

2008

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Hannah E. King

University of Maine School of Law

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Recommended Citation

Hannah E. King, *Protecting The Northwest Passage: Assessing The Threat Of Year-Round Shipping To The Marine Ecosystem And The Adequacy Of The Current Environmental Regulatory Regimes*, 14 *Ocean & Coastal L.J.* (2008).

Available at: <http://digitalcommons.maine.maine.edu/oclj/vol14/iss2/7>

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PROTECTING THE NORTHWEST PASSAGE:
ASSESSING THE THREAT OF YEAR-ROUND
SHIPPING TO THE MARINE ECOSYSTEM AND THE
ADEQUACY OF THE CURRENT ENVIRONMENTAL
REGULATORY REGIMES

*Hannah E. King**

I. INTRODUCTION

The Canadian Arctic Archipelago (the Archipelago) extends for 3000 kilometers along the northern coast of mainland Canada.¹ Made up of seventy-three large islands, each over 125 kilometers long, and more than 18,000 smaller islands, the Archipelago forms a twisting labyrinth of straits and narrow channels connecting the Arctic and Atlantic Oceans (Northwest Passage).² Northern Canada's archipelagic waters are some of the most biologically productive and ecologically sensitive in the Arctic, and provide food and cash income for twenty-seven Inuit communities.³ Until recently, the Passage's geographic isolation and harsh climate—major obstacles to development and commercial shipping—have made legal protection of the Archipelago's marine ecosystem a non-issue.⁴ However, modern

* University of Maine School of Law, Class of 2009. I would like to thank the OCLJ staff for all of their hard work and dedication.

1. DONAT PHARAND, CANADA'S ARCTIC WATERS IN INTERNATIONAL LAW 160 (1988).

2. *Id.*

3. *See, e.g.*, HENRY HUNTINGTON ET AL., ARCTIC CLIMATE IMPACT ASSESSMENT 12 (2005); PHARAND, *supra* note 1, at 166-67.

4. Despite being a more direct route between Europe and Asia than the Panama Canal, the freezing temperatures of the Arctic region, the uncharted coastlines of the Archipelago, and the seasonal presence of impenetrable pack ice have prevented the Northwest Passage from becoming a viable commercial shipping route. K. JOSEPH SPEARS, ARCTIC MARINE RISKS—THE INTERACTION OF MARINE INSURANCE AND ARCTIC SHIPPING 29 (1986). To date, there have been forty-five successful transits of the Northwest Passage. PHARAND, *supra* note 1, at 224. Canadian vessels made twenty-nine of these trips, while eleven of the sixteen foreign transits have been completed by American ships. *Id.* The other five transits were

developments in vessel technology and seasonal temperature changes attributed to global warming could make year-round transit of the Northwest Passage possible by the end of the century.⁵ As the primary protection for the Passage's marine ecosystem has historically been the absence of commercial activity, the possibility of year-round commercial use raises several questions, namely who has authority to regulate use of the Passage, whether that authority provides for environmental protection of the area, and, if so, whether the protections are adequate.⁶

The answers to these questions—contingent, in part, upon the legal status of the Passage—are anything but clear. Like environmental protection, the classification of the Passage has been a non-issue since the turn of the century. However, the prospect of a more efficient shipping route from the Atlantic to the Pacific Ocean, as well as access to previously unattainable natural resources such as hydrocarbons, fish, and diamonds, has revived the long dormant jurisdictional dispute between Canada and the United States.⁷ At issue is the amount of regulatory control Canada may exercise over foreign vessel traffic through the Passage. However, classification of the Northwest Passage will also determine which environmental protections—Canadian law, customary international law, treaty, or a combination—apply to the area and the extent to which they are enforceable. Thus, the outcome of the dispute is likely to have a significant impact on the amount of protection that is afforded the areas' marine ecosystem.

Under Canadian control, shipping traffic would be subject to Canada's stringent environmental laws and Canada would possess significant control over the amount of shipping traffic. In addition, State regulations may be

completed by ships flying the flags of Japan, Norway, Denmark, the Bahamas, and Liberia.
Id.

5. SPEARS, *supra* note 4, at 54.

6. A comprehensive approach to management of year-round commercial shipping through the Passage will be contingent upon the adoption and effective implementation of a comprehensive management plan. Such a scheme, however, cannot be developed overnight, and will likely take years, if not decades, to establish. Therefore, the continued health of the marine environment is also dependent upon the effectiveness of the regulatory regime that is applicable in the interim. The jurisdictional status of the Passage will influence which regime—Canadian law, customary international law, treaty, or a combination—will apply and the extent to which it will be enforceable. For an analysis of Singapore's approach to management as a model for future management of the Northwest Passage, see Robert Beckman, *Singapore Strives to Enhance Safety, Security, and Environmental Protection in its Port and in the Straits of Malacca and Singapore*, 14 OCEAN & COASTAL L.J. (forthcoming 2009).

7. Canada asserts that the Northwest Passage is its sovereign territory, while the United States claims that the waterway is an international strait entitling it to a right of transit passage under international law. Mike Perry, *Rights of Passage: Canadian Sovereignty and International Law in the Arctic*, 74 U. DET. MERCY L. REV. 657, 661 (1997).

amended with ease, when compared to modifying multilateral international agreements. If Canada retains full jurisdiction over the Northwest Passage, the protection of its marine environment would be significantly stronger than if the Passage is classified as an international strait.

In support of this proposition, this Comment first establishes the importance of the continued protection of the Northwest Passage's marine environment; examining the potential impacts of year-round shipping and hydrocarbon transport on living natural resources and the importance of these resources, particularly marine mammals, to the Canadian Inuit. This is followed by an exploration of the jurisdictional dispute, including a brief overview of the relevant provisions of the United Nations Third Convention of the Law of the Sea (UNCLOS) and international law; Canada's claims of sovereignty; and the United States' assertion that the Passage is an international strait. This Comment then discusses the impact of the outcome of the dispute on the effectiveness and enforceability of the current unilateral, bilateral, and multilateral regulatory regimes that may be applicable to the Northwest Passage. Finally, additional measures for mitigating the environmental impacts of increased vessel traffic on the area are considered.

