.²²⁰ The island is important for several reasons, including: “(1) the possible oil reserves lying beneath it²²¹ and (2) its location at the center of the Kennedy Channel, a potentially important shipping lane.”²²² The resolution of the dispute between Canada and Denmark over the island may have implications for determining each country’s continental shelf boundaries under UNCLOS.²²³ Also, if Canada subordinates its claim regarding Hans Island, it might lose any leverage it holds with regard to the rest of the Arctic region, including the Northwest Passage.²²⁴

The preceding disputes are only examples of the disputes that are currently ongoing between the Arctic states. The disputes with the most potential to become extremely heated will likely develop due to the lack of an effective and efficient terms resolution mechanism in UNCLOS.²²⁵

III. ANALYSIS OF PREVIOUSLY PROPOSED SOLUTION MODELS

There have been several different proposed models that purport to offer a solution to the potential Arctic disputes.²²⁶ None of the proposed solutions are perfect, and each has pros and cons.²²⁷ This Part provides an analysis of several of the previously proposed models.

219. Anitei, *supra* note 45.

220. *Id.*

221. “While there are no known deposits of oil, natural gas, gold, or other minerals on Hans Island, there is speculation that the seafloor under the surrounding waters could contain such natural resources.” Stevenson, *supra* note 182, at 267. See generally Anne McIlroy, *Hans off My Island*, GUARDIAN UNLIMITED, Aug. 30, 2005, available at <http://guardian.co.uk/world/2005/aug/30/arctic>.

222. Jarashow et al., *supra* note 51, at 1593-94.

223. *Id.* at 1594. See Stevenson, *supra* note 182, at 268-75 for a discussion and analysis of the possible outcome of the dispute if presented to the International Court of Justice. See also Jarashow et al., *supra* note 51, at 1624-30 (discussing the territorial dispute and ramifications of possible outcomes).

224. *Id.*; see also Hans Island the Tip of Iceberg in Arctic Claims, CTV.ca News Staff, July 31, 2005, http://www.ctv.ca/servlet/ArticleNews/story/CTVNews/20050731/hans_island_QP_050731?s_name=&no_ads (describing statements of Canada’s Defense Minister that if Canada is not firm with the sovereignty of Hans Island, it would be setting a terrible precedent for other issues of Canadian Arctic Sovereignty).

225. See Woodard, *supra* note 2.

226. See *infra* notes 229-78 and accompanying text.

227. See *infra* notes 229-78 and accompanying text.

A. Antarctica Model

One of the proposed solutions regarding territory disputes in the Arctic is to implement a treaty between the five countries that is similar to the Antarctic Treaty.²²⁸ The two polar areas are similar in many ways.²²⁹ “Both have extreme climatic conditions, receiving less radiation from the sun than other parts of the globe, and the ecosystems have had to adapt to very cold and dark environments with short light-filled growing seasons.”²³⁰ The two areas also have many differences.²³¹ “[T]he Arctic consists of ocean surrounded by continents, whereas the Antarctic is a continent surrounded by ocean; the Antarctic has no permanent human habitation, while the Arctic is inhabited by indigenous peoples and other local communities.”²³²

The Antarctic Treaty was created in 1959 after the United States invited twelve nations with claims to Antarctica to a conference in Washington D.C.²³³

The Treaty included key provisions that addressed competing territorial claims.²³⁴ Article IV of the Antarctic Treaty includes a clause that states that nothing contained in the Treaty will be interpreted as a renunciation by any Party of a claim to territorial sovereignty in Antarctica.²³⁵ Article IV also states that no activities that take place while the Treaty is in force will constitute a basis for asserting, supporting, or denying a claim to territorial sovereignty in Antarctica, or create any right to sovereignty.²³⁶ No new claims or enlargement of existing claims can be made while the Treaty is in force.²³⁷

The actual effect of this language is unclear, but it is important because it allowed the nations to look past any territorial disputes and focus on other important problems facing the continent, such as pollution control, natural resource exploitation, and scientific exploration.²³⁸ No new sovereignty disputes have arisen in Antarctica for more than forty-five years, mainly due to Article IV.²³⁹

Some scholars believe that because there are many piecemeal treaties that do not completely cover all the concerns of the Arctic, a single treaty modeled

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

229. Timo Koivurova, *Environmental Protection in the Arctic and Antarctic: Can the Polar Regimes Learn from Each Other?*, 33 INT'L J. LEGAL INFO. 204, 204 (2005).