II. YEAR-ROUND SHIPPING: THREATS TO THE MARINE ENVIRONMENT AND THE PEOPLE OF NORTHERN CANADA

Due to the harsh climate of the Arctic and the presence of year-round sea ice, the Northwest Passage's ecosystem is more vulnerable than other biotopes. In addition, unlike most of the modern world, local residents depend on the area's living marine resources for food and cash income. As a result, the Arctic may be unable to support activities, such as year-round shipping, that are sustainable in more temperate regions.⁸ To be effective, regulations governing shipping and hydrocarbon transport through the area must be capable of coping with issues unique to the Arctic region. Therefore, evaluating the current regulatory regime requires an understanding of the impact of year-round shipping and hydrocarbon transport on this environment, as well as the link between the health of the ecosystem and the native people.

8. Although the effects of year-round shipping on the Arctic are largely unknown, it is likely, due to the sensitivity of the area, that year-round shipping will have a greater impact on the Arctic. *See generally* Carlyle L. Mitchell, *The Development of Northern Ocean Industries*, in *TRANSIT MANAGEMENT IN THE NORTHWEST PASSAGE: PROBLEMS AND PERSPECTIVES* 65 (Cynthia Lamson & David L. Vanderzwaag eds., 1988) (arguing that the Arctic's unique marine ecosystem makes it more vulnerable to the adverse impacts of commercial development).

A. Threats to the Marine Environment

1. Oil and Liquid Natural Gas Transport

The negative environmental impacts associated with the transport of hydrocarbons include: “spills, noise, chemical discharges, and disturbances to ice and habitats caused by the passage of ships.”⁹ None of these would have a more profound impact on the Arctic ecosystem than a large oil or liquid natural gas (LNG) spill.¹⁰ Although the statistical likelihood of a spill is low, the impact on aquatic wildlife would be devastating for several reasons. First, the rate of oil decomposition in cold waters is much lower than in more temperate water.¹¹ Second, Arctic organisms’ low reproductive and population recovery rates make them particularly vulnerable environmental fluctuations.¹² Finally, the harsh climates of the region make clean up of a spill very difficult.¹³

a. Oil Spill

An oil spill in the Northwest Passage would have both direct and indirect impacts on the area’s terrestrial and aquatic marine life. First, a spill is likely to have a significant impact on subtidal flora and under-ice biota—the bottom of the food chain—reducing the availability of food.¹⁴ Second, direct contact with oil has the ability to kill a wide variety of species and disperse surviving populations.¹⁵

9. Ray Lemberg, *Hydrocarbon Transport and Risk Assessment*, in *THE CHALLENGE OF ARCTIC SHIPPING* 191, 195 (David L. Vanderzwagg & Cynthia Lamson eds., 1990).

10. *Id.*

11. DONAT PHARAND & LEONARD H. LEGAULT, *NORTHWEST PASSAGE: ARCTIC STRAITS* 130 (1984) [hereinafter *ARCTIC STRAITS*].

12. Harold E. Welsh, *Marine Conservation in the Canadian Arctic: A Regional Overview*, 23 *N. PERSPECTIVE* 1, 4 (1995), available at <http://carc.org/pubs/v23no1/marine3.htm>.

13. DONALD R. ROTHWELL, *THE POLAR REGIONS AND THE DEVELOPMENT OF INTERNATIONAL LAW* 30 (1996). Furthermore, as a migratory route for marine mammals and sea birds, the Arctic region is a unique and fundamental component in the world ecosystem, and an oil or LNG spill resulting in large scale environmental impacts could “entail[] not only microcosmic, but also macrocosmic consequences.” Paul Andrew Kettunen, *The Status of the Northwest Passage Under International Law*, 74 *DET. C.L. REV.* 929, 938 (1997).

14. Lemberg, *supra* note 9, at 203 (citing FEDERAL ENVIRONMENTAL ASSESSMENT REVIEW OFFICE, *BEAUFORT SEA HYDROCARBON PRODUCTION AND TRANSPORT: FINAL REPORT OF THE ENVIRONMENTAL ASSESSMENT PANEL* § 6.7.7 (1984)).

15. *See id.* at 202-03.

In the event of an oil spill, marine flora would likely suffer heavy mortality rates and population recovery would be slow, due to reduced rates of productivity in the cold waters of the Arctic.¹⁶ In addition, the “[p]roductivity [of these plant communities] is concentrated in space and time;” thus, an oil spill occurring along the edge of sea-ice, in a biological “hot spot” or during the spring break up of the ice has the potential to devastate a large percentage of the Arctic’s plankton population.¹⁷ Plankton is a vital part of the Arctic food chain nourishing Arctic cod and amphipods, which are the primary food source for harp seals, narwhales, beluga whales, seabirds, ring seals, and Arctic foxes.¹⁸ The tangential effects of a mass die-off of subtidal flora are unknown; however, the delicate balance of the Arctic environment and the interdependence of species indicate that the effects would be significant and wide-ranging.¹⁹

In addition, most animals are at risk of death from direct contact with oil. Seabirds are particularly vulnerable²⁰ because “[s]mall amounts of oil lead to greatly increased stress and greatly reduced insulation and waterproofing.”²¹ The effect on polar bears would be similar, reducing the insulating properties of their fur and leading to death from exposure.²² Accumulations of oil under sea-ice could also have an adverse affect on local seal populations by blocking dens and air holes.²³ So little is known about Arctic fish populations that it is unclear what direct effect an oil spill would have on these fish.²⁴

b. LNG Spill

There have been few accidents resulting in spills in the history of LNG carrier operations.²⁵ This suggests that the risk of a spill is small; however, the Northwest Passage presents many more navigational hazards than other maritime shipping routes.²⁶ As there has been little experience with LNG vessel traffic in the Northwest Passage, there is limited information available as to how a spill would disburse in a mix of water and sea-ice or the effect

16. ARCTIC STRAITS, *supra* note 11, at 129.

17. Hal Mills, *The Environment and the Northwest Passage*, in TRANSIT MANAGEMENT IN THE NORTHWEST PASSAGE, *supra* note 8, at 8, 34.

18. Welsh, *supra* note 12, at 2.

19. *See* Lemberg, *supra* note 9, at 203.

20. ARCTIC STRAITS, *supra* note 11, at 130.

21. *Id.*

22. Lemberg, *supra* note 9, at 202.

23. *Id.*

24. Welsh, *supra* note 12, at 4.

25. Lemberg, *supra* note 9, at 197.

26. *Id.*

that LNG may have on aquatic flora and, as a result, marine animals.²⁷ From what is known, it is likely that a LNG spill would result in combustion, producing intense heat, affecting an eleven-kilometer area around the carrying vessel.²⁸ If combustion did not occur, it is likely that the LNG would travel on the water's surface, affecting a larger area. Direct contact with LNG would likely result in freezing, with migratory bird populations being the most vulnerable to the harmful affects of a spill.²⁹

2. Year-Round Shipping

Much of the Arctic ecosystem's vulnerability can be attributed to "seasonal biological concentrations," usually occurring around openings in the ice pack such as polynyas and leads,³⁰ "which are highly susceptible to pollution and disturbance."³¹ The ice edges serve as breeding, feeding, and resting grounds for fish, seabirds, and marine mammals.³² Furthermore, the Parry Channel, the widest stretch of open water in the Northwest Passage, is an important migratory route for seabirds and marine mammals.³³ Mammals such as whales and walrus enter Lancaster Sound in the spring, using openings in the ice as a migratory route west to the Barrow Strait.³⁴ As much of the Arctic's productivity is concentrated around the edge of the ice, activities that impact the ice edge are likely to have a significant effect on the Arctic ecosystem.

a. Impact on the Ice Regime

Year-round shipping in the Northwest Passage is likely to impact the ice regime, leading to changes in ice stability, the location of the landfast ice

27. *See id.* at 200.

28. *Id.* at 198.

29. *Id.* at 202.

30. Polynya are reoccurring openings in the sea-ice. These openings are caused by warmer water, a result of water flowing through the shallow channels of the Archipelago heating up and mixing with the already warmer water of the halocline (100 meters below the ocean's surface), that inhibit the growth of sea-ice. Robert A. Lake, *The Physical Environment*, in *THE CHALLENGE OF ARCTIC SHIPPING*, *supra* note 9, at 20, 35-38. Leads are strips of open water that run parallel to the coast in the transition zone between landfast ice (ice that grows out from the shore) and polar pack ice (multi-year ice located 100 kilometers offshore). *Id.* at 35.

31. Mills, *supra* note 17, at 13-14.

32. *Id.* at 14.

33. *Id.* at 16.

34. *Id.* at 41-45 figs. 2.14, 2.16 & 2.17.

edge, and the creation of artificial leads.³⁵ Due to the unique conditions of the Arctic, year-round shipping is only possible with vessels equipped to break through the ice. These vessels, known as icebreakers, open water tracks of one to two kilometers and leave behind large piles of ice rubble.³⁶ Ice rubble may prevent Inuit subsistence hunters from engaging in polar bear and caribou hunts, which require extensive use of large tracts of sea-ice.³⁷ Furthermore, these rubble piles may interrupt the migratory routes of musk ox and caribou, requiring the animals to expend limited energy reserves to navigate through or around large piles of rubble.³⁸

In addition, vessels penetrating the pack-ice near fall freeze or spring break-up are likely to “cause ice sheets to break off from landfast ice, thereby altering the position of the ice edge.”³⁹ Little is known about the effect of altering the ice edge; however, it is likely that it would lead to redistribution and dispersal of ringed seal and polar bear populations.⁴⁰ Furthermore, breaking off sheets of landfast ice, particularly in the spring, may destroy ringed seal lairs built in snow-covered areas along the ice edge, crushing or soaking their pups.⁴¹

There has been much speculation as to other ways man-made changes in the ice regime may affect marine mammals. For example, “[i]ce-breaker traffic could change the sea-ice cover, even modify[ing] the patterns of break-up, freeze-up, and lead formation,” discouraging ringed seals from establishing territories in areas frequented by icebreakers and impacting the “feeding patterns of some whales and seals.”⁴² In addition, the opening and refreezing of leads by icebreakers could trap and suffocate migratory mammals such as narwhales and white whales.⁴³

b. Interference

Noise produced by vessel traffic is likely to have an adverse impact on marine mammals that depend on the underwater acoustic environment for

35. *Id.* at 58-59.

36. DOME PETROLEUM, BEAUFORT SEA-MACKENZIE DELTA ENVIRONMENTAL IMPACT STATEMENT 4.5 (1982) [hereinafter BEAUFORT EIS].

37. ARCTIC STRAITS, *supra* note 11, at 140.

38. *Id.* at 126.

39. Lake, *supra* note 30, at 52.

40. ARCTIC STRAITS, *supra* note 11, at 126.

41. Brian D. Smiley, *Marine Mammals and Ice-Breakers*, in THE CHALLENGE OF ARCTIC SHIPPING, *supra* note 9, at 59, 65. It is likely that there is a direct correlation between the mortality rate of ringed seal pups from collision or exposure and the amount of vessel traffic. *Id.*

42. *Id.* at 69.

43. *Id.*

communication.⁴⁴ There are many species found along potential shipping routes through the Northwest Passage that may be affected by sounds produced by ships, submarines, and airplanes.⁴⁵ Although little is known about the long-term effects of noise on marine mammals, studies have indicated that the sensitivity of whales to vessel noise is significant, resulting in “visible changes in the [whales’] surface behavior and audible changes in their underwater vocal activity.”⁴⁶

B. The Effect of Year-Round Shipping on the Canadian Inuit

As subsistence hunters, the Canadian Inuit’s welfare is closely linked to the vitality of the marine environment, specifically the health and abundance of marine mammals.⁴⁷ Exploitation of marine mammals is central both to the traditional Inuit way of life, as well as their modern existence.⁴⁸ Ancestors of the modern day Canadian Inuit migrated from Alaska approximately 4500 years ago.⁴⁹ The Inuit subsistence culture developed in response to the harsh climate of the Arctic.⁵⁰ Essential to survival in the sub-zero temperatures of the Canadian Arctic is a diet high in iron, protein, and fats—characteristic of marine mammals, which were abundant in the coastal waters of the Canadian Arctic.⁵¹ Today, of the twenty-eight Inuit communities located in the Canadian Arctic, all but one, Baker Lake, are coastal communities whose economy and subsistence continue to be dependent on marine products.⁵²

44. HUSKY OIL OPERATIONS LIMITED, WHITE ROSE OIL FIELD COMPREHENSIVE STUDY REPORT: ENVIRONMENTAL EFFECTS ASSESSMENT 4.3.2.1 (2001), available at http://www.acee-ceaa.gc.ca/010/0003/0010/0001/4_e.htm#4-3.

45. Smiley, *supra* note 41, at 66-67 (quoting K.S. Norris, *Marine Mammals of the Arctic, Their Sounds and Their Relation to Alterations in the Acoustic Environment by Man-Made Noise*, in APP WORKSHOP: THE QUESTION OF SOUND FROM ICEBREAKER OPERATIONS 304-09 (1981)).