230. *Id.* “In such conditions, the ecosystems are simple, containing only a few key species, and are thus more vulnerable to human-induced pollution than those of more temperate areas.” *Id.* “[T]he two polar regions have four issues in common: science, territorial sovereignty, national security, and environment.” Dubner, *supra* note 37, at 13 (internal quotations omitted).

231. Koivurova, *supra* note 229, at 204.

232. *Id.*

233. Jarashow et al., *supra* note 51, at 1637.

234. *Id.*

235. Antarctic Treaty, *supra* note 228, art. IV.

236. *Id.*

237. *Id.*

238. Jarashow et al., *supra* note 51, at 1638.

239. *Id.*

after the Antarctic treaty would be more effective.²⁴⁰ Specifically, it has been noted that there is a need for a “single treaty [that] offers the protection necessary to guard the environment from . . . various pollutants”²⁴¹ This is because environmental protection in the Antarctic has been regulated by international law due to the lack of sovereignty in the area, meaning there are no territorial sovereigns whose environmental protection systems would govern.²⁴² In the Arctic, national environmental laws apply to most areas.²⁴³

However, the Antarctic Model will most likely not be effective in the Arctic region for several reasons. “[S]cientific interests rather than political, economic, or military concerns dominated the expeditions sent to Antarctica after World War II.”²⁴⁴ In contrast, the motivations behind territory claims in the Arctic are based solely on political, economic, and military concerns.²⁴⁵ “While such a treaty would solve many of the environmental issues in the region, it might not have a strong enough effect on the territorial disputes, and so it might not satisfy all States, some of whom are more concerned with their sovereignty claims than environmental issues.”²⁴⁶

B. Environmental Model

There are many different environmental occurrences that would be detrimental to the Arctic region, and the world as a whole, which may be triggered by both the increased temperatures in the Arctic and the increased activity which the area will probably be subject to if temperatures continue to rise.²⁴⁷ The major concern is that oil exploration in the area will subject the environment to potentially massive oil spills.²⁴⁸ Common oil rigs, such as the ones in the Gulf of Mexico, are not strong enough to withstand Arctic ice.²⁴⁹ Therefore, reinforced rigs will be necessary.²⁵⁰ “Whether even the reinforced rigs survive is a concern for environmentalists, who fear the ice could cause a spill by damaging equipment and make a cleanup next to impossible.”²⁵¹

One possible solution that has been proposed in order to reduce the

240. Dubner, *supra* note 37, at 17.

241. *Id.*

242. Koivurova, *supra* note 229, at 213.

243. *Id.*

244. Antarctic Treaty, *supra* note 228.

245. *See generally* Woodard, *supra* note 2.

246. Jarashow et al., *supra* note 51, at 1650.

247. *See generally* Abate, *supra* note 39; Dubner, *supra* note 37. “The Arctic is generally considered to be vulnerable to oil spills due to slow recovery of cold, highly seasonal ecosystems, and the difficulty of clean up in remote, cold regions, especially in waters where sea ice is present.” Hargreaves, *supra* note 44.

248. *See* Hargreaves, *supra* note 44.

249. *Id.*

250. *Id.*

251. *Id.* “[T]here’s also a feeling that drilling in the Arctic, made possible largely by global warming at least partially caused by burning fossil fuels, is perverse.” *Id.*

negative effects on the environment in the Arctic region is to create an international park system encompassing the Arctic Ocean through a comprehensive treaty or other instrument.²⁵² Currently, there are many international world parks which are controlled by more than one state.²⁵³ These parks include: Pico de Neblina,²⁵⁴ Glacier National Park²⁵⁵ and adjacent Waterton Lakes National Park,²⁵⁶ and Great Limpopo Transfrontier Park.²⁵⁷ “As part of the Arctic transnational park, the countries bordering the Arctic Ocean could impose a moratorium on resource extrication or development in the ocean”²⁵⁸ “[T]he international park zone could either parallel the type of arrangement found in the Antarctic or could create an ‘authority’ to prevent despoliation or development of the Arctic Ocean.”²⁵⁹

However, many people have noted that an overriding problem with an international transboundary park is that environmental damage was not a major consideration of the UNCLOS drafters.²⁶⁰ There is not an effective enforcement mechanism within the treaty to prevent environmental degradation.²⁶¹ One author claims that an “effective way to achieve the needed enforcement mechanisms is to create an international park.”²⁶²

This proposed solution model would also require the cooperation of most, if not all, of the five Arctic states.²⁶³ While this is probably the best solution proposed to preserve the Arctic environment from degradation, many of the involved states may not be able to look past the significant potential gains that will likely come from exploration and exploitation of the Arctic’s available

252. Dubner, *supra* note 37, at 11.

253. *Id.*

254. A mountain range located in the Amazonian national forest that extends both into Venezuela and Brazil. *Id.* The two countries created the park to protect virgin forest. *Id.*

255. Glacier National Park is located in Montana. National Park Service, Glacier National Park, <http://www.nps.gov/glac/index.htm> (last visited Apr. 3, 2009).

256. Waterton Lakes National Park is located in Canada. National Park Service, Glacier National Park, History & Culture, <http://www.nps.gov/glac/historyculture/index.htm> (last visited Apr. 3, 2009). “In 1931, members of the Rotary Clubs of Alberta and Montana suggested joining the two parks as a symbol of the peace and friendship between our two countries. In 1932, the United States and Canadian governments voted to designate the parks as Waterton-Glacier International Peace Park, the world’s first.” *Id.*

257. Dubner, *supra* note 37, at 12. The Great Limpopo Transfrontier Park is a joint initiative between Mozambique, South Africa and Zimbabwe. South African National Parks, Great Limpopo Transfrontier Park, http://www.sanparks.org/conservation/transfrontier/great_limpopo.php (last visited Apr. 3, 2009). The establishment of the Great Limpopo Transfrontier Park is a process that will link the Limpopo National Park in Mozambique, Kruger National Park in South Africa, Gonarezhou National Park, Manjinji Pan Sanctuary and Malipati Safari Area in Zimbabwe, as well as two areas between Kruger and Gonarezhou, namely the Sengwe communal land in Zimbabwe and the Makuleke region in South Africa. *Id.*

258. Dubner, *supra* note 37, at 12.

259. *Id.*

260. *Id.*

261. *Id.*

262. *Id.*

263. *See generally id.*

natural resources. Some of the Arctic states are “more concerned with their sovereignty claims than environmental issues.”²⁶⁴

C. All Nations Ratify UNCLOS

Another proposed resolution to solve Arctic problems is that all involved states ratify UNCLOS.²⁶⁵ While this solution may aid some of the disputes in the region, it is not an adequate resolution in of itself.²⁶⁶

With 155 signatories, UNCLOS is one of the most adhered-to conventions in the world.²⁶⁷ The only Arctic state at issue that has not yet ratified the treaty is the United States.²⁶⁸ Thus, because all of the Arctic states besides the United States are signatories to the treaty, there is little resolution that will come from this that does not currently exist.

The only major benefit regarding the Arctic dispute that may result from the United States becoming a signatory to the treaty would be a possible resolution to the Northwest Passage dispute.²⁶⁹ “The UNCLOS transit passage regime, in conjunction with Article 234 provides Canada ample jurisdiction to enforce stringent environmental standards commensurate with the risks that exist in Arctic waters.”²⁷⁰ Becoming a signatory to UNCLOS would provide the United States guaranteed freedom of navigation through the Northwest Passage.²⁷¹ “[C]ommercial shipping of the Northwest Passage can consequently be developed without the fear that every transit would be considered a threat to Canadian national security and sovereignty.”²⁷²

It is advisable for the United States to become a signatory to UNCLOS in order to extend its continental shelf.²⁷³ It will also help to ensure that the United States will be able to navigate through the Northwest Passage as allowed by Article 234 of UNCLOS.²⁷⁴ Although U.S. accession to UNCLOS would be beneficial for protecting U.S. interests, accession will not provide a complete resolution of all issues in the area because of the previously outlined uncertainties surrounding CLCS and UNCLOS.²⁷⁵

264. Jarashow et al., *supra* note 51, at 1650.

265. *See id.* at 1640-42.

266. *See infra* notes 269-75 and accompanying text.

267. UNCLOS SIGNATORY LIST, *supra* note 126; *see also* Andrew S. Williams, *The Interception of Civil Aircraft over the High Seas in the Global War on Terror*, 59 A.F. L. REV. 73, 92 (2007) (discussing the signatory status of UNCLOS).