46. *See id.* at 68 (quoting K.J. FINLEY, ET AL., RESPONSES OF NARWHAL AND BELUGAS TO ICE-BREAKING SHIPS IN LANCASTER SOUND 117 (1983)). These species include: “walrus, harbor seal, ringed seal, ribbon seal, grey seal, bearded seal, harp seal, hooded seal, bowhead whale, black right whale, blue whale, fin whale, minke whale, beluga, narwhale, Atlantic white-sided dolphin, white beaked dolphin, harbor porpoise, Risso’s dolphin, the Atlantic long-beaked whale, Sowerby’s beaked whale, [and] common dolphin.” *Id.*

47. Approximately 38,000 Canadian Inuit inhabit the Mackenzie Delta, Arctic Islands, areas adjacent to the Northwest Passage, shores of Hudson and Ungava Bays, and Labrador. Charles J. Marecic, *Nunavut Territory: Aboriginal Governing in the Canadian Regime of Governance*, 24 AM. INDIAN L. REV. 275, 279-80 (2000).

48. ARCTIC STRAITS, *supra* note 11, at 134.

49. PHARAND, *supra* note 1, at 166.

50. ROTHWELL, *supra* note 13, at 40.

51. ARCTIC STRAITS, *supra* note 11, at 137.

52. Welsh, *supra* note 12, at 8.

Although these modern Inuit communities supplement their traditional way of life with wage income and supplies from the south, the harvest of marine resources is still essential to their physical, economic, and cultural survival.⁵³ Because wage income varies from community to community and employment opportunities tend to be part time or seasonal,⁵⁴ the harvest of renewable resources such as seal, walrus, whale, polar bear, Arctic fox, duck, and goose—for both domestic use and cash income—continues to be an important part of the Inuit economy.⁵⁵ Although the presence of employment opportunities affects resource extraction patterns,⁵⁶ all Inuit communities continue to engage in traditional hunting and fishing activities.⁵⁷

In addition, marine mammals, with their high protein and fat content, are more than just a source of income for the Inuit communities of northern Canada. Seals, walruses, and whales provide nutrients essential to the “maintenance of . . . health and energy in the cold and rigorous climate of the Arctic.”⁵⁸ Although there has been a recent decline in communities that depend exclusively on hunting and fishing as their main food source, traditional subsistence activities still take place. Even with an increased reliance on imported food, marine mammals continue to play an important role in the health and well-being of the Inuit.⁵⁹ Marine mammals and fish are used to supplement commercially produced food products that tend to be insufficient in the unique conditions of the Arctic⁶⁰ and are “known to increase the risks of cancer, obesity, . . . and cardiovascular diseases among northern populations.”⁶¹

53. PHARAND, *supra* note 1, at 176.

54. Gary Kofinas, *Subsistence Hunting in a Global Economy: Contributions of Northern Wildlife Management to Community Economic Development 2* (Aug. 1993), available at <http://arcticcircle.uconn.edu/NatResources/subsistglobal.html>.

55. ARCTIC STRAITS, *supra* note 11, at 137.

56. Communities supported by wage income tend to limit harvest of renewable resources to domestic use, while communities isolated from such opportunities still rely heavily on the cash income provided by the export of marine products, such as ivory and fur pelts. *Id.*

57. For example, during the 1970s income from the harvest of renewable resources averaged ten million dollars, providing sixty percent of the annual income for the communities of Resolute and Arctic Bays. PHARAND, *supra* note 1, at 164. Divided among individual hunters, the average annual income from animal harvest in 1970 was \$2792 per family in Resolute Bay and \$5165 per family in Arctic Bay. *Id.*

58. PHARAND, *supra* note 1, at 164; *see generally* FREEMAN ET AL., INUIT, WHALING, AND SUSTAINABILITY 46-48 (1998) (discussing the importance of a customary diet—i.e., a diet that includes consumption of marine mammals—to the continued health of the Inuit of northern Canada).

59. *See* FREEMAN, *supra* note 58, at 36-38.

60. *Id.* at 48.

61. ARCTIC CLIMATE IMPACT ASSESSMENT, IMPACTS OF A WARMING ARCTIC 110, 111 (2004), available at <http://www.amap.no/acia/>.

Beyond providing food and income, traditional hunting and fishing activities are a means for the preservation and continuance of the Inuit culture and identity.⁶² The Canadian Inuit have been subsistence hunters in northern Canada for thousands of years.⁶³ Their language as well as their spiritual beliefs are strongly influenced by the marine environment and their traditional livelihood as subsistence hunters.⁶⁴ Thus, preservation and protection of the marine ecosystem is essential to the economy, general health, and spiritual welfare of the Canadian Inuit. In addition, the importance of marine mammals to the Inuit way of life requires a management scheme that allows for the continued use of these resources. Therefore, the environmental laws and regulations governing vessel traffic through the Northwest Passage must not only ensure the continued abundance of marine mammals, but it must also provide for the sustainable use of these resources by aboriginal peoples.

III. THE JURISDICTIONAL DEBATE: IS THE NORTHWEST PASSAGE INTERNAL WATERS OF CANADA OR AN INTERNATIONAL STRAIT?

The jurisdictional status of the Northwest Passage is intrinsically linked to the future protection of its ecosystem. Classification of the Passage as an international strait, territorial sea, or sovereign of Canada is likely to impact the applicability of existing environmental regulations to foreign vessels in transit, as well as the amount of control Canada may exercise over such ships. Thus, evaluation of the applicable legal regime's ability to provide for both protection and sustainable use of the area's living marine resources requires an analysis of this dispute.⁶⁵

A. Canada's Claim

In 1975, Canada publicly announced its position regarding the legal status of the Northwest Passage.⁶⁶ Addressing Canada's Standing Committee for External Affairs and National Defense, Allen MacEachen, Canada's

62. See, e.g., PHARAND, *supra* note 1, at 166.

63. *Id.*

64. See FREEMAN, *supra* note 58, at 53 (1998); see also Alastair Campbell & Kirk Cameron, *The North: Intersecting Worlds and World Views*, in CANADIAN CULTURAL POESIS: ESSAYS ON CANADIAN CULTURE 143, 151 (Garry Sherbert, Annie Gèrin & Sheila Perry eds., 2006).