268. UNCLOS SIGNATORY LIST, *supra* note 126. *See supra* notes 126-55 and accompanying text for a discussion of why the United States has not yet ratified UNCLOS.

269. Jarashow et al., *supra* note 51, at 1650-51. *See supra* notes 183-98 and accompanying text for a discussion of the dispute over the Northwest Passage.

270. Jarashow et al., *supra* note 51, at 1651.

271. *Id.*

272. *Id.*

273. *See supra* notes 145-46 and accompanying text.

274. *See supra* notes 270-71 and accompanying text.

275. *See supra* notes 64-125 and accompanying text.

All of the previously proposed solutions examined in this Part have one thing in common.²⁷⁶ All of the solutions require varying degrees of cooperation between the Arctic states.²⁷⁷ Therefore, the main reason that these solutions may not be feasible is because the Arctic states have yet to show that they are willing to cooperate in order to come up with a viable solution.²⁷⁸

IV. POSSIBLE SOLUTIONS THROUGH PREVIOUS TERRITORIAL DISPUTES

Another possible source of solutions to the Arctic issue is to look at how other countries have handled previous territorial disputes. An examination of resolutions employed by other countries in territorial disputes is particularly useful for identifying any potential negative aspects in order to avoid such aspects in the Arctic.²⁷⁹ Such solutions also show that in the past, states have been able to come together to reach mutually-negotiated settlements.²⁸⁰ This Part will examine two potential resolutions to the Arctic dispute based on prior territorial disputes.²⁸¹ The resolutions are based on the joint submission to CLCS by France, Ireland, Spain, and the United Kingdom and the dispute over oil in the Timor Sea between East Timor and Australia.

A. *Joint Submission to CLCS*

To resolve the disputes in the Arctic, some or all of the Arctic states could band together and submit a joint submission to CLCS. On May 19, 2006, France, Ireland, Spain, and the United Kingdom deposited a joint submission²⁸² to the CLCS regarding the continental shelf extending into the Bay of Biscay²⁸³ and the Celtic Sea.²⁸⁴ The four nations began collaborative legal, technical, and

276. See *supra* notes 226-72 and accompanying text.

277. See *supra* notes 226-72 and accompanying text.

278. Woodard, *supra* note 2. See *supra* notes 227-72 and accompanying text.

279. Woodard, *supra* note 2.

280. *Id.*

281. The Antarctica Model, which was discussed previously, would also fit into this Part. See *supra* notes 229-46 and accompanying text.

282. "Very few shelf area[s] beyond 200 nautical miles worldwide form the natural prolongation of only one coastal State. A 1998 inventory identified 29 shelf areas, 22 of which involve more than one state, and only seven of which involve just one State." Llewellyn, *supra* note 66, at 683. See *id.* at 687-93 for the details of the substance of the Joint Submission. See also Woodard, *supra* note 2.

283. See generally Encyclopedia Britannica Online, Bay of Biscay, <http://www.britannica.com/eb/article-9015398/Bay-of-Biscay> (last visited Apr. 3, 2009) (discussing background information regarding the Bay of Biscay).

284. UNITED NATIONS DIVISION FOR OCEAN AFFAIRS AND THE LAW OF THE SEA, COMMISSION ON THE LIMITS OF THE CONTINENTAL SHELF (CLCS) OUTER LIMITS OF THE CONTINENTAL SHELF BEYOND 200 NAUTICAL MILES FROM THE BASELINES: SUBMISSIONS TO THE COMMISSION: JOINT SUBMISSION BY FRANCE, IRELAND, SPAIN, AND THE UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND (2007), available at http://www.un.org/Depts/los/clcs_new/submissions_files/submission_frgebires.htm [hereinafter JOINT SUBMISSION].

scientific work on the limits of the continental shelf in 2003.²⁸⁵ The reason the four states opted for a joint submission was that they determined a joint submission would “permit the sharing of human and technical resources, and costs.”²⁸⁶ This approach also reduces the workload of CLCS because it only has to examine one submission rather than four closely related ones.²⁸⁷

While UNCLOS does not mention joint submissions, the CLCS Rules mention such submissions in sections dealing with disputes between coastal states.²⁸⁸ The states involved must agree to the joint submission.²⁸⁹ The joint submission also cannot request delimitation of boundaries between the parties.²⁹⁰ CLCS makes recommendations based on the submission as a whole, and it is up to the parties involved to delimit individual boundaries between themselves.²⁹¹