65. The following analysis is based on past boundary delimitations, international customary law, and UNCLOS. For an alternative solution to the jurisdictional dispute over the Arctic, see Molly Watson, Comment, *An Arctic Treaty: A Solution to the International Dispute Over the Polar Region*, 14 OCEAN & COASTAL L.J. (forthcoming 2009).

66. PHARAND, *supra* note 1, at 215.

Secretary of State for External Affairs, stated that Canada regarded the Northwest Passage as internal waters of the State.⁶⁷ Although this was the first time that Canada officially articulated its stance as to the legal status of the Passage, the Canadian government had, for years, been taking steps to assert its sovereignty over the area.⁶⁸ McEachen's sentiments were reiterated on September 10, 1985, when Canada established straight baselines around the Arctic Archipelago as a means of affirming Canadian sovereignty over the Northwest Passage.⁶⁹ Most recently, at a press conference in January 2006, Canada's Prime Minister-elect, Stephen Harper, again declared Canada's sovereignty over the Passage when he introduced his Arctic Sovereignty Plan.⁷⁰

67. *Id.* (quoting Allen MacEachen, Can. Sec'y of State for External Affairs, Proceedings of Standing Committee on External Affairs and National Defense, Address Before Canada's Standing Committee for External Affairs (May 22, 1975)). Mr. MacEachen, referencing UNCLOS, stated that:

. . . the provisions define the straits as only those which are used for international navigation and exclude straits lying within the internal waters of a state. As Canada's Northwest Passage is not used for international navigation and since the Arctic waters are considered by Canada as being internal waters, the regime of transit does not apply to the Arctic.

Id.

68. For example, in 1970, the Canadian Parliament adopted the Canadian Arctic Waters Pollution Prevention Act (AWPPA). PHARAND, *supra* note 1, at 59. The AWPPA applied to "all the arctic waters . . . in a frozen or liquid state adjacent to mainland and Canadian islands to an outer distance of 100 nautical miles" and imposed "pollution prevention standards of construction, manning and equipment [on] all ships navigating in the water of the Archipelago." AWPPA, R.S.C., ch. A 12 (1970). AWPPA was controversial because at the time international law did not recognize coastal State rights beyond the territorial seas. PHARAND, *supra* note 1, at 124. The issue was mooted in 1982 when UNCLOS came into force authorizing a two-hundred-mile exclusive economic zone (EEZ) over which coastal States retained some sovereign rights including protection of the marine environment. United Nations Convention on the Law of the Sea art. 234, Dec. 10, 1982, 1833 U.N.T.S. 397 [hereinafter UNCLOS].

69. Allen MacEachen, Can. Sec'y of State for External Affairs, Statement Concerning Arctic Sovereignty, Address Before the Canadian House of Commons (Sept. 10, 1985), *in* 24 I.L.M. 1723 (1985). While prior assertions of sovereignty had been based either on the sector theory or historic title, Canada's Statement Concerning Arctic Sovereignty established straight baselines around the Arctic Archipelago, thereby modifying the grounds for Canadian sovereignty. *Id.*; *see generally* PHARAND, *supra* note 1 (discussing the history of Canada's claims of sovereignty over the Northwest Passage).

70. CBC News, *Harper Brushes off U.S. Criticism of Arctic Plan*, Jan. 26, 2006, <http://www.cbc.ca/story/canada/national/2006/01/26/wilkins-harper060126.html>. Harper's plan for maintaining Canadian sovereignty over the Northwest Passage includes "the construction and deployment of three new armed heavy icebreaking ships, as well as the eventual construction of a \$2-billion deepwater port . . . and an underwater network of 'listening posts.'" *Id.*

Although Canada has consistently asserted sovereignty over the waters of the Archipelago, the basis for these claims has been anything but consistent. Theories as to the legal source of Canadian sovereignty over the Passage include historic title, straight baselines, and consolidation of historic title.⁷¹

1. Historic Waters

a. Status of and Basic Criteria for Establishing Historic Waters

Historic waters, having the status of internal waters, are waters that would not be internal but for historic title (e.g., bays).⁷² Prior to the establishment of twelve-mile territorial seas and two-hundred-mile Exclusive Economic Zones (EEZ), a coastal state's jurisdiction was limited to a three-mile territorial sea that abutted the high seas.⁷³ Thus, the doctrine of historic waters was developed for protection of bays wider than six miles that were considered by claiming states as part of their national territory.⁷⁴ The doctrine of historic waters is strictly a product of customary law and was not adopted by either the 1958 Convention on Territorial Seas or UNCLOS.⁷⁵

To establish an area of sea as internal waters based on historic title, the claiming state must meet three requirements: (1) exercise of exclusive control over the area, including the exclusion of foreign vessels; (2) long usage; and (3) the acquiescence of foreign states.⁷⁶ States will often bolster their claims of historic title with evidence that the maritime area is of vital interest either to meet the needs of the local people or for national security.⁷⁷ Although such interests may be taken into account, they are not a dispositive factor in establishing historic title.⁷⁸

b. As Applied to the Northwest Passage

It is unlikely that Canada could meet the necessary requirements for establishing historic title over the Northwest Passage. The United States'

71. See generally PHARAND, *supra* note 1 (discussing the history of Canada's claims of sovereignty over the Northwest Passage).

72. *Id.* at 92. For example, bays, despite being surrounded by land on three sides, are not internal waters under customary international law or UNCLOS. *Id.*

73. See *id.* at 124.

74. *Id.* at 91.

75. *Id.* at 91-92.

76. *United States v. Alaska*, 422 U.S. 184, 189 (1975).

77. PHARAND, *supra* note 1, at 102.

78. See *Fisheries Case (U.K. v. Nor.)*, 1951 I.C.J. 116, 139 (Dec. 18).

refusal to acquiesce to Canadian claims of sovereignty through attempts at unauthorized transit⁷⁹ and its formal protest against Canada's claims of sovereignty in 1970 likely destroys Canada's claim of historic title.⁸⁰ Furthermore, Canada's strongest arguments for historic title—vitality of the Canadian Inuit and national security—will not stand absent any of the three requisite criteria.

2. Straight Baselines and Consolidated Title

a. Criteria for Establishing Straight Baselines and Consolidated Title

The system of establishing straight baselines was developed by Norway, affirmed by the International Court of Justice (ICJ) in 1951, and later codified by the 1958 Convention on Territorial Seas and UNCLOS.⁸¹ The straight baseline system allows a coastal State to measure territorial seas from straight baselines drawn across indentations in the coastline and between the outermost points of fringe islands.⁸² Any marine area, including bays and straits, on the landward side of the straight baseline are internal waters of the coastal State.

In deciding the 1951 Fisheries Case,⁸³ the ICJ established three limiting criteria for drawing straight baselines: (1) straight baselines may not depart any appreciable extent from the general direction of the coast; (2) the enclosed sea must be sufficiently linked to the land; and (3) the coastal State must have an existing economic interest in the area, evidenced by long

79. In 1969, the S.S. Manhattan, a U.S. oil tanker, embarked on a test-voyage through the Northwest Passage. Michael Byers, *The Need to Defend Our New Northwest Passage*, THE TYEE 3-5 (Jan. 30, 2006), <http://theyee.ca/Views/2006/01/30-/DefendNorthwestPassage> (last visited Apr. 3, 2009). Although the U.S. oil company who owned the ship did not seek permission from Canada, the Canadian government sent an icebreaker to assist the vessel. *Id.* Again, in 1985, a U.S. Coast Guard ice-breaker, the Polar Sea, attempted an unauthorized transit of the Northwest Passage. *Id.*

80. In 1970, the United States formally protested the extension of Canada's territorial seas and the AWPPA extension of Canadian jurisdiction into what was then the high seas. PHARAND, *supra* note 1, at 124.

81. *Id.* at 131; UNCLOS, *supra* note 68, art. 121(2); Convention on the Territorial Sea and the Contiguous Zone, Apr. 29, 1958, 15 U.S.T. 1606, 516 U.N.T.S. 205. However, the Conventions suggest that areas enclosed in new straight baselines that were not previously considered internal waters would be subject to the right of innocent passage. Perry, *supra* note 7, at 665.

82. PHARAND, *supra* note 1, at 131.

83. Fisheries Case (U.K. v. Nor.), 1951 I.C.J. 116 (Dec. 18).

usage.⁸⁴ The two geographical criteria are considered mandatory, while the economic interest of a coastal State is optional.⁸⁵

In addition, if a coastal State has established straight baselines, historical use may be considered to strengthen the State's claim of sovereignty. "In the case of [] *consolidation of title*, history [may be] invoked . . . [to] solidify or consolidate [a] title resulting from [a] primary or main basis," such as a straight baseline system.⁸⁶ Consolidation shares the same requirements as historic title: (1) exercise of state authority; (2) long usage; and (3) general toleration by foreign states.⁸⁷ However, because consolidation of title is not the primary basis upon which a state is asserting its maritime jurisdiction, the requirements are not as strict and the burden of proof is not on the claiming state.⁸⁸

b. As Applied to the Northwest Passage

i. Straight Baselines

Although the Arctic Archipelago is triangular in shape and the straight baselines around its waters depart significantly from the horizontal coastline, this departure may be permissible under a broad reading of the ICJ holding in the Fisheries Case. In 1951, the ICJ held that the waters of a Norwegian skjaergaard had the status of internal waters.⁸⁹ To establish jurisdiction Norway had drawn straight baselines around the skjaergaard. The United Kingdom, arguing that waters of the skjaergaard that had the character of legal straits were territorial seas and not internal waters, asserted that the general direction of the straight baselines departed from the physical direction of the coast.⁹⁰ In rejecting the United Kingdom's argument, the ICJ found that baselines may, within reasonable limits, depart from the physical line of the coast. The ICJ explained: "a State must be allowed the latitude necessary . . . to adapt its delimitation [of straight baselines] to practical needs and local requirements."⁹¹

The Norwegian skjaergaard at issue in the Fisheries Case consisted of 120,000 narrow formations carved out of the mainland coast, some of which lay sixty miles beyond the nearest peninsula or mainland.⁹² Its geography,

84. *Id.* at 133.

85. PHARAND, *supra* note 1, at 145.

86. *Id.* at 140.

87. *Id.* at 142.

88. *Id.* at 144.

89. Fisheries Case (U.K. v. Nor.), 1951 I.C.J. 116, 120 (Dec. 18).

90. *Id.* at 130.

91. *Id.* at 133.

92. *Id.* at 127.

“islands, islets, rocks, and reefs,” created a close link between the land and the sea and had, for a long time, served as fishing ground from which the “inhabitants of the coastal zone derived their livelihood.”⁹³ Similarly, the coast of mainland Canada with regard to the Arctic Archipelago “does not constitute at all a clear dividing line between land and sea . . . the coast reach[ing] northward as far as an east-west waterway (Parry Channel) crossing the middle of the Archipelago.”⁹⁴ Furthermore, just as the Norwegian inhabitants relied on the exploitation of the skjaergaard’s natural resources for economic survival, the Inuit of the Canadian North are dependent upon the Archipelago’s marine ecosystem for cash income, as well as subsistence. Thus, it is possible that the straight baselines establishing Canadian jurisdiction over the Passage are permissible under the Fisheries Case. However, under UNCLOS, waters enclosed by straight baselines that were not previously considered internal waters are subject to the right of innocent passage. Therefore, it remains unclear whether the waters of the Archipelago enclosed by straight baselines, if found to be internal waters of Canada, would be subject to such a right.

ii. Consolidation of Historic Title

In the *Grisbadarna Case*, the Permanent Court of Arbitration (PCA) articulated the requirements for evaluating a State’s assertion that it has acquired sovereignty through historic consolidation.⁹⁵ To assert a claim of consolidation of historic title the claiming nation must first establish a primary basis for jurisdiction. Then the claiming nation must demonstrate a history of: (1) effective control through proof of exercise of authority and general toleration by foreign States; and (2) peaceful possession by natural inhabitants for a long time through proof of long usage and vital interest in the area.⁹⁶ Under these criteria, it is likely that consolidation of historic title would be a complementary basis to straight baselines for justifying Canadian sovereignty over the Northwest Passage.

To date, there have only been forty-five successful transits of the Northwest Passage.⁹⁷ Canadian vessels made twenty-nine of these trips,

93. *Id.* at 127-28.

94. PHARAND, *supra* note 1, at 160.

95. *Gisbadarna Case* (Nor. v. Swed.), 121 Hague Ct. Rep. (Scott) 121, 130 (Perm. Ct. Arb. 1909). The Permanent Court of Arbitration awarded the *Grisbadarna* banks to Sweden based on a boundary treaty entered into by Norway and Sweden in 1661. *Id.* After establishing the treaty as the primary basis for granting jurisdiction to Sweden the Court invoked history as a separate basis for justifying Sweden’s sovereignty over the area. *Id.* at 130.