No disputes existed among the parties to the joint submission regarding the extension of the continental shelf into the Bay of Biscay and the Celtic Sea.²⁹² However, there were unresolved boundaries.²⁹³ The states have asked the Commission to make recommendations on the outer limits of the shelf in the area of convergence first, and propose to subsequently delimit the boundaries among themselves.²⁹⁴ “Amicable agreement is . . . the expectation in relation to delimitation among France, Ireland, Spain, and the United Kingdom following the Commission’s recommendations on their joint submission.”²⁹⁵

“Further joint submissions by groups of coastal States would help [CLCS] to keep its increasing workload to a minimum, and encourage the cooperative conditions and mutual[] understanding among neighbouring [sic] coastal States conducive [sic] to subsequent amicable shelf boundary delimitation.”²⁹⁶ Greater certainty in the outer limits of Continental Shelves is in the interest of all parties to such disputes and could help to reduce points of contention between them.²⁹⁷ “The lengthy, close and detailed cooperation required of neighbouring [sic] coastal States in making such joint submissions could also help to avoid possible outer shelf delimitation disputes arising or crystallizing.”²⁹⁸

285. Llewellyn, *supra* note 66, at 678.

286. *Id.*

287. *Id.*

288. CLCS, *Rules of Procedure of the Commission on the Limits of the Continental Shelf*, 17-19, U.N. Doc. CLCS/40, annex. 1, para. 4 (July 2, 2004).

289. Llewellyn, *supra* note 66, at 683.

290. *Id.*

291. *Id.*

292. *Id.*

293. *Id.*

294. *Id.*

295. *Id.* at 692-93.

296. *Id.* at 683-84.

297. *Id.* at 692.

298. *Id.*

Utilizing this potential model, some or all of the Arctic states could band together and jointly submit their requests to CLCS. This would allow the states to save considerable resources in the expensive exploration of the ocean floor.²⁹⁹ A joint submission would permit the sharing of human and technical resources and costs among all the parties to the joint submission.³⁰⁰ Because preparation of a submission to CLCS is a complex, detailed, and time-consuming venture, the teams preparing the joint submission will likely develop a strong cooperative spirit and common understandings of the issues and challenges involved in the region.³⁰¹ Hopefully, the spirit and understanding would carry beyond the submission preparation to a stage where the states discuss delimitation of the boundaries among themselves.³⁰²

However, there are also potential problems with states collaborating around a joint submission. First, because Russia has already submitted a claim to CLCS, it will have to make a new or revised claim to CLCS.³⁰³ Also, Russia's demonstrated intent to exert a high degree of control over the Arctic may preclude reaching a solution via joint submission that would be satisfactory to all parties.³⁰⁴ Additionally, because the most significant aspect of the Arctic dispute relates to territory that can be claimed by more than one of the States in their extended continental shelf, if any area of the joint submission and Russia's submission overlap, there will still be a dispute regarding the overlapping territory.³⁰⁵ Moreover, this method will also require the cooperation of the parties involved because the CLCS would not provide the delimitation between the states in the joint submission.³⁰⁶ It would only delimit the joint submission as a whole.³⁰⁷ Thus, the parties would still have to agree on their individual boundaries among themselves.³⁰⁸ As mentioned previously, it is speculative whether the Arctic states will be able to cooperate regarding a solution to the potential disputes.³⁰⁹

B. Australia and Timor-Leste Maritime Boundary Dispute

In 2006, the governments of Australia and East Timor³¹⁰ took steps in the

299. *See id.*

300. *Id.* at 678.

301. *See id.*

302. *See id.*

303. Murphy, *supra* note 68, at 970; *see also supra* notes 206-11 and accompanying text.

304. *See supra* notes 199-218 and accompanying text.

305. *See supra* notes 290-91 and accompanying text.

306. *See supra* notes 290-91 and accompanying text.

307. *See supra* notes 289-98 and accompanying text.

308. *See supra* notes 290-91 and accompanying text.