96. PHARAND, *supra* note 1, at 167.

97. *Id.* at 224.

while eleven of the sixteen foreign transits have been completed by American ships.⁹⁸ Although nine of these transits were completed with the permission of Canada, the voyages of the S.S. Manhattan in 1969 and the Polar Sea in 1985 were attempts at unauthorized transit by the United States. However, in both instances the Canadian government “granted permission” for the passage by sending Canadian icebreakers to assist the ships.⁹⁹ Furthermore, the Canadian government has exercised authority over the waters of the Archipelago through the adoption and enforcement of the Arctic Waters Pollution Prevention Act (AWPPA). Although the United States’ attempts at unauthorized transit and formal protest to Canada’s adoption of the AWPPA are likely sufficient to destroy Canada’s claim to historic title, it is unlikely, under consolidated title’s lesser standard, that these acts would be enough to prevent consolidation of title.

Despite limited commercial use of the Northwest Passage, it is likely that Canada could establish long usage of the Passage based on the Canadian Inuit’s use of the ice-covered waters of the Archipelago as winter hunting ground. For thousands of years, the aboriginal people of Canada have used sea-ice “like land for travels by dog sled and snowmobile, and even human habitation . . . during their winter hunting trips.”¹⁰⁰ Furthermore, Canada, arguably, has a vital interest in protecting the Northwest Passage’s marine ecosystem because of the Inuit’s reliance on renewable marine resources for survival and welfare.

B. The United States’ Claim

Despite Canada’s position that the Northwest Passage is internal waters of Canada, the United States contends that the Passage is an international strait.¹⁰¹ Regardless of the legal status of the waters of the Archipelago (internal waters or territorial seas) it is still capable of being internationalized if it fulfills the legal criteria of an international strait under customary international law and UNCLOS.¹⁰²

98. *Id.* Ships flying the flags of Japan, Norway, Denmark, Bahamian, and Liberia completed the other five transits. *Id.*

99. Byers, *supra* note 79, at 3-4.

100. PHARAND, *supra* note 1, at 163.

101. Perry, *supra* note 7, at 677.

102. PHARAND, *supra* note 1, at 229. Although UNCLOS established categories of straits, including straits used for international navigation to which the right of transit applied, they did not formulate a definition for such straits. UNCLOS, *supra* note 68, art. 36. Therefore, customary international law, specifically the Corfu Channel Case, must be relied upon for defining an international strait. PHARAND, *supra* note 1, at 215-16.

1. International Strait

a. Criteria for Classification as an International Strait

The legal classification of a waterway as an international strait preserves freedom of movement by foreign vessels through straits that have historically been of importance to international commercial shipping.¹⁰³ In 1949, the ICJ upheld the international use of the Corfu Channel based on geographic, as well as functional, criteria.¹⁰⁴ More specifically, the Court articulated two decisive factors for determining the existence of an international strait: (1) the strait must connect either two high seas or two EEZs; and (2) the strait must be in use for international navigation.¹⁰⁵ Subsequent interpretations of the functional criterion of the ICJ judgment in the Corfu Channel Case suggest that the potential utility of a strait is insufficient and that fulfillment of the functional criterion requires actual regular usage of a strait.¹⁰⁶ Furthermore, use is determined by both the number of transits and the number of states represented. However, Professor Donat Pharand has suggested that although the “numbers of transits and flags should normally be substantial, . . . the location of the strait and other relevant circumstances might render lower numbers sufficient.”¹⁰⁷

b. As Applied to the Northwest Passage

It is undisputed that the Northwest Passage meets the geographic criterion articulated by the ICJ in the Corfu Channel Case. Despite consisting of many small and winding waterways, the Parry Channel, running directly through the middle of the Arctic Archipelago, connects the high seas of the Arctic Ocean to Canada’s EEZ in Baffin Bay.¹⁰⁸ However, it is unclear whether or not the small number of successful transits of the Northwest Passage by foreign vessels is sufficient to satisfy the functional requirement.

Early attempts to establish a shipping route through the Archipelago were thwarted by the harsh conditions of the Arctic. The year-round presence of sea-ice, harsh climate, and isolated location of the waterway has limited the number of successful transits. Even with advanced technology and a decrease in the amount and thickness of the sea-ice, the Passage has seen less than fifty successful transits in eighty years. In determining whether the Corfu Channel

103. PHARAND, *supra* note 1, at 217-18.

104. Corfu Channel Case (U.K. v. Alb.) 1949 I.C.J. 4, 29 (Apr. 9).

105. *Id.* at 28.

106. PHARAND, *supra* note 1, at 220.

107. *Id.* at 221.

108. *See id.* at 156-57.

was used for international navigation in accordance with the functional criterion, the ICJ noted: “[d]uring the period of one year nine months, the total number of ships [through the Corfu Channel] was 2,884.”¹⁰⁹ Although it is possible that the unique conditions of the Northwest Passage may render a lower number of transits sufficient to satisfy the functional criterion, it is unlikely that sixteen transits by foreign vessels would be enough to classify the Passage as an international strait.

C. The Outcome of the Jurisdictional Dispute

Canada’s claim that the Northwest Passage—geographically similar to the Norwegian *skaergaard* at issue in the Fisheries Case and subject to use by the Inuit for thousands of years—is internal waters of Canada is supported by the holdings of the Fisheries Case and the *Grisbadarna* Case. In addition, the limited number of successful transits by foreign vessels is probably not sufficient to satisfy the requirement that a strait, to be classified as an international strait, “be . . . used for international navigation.”¹¹⁰ However, due to the importance of the Passage to the international community and the unique nature of the situation, the outcome of the dispute remains unclear.

IV. OVERVIEW OF THE EXTENT OF CANADIAN AUTHORITY OVER VESSEL TRAFFIC WITHIN THE NORTHWEST PASSAGE IF IT IS CLASSIFIED AS INTERNAL WATERS, TERRITORIAL SEAS, OR AN INTERNATIONAL STRAIT

Pursuant to UNCLOS and customary international law,¹¹¹ coastal States retain various levels of authority and specific sovereign rights in each of the

109. *Corfu Channel Case (U.K. v. Alb.)* 1949 I.C.J. at 29.