309. Woodard, *supra* note 2. *See supra* notes 227-72 and accompanying text.

310. East Timor and Timor-Leste are used interchangeably to refer to the same nation. Timor-Leste is the Portuguese name for East Timor, a former Portuguese colony. National Geographic.com, Timor-Leste (East Timor) Facts, http://www3.nationalgeographic.com/places/countries/country_timorleste.html (last visited Apr. 3, 2009). The country is the poorest in Asia;

direction of resolving the long-running dispute³¹¹ over control of undersea oil and gas fields that are positioned between the two countries in the Timor Sea.³¹²

On January 12, 2006, the countries signed the Treaty on Certain Maritime Arrangements in the Timor Sea (CMATS Treaty), which allocates oil and gas revenue from the disputed area.³¹³ The key terms under the CMATS Treaty are:

- (1) The two earlier treaties³¹⁴ would continue and the [International Unitization Agreement] would be implemented concurrently with *CMATS Treaty*; (2) [N]either country would pursue a maritime boundary claim against the other for 50 years;³¹⁵ (3) Australia will continue to regulate and authorize [sic] petroleum activities outside the [Joint Petroleum Development Area] to the south of the 1972 Australia-Indonesia seabed boundary;³¹⁶ (4) [East] Timor [] will exercise . . . fisheries jurisdiction in the [Joint Petroleum Development

oil in the Timor Sea promises future revenue, however. *Id.*

311. The background of part of the dispute is that:

the two countries agreed on the Joint Petroleum Development Area in the *Timor Sea Treaty 2002*, which is to run for thirty years and under which . . . Timor-Leste is to have 90% of the government revenue rights from oil or gas production. The issue then moved to the huge Greater Sunrise oil and gas field that lies on the eastern boundary of the [Joint Petroleum Development Area]. To resolve how this was to be exploited the two countries agreed on the *2003 International Unitisation Agreement*. Under the two agreements about 20% of the Greater Sunrise field was deemed within the [Joint Petroleum Development Area] and the balancing 80% part outside it. The position was that the 80% was just to the south of the sea-bed boundary that Australia had agreed with Indonesia in 1972 and under this Australia had the revenue rights to 100% of the Greater Sunrise field outside the [Joint Petroleum Development Area.]

Timor[] did not agree to the Australian-Indonesian boundary and pressed for the median line maritime boundary, which would have put the 80% of the Greater Sunrise entirely within its jurisdiction.

Michael White & Craig Forrest, *Australian Maritime Law Update: 2005*, 37 J. MAR. L. & COM. 299, 304 (2006). "The issue in 'unitization' is how the resources should be shared when an oil or gas field crosses a boundary and lies partly within and partly without any particular area." *Id.* at n.25. See *Timor Sea Treaty*, Austl. – E. Timor, May 20, 2002, available at <http://www.laohanutuk.org/Oil/Boundary/TST%20text.pdf> for the 2002 treaty text. See *Unitisation of the Sunrise and Troubador Fields*, Austl. – E. Timor, March 6, 2003, available at <http://www.laohanutuk.org/Oil/Boundary/IUA.pdf> for the 2003 treaty text.

312. Becker, *supra* note 183, at 679.

313. *Id.*; see *Treaty on Certain Maritime Arrangements in the Timor Sea*, Austl.-E. Timor, Jan. 12, 2006, available at <http://laohanutuk.org/Oil/Boundary/CMATStext.htm>.

314. See *supra* note 311 (describing the two earlier treaties).

315. White and Forest note that the fifty-year period is reasonable because it is anticipated that most of the oil and gas deposits would have been exhausted by then. White & Forrest, *supra* note 311, at n.26.

316. See generally Margaret Hanlon, *Australia-Indonesia Maritime Boundaries* (unpublished Ph.D dissertation, University of Wollongong), available at <http://arts.monash.edu.au/psi/news-and-events/apsa/refereed-papers/international-relations/hanlon.pdf> (last visited Apr. 3, 2009) (discussing the maritime boundaries between Australia and Indonesia).

Area]; [and] (5) Organisational [sic] structures will be established for the orderly management of the area.³¹⁷

“The principal aim of the treaty is to allow the exploitation of the Greater Sunrise gas reservoirs to proceed while suspending maritime boundary claims for a significant period [50 years] and maintaining the other treaty arrangements in place.”³¹⁸ The Treaty also means that most of the gas and oil deposits will be exhausted by the time the moratorium expires.³¹⁹

This type of treaty delays a decision on the maritime boundaries for a significant period of time while resources are extracted. This is something the Arctic states could consider. A treaty of this type would give each state its own agreed upon area for exploration and resource extraction.³²⁰

On its face, this type of treaty may seem like an ideal solution for the Arctic states; however, there are several potential problems in the execution of an agreement like this. First, there are groups that contend that East Timor received an unfair deal in the Treaty.³²¹ These groups claim that the Australian government is taking advantage of a poor, undeveloped nation and is profiting off of unfair bargaining power.³²² Unlike East Timor and Australia, all of the Arctic states have similar bargaining powers, so it is unlikely that any of the states would agree to an agreement that was unfair.³²³ In addition, such an agreement would require the cooperation of all five states.³²⁴ As demonstrated above, because of the vast amount of resources involved, it is unlikely that all five of the states will agree on a mutually beneficial agreement similar to Australia and East Timor.³²⁵ An agreement such as the one between Australia and East Timor does not take into account environmental factors, which are a concern for many people.³²⁶ Thus, while on its face this agreement may look like an ideal solution, in reality it is probably infeasible taking into account the nature of the Arctic environment and the nature of the dispute in the area.

The potential solutions based on previous territory disputes provide some useful insight for the Arctic states regarding a solution to the issue. However, neither of the solutions offers a completely effective manner that would provide

317. White & Forrest, *supra* note 311, at 305.

318. DEPARTMENT OF FOREIGN AFFAIRS AND TRADE, FACT SHEET: AUSTRALIA-EAST TIMOR MARITIME ARRANGEMENTS, http://www.dfat.gov.au/geo/east_timor/fs_maritime_arrangements.html (last visited Feb. 20, 2009).

319. Becker, *supra* note 183, at 679.

320. See generally White & Forrest, *supra* note 311, at 304-06 (discussing the percentage breakdown of petroleum and gas between Australia and East Timor).

321. East Timor and Indonesia Action Network, *Reported Australia/Timor-Leste Oil Deal "Cheats" East Timorese*, May 17, 2005, <http://etan.org/news/2005/05cheat.htm>.

322. *Id.*; see also *supra*, note 310 (discussing the economic status of East Timor).

323. See generally Jarashow et. al., *supra* note 51.

324. See generally Becker, *supra* note 183, at 679.

325. Woodard, *supra* note 2; see *supra* notes 227-72 and accompanying text.

326. See *supra* notes 247-64 and accompanying text.

for satisfactory resolution of all of the issues involved.³²⁷

CONCLUSIONS AND RECOMMENDATIONS

As this Note has demonstrated, it is essential that the Arctic states find a solution to the current and potentially forthcoming disputes before the situation escalates. One overarching principle that emerges from all of the solutions discussed in this Note is that the Arctic nations must cooperate and work together to craft a solution that benefits all of the parties.³²⁸ If the Arctic states are able to reach a mutual agreement, it will likely prevent what are currently inevitable disputes. Also, if the states cooperate with each other, the cooperation will make it possible to implement systems to protect the fragile Arctic environment from degradation, something that would be nearly impossible to achieve without the full cooperation of most if not all of the five Arctic states.³²⁹

It may be beneficial for the Arctic states to negotiate an agreement between themselves that is independent of UNCLOS. As this Note has shown, UNCLOS does not provide an effective method for dispute resolution between the Arctic states.³³⁰

In addition, the United States should ratify UNCLOS. If UNCLOS continues to govern Arctic disputes, the United States must ratify the Convention so it may be a party to any potential solutions and secure any potential claim for an extended continental shelf to CLCS.³³¹ Even if the Arctic states negotiate an agreement outside of UNCLOS, the United States' ratification of UNCLOS will still protect its oceanic interests in other areas.³³²

In summary, in order to avoid a long and heated battle over territory, the Arctic states must learn to cooperate with one another and reach a mutual agreement regarding the use of the Arctic area. The ineffectiveness of UNCLOS makes cooperation between the Arctic states necessary.³³³ A new agreement outside of UNCLOS would be the most effective way for the Arctic states to develop a mutually beneficial solution for all. To reach this solution, the states must balance the economic interests involved in the claims to territory with the environmental and sovereignty concerns.

327. See *supra* notes 282-326 and accompanying text.

328. See *supra* notes 226-326 and accompanying text.

329. See *supra* notes 247-64 and accompanying text.

330. See *supra* notes 64-125 and accompanying text.

331. See *supra* notes 126-55 and accompanying text.

332. See Bates, *supra* note 53, at 771-92.

333. See *supra* notes 124-25, 177-78 and accompanying text.