110. *Id.*

111. UNCLOS and the four conventions adopted by the First United Nations Law of the Sea Conference were an attempt to codify customary international law of the sea. *RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW* intro. (1987). UNCLOS “includes the law applicable between Coastal States and other states (or international organizations) with regard to areas of the sea subject to coastal jurisdiction, as well as applicable among states generally with regard to areas of the sea and sea-bed beyond national jurisdiction.” *Id.* Although UNCLOS only applies to member states, its provisions closely parallel those of the First Conference. *Id.* This is important because several nation States, including the United States, are parties of the First Convention but have not yet become members of UNCLOS. *Id.* Both UNCLOS and the Convention on the Territorial Seas contain a “customary law savings clause which provides that matters not regulated in the Conventions continue to be governed by rules of general international law.” PHARAND, *supra* note 1, at 144-45. Furthermore, many of the provisions adopted by UNCLOS have since become customary law. *RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW* intro. (1987).

different zones of their adjacent seas.¹¹² Thus, the jurisdictional status of the Passage will impact: (1) the amount of regulatory control Canada has over shipping traffic through the Passage; and (2) which environmental protections apply to commercial activities in the area. As discussed above, both the impacts of vessel transit on the ice regime and marine wildlife, or an environmental disaster, would have a profound effect on the health of the marine environment. Therefore, a determination of which classification will provide the most comprehensive protection of the environment requires an understanding of how much regulatory control coastal States will retain over vessel traffic and which environmental laws apply to internal waters, territorial seas, and international straits.

A. Canadian Control over Vessel Traffic in the Northwest Passage

The amount of control a littoral State retains over vessel traffic is directly related to the status of the particular sea zone. The following section examines the rights of the coastal State and foreign vessels within each of the applicable sea zones and the differences between a right of transit and a right of innocent passage.

1. The Rights of Coastal States over Foreign Vessels within Their Adjacent Sea Zones

a. Territorial Seas

A coastal State's territorial sea is measured up to twelve miles from the "low-water line along the coast or the seaward limit of the internal waters of the . . . state."¹¹³ Most of the Northwest Passage is located within twelve miles of the Canadian coast; therefore, absent a designation as internal waters or an international strait, the Northwest Passage is a part of Canada's territorial sea. A coastal State may exercise complete sovereignty over its territorial sea, including the air space, sea-bed, and subsoil.¹¹⁴ However, a coastal State's authority within its territorial seas is subject to the right of "innocent passage" by ships flying foreign flags.¹¹⁵ Although a right of

112. For example, coastal States are entitled to complete sovereignty over their territorial and contiguous zones, limited sovereign rights within their EEZ, and no authority over areas designated as high seas. RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW § 511 cmt. b (1987).

113. RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW § 511(a) (1987).

114. See UNCLOS, *supra* note 68, art. 2(2); see also RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW § 512 cmt. a (1987).

115. See UNCLOS, *supra* note 68, art. 17; see also RESTATEMENT (THIRD) OF FOREIGN

innocent passage is recognized under international law, the precise definition of the right of innocent passage has long been debated.¹¹⁶ In an attempt to clarify, UNCLOS both “enumerates the activities that are allowed during . . . [innocent] passage . . . as well as the kinds of regulations that the Coastal State is entitled to promulgate.”¹¹⁷ For example, a coastal State may not establish laws or regulations that apply to equipment, construction, or design of foreign ships in innocent passage unless those laws comport with international laws and standards.¹¹⁸ Furthermore, a coastal State may only suspend the right of innocent passage temporarily for security reasons.¹¹⁹

RELATIONS LAW § 512 cmt. a (1987).

116. RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW § 513 reporter’s note 1 (1987).

117. *Id.* Article 19 of UNCLOS states that:

1. Passage is innocent so long as it is not prejudicial to the peace, good order or security of the coastal State. Such passage shall take place in conformity with this Convention and with other rules of international law.
2. Passage of a foreign ship shall be considered to be prejudicial to the peace, good order or security of the coastal State if in the territorial sea it engages in any of the following activities:
 - (a) any threat or use of force against the sovereignty, territorial integrity or political independence of the coastal State, or in any other manner in violation of the principles of international law embodied in the Charter of the United Nations;
 - (b) any exercise or practice with weapons of any kind;
 - (c) any act aimed at collecting information to the prejudice of the defense or security of the coastal State;
 - (d) any act of propaganda aimed at affecting the defense or security of the coastal State;
 - (e) the launching, landing or taking on board of any aircraft;
 - (f) the launching, landing or taking on board of any military device;
 - (g) the loading or unloading of any commodity, currency or person contrary to the customs, fiscal, immigration or sanitary laws and regulations of the coastal State;
 - (h) any act of wilful and serious pollution contrary to this Convention;
 - (i) any fishing activities;
 - (j) the carrying out of research or survey activities;
 - (k) any act aimed at interfering with any systems of communication or any other facilities or installations of the coastal State;
 - (l) any other activity not having a direct bearing on passage.

UNCLOS, *supra* note 68, art. 19.

118. *See* UNCLOS, *supra* note 68, art. 21(2); *see also* RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW § 513 cmt. c (1987).

119. *See* UNCLOS, *supra* note 68, art. 25(3); *see also* RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW § 513(2)(a) (1987).

b. Internal Waters

Internal waters designated by straight baselines¹²⁰ and international straits are exceptions to the general authority of coastal States over adjacent sea zones. Typically, “internal waters” include waters on the landward side of the low-water mark—e.g., lakes, ports, and rivers.¹²¹ A coastal State has complete sovereignty over its internal waters and no right of innocent passage exists.¹²² A coastal State may, permit innocent passage through its internal waters, but it is not obligated to do so.¹²³ Thus, a foreign ship passing through the internal waters of a State, upon a grant of permission by that State, is “exercising a privilege granted by the coastal State, rather than a right recognized by the international community.”¹²⁴

c. International Straits

Geographically, a legal strait exists where “there is an overlap of territorial waters in a natural passage between two adjacent landmasses joining two parts of the high seas,” or two EEZs, of a coastal State (or States).¹²⁵ Discussions at UNCLOS stalled over the right of passage through legal straits, particularly those less than twenty-four miles wide.¹²⁶ As the Convention intended to extend a coastal State’s territorial sea from three to twelve miles, an overlap of territorial seas would occur in straits less than twenty-four miles wide, impacting foreign states’ right of passage. In the end, international marine powers and coastal States agreed on a right of transit passage through international straits.¹²⁷ This new right of passage only applies to: (1) straits used for international navigation; (2) straits where an overlap of territorial seas occurs; or (3) straits where foreign ships are forced to travel through the coastal State’s territorial seas because navigation through the EEZ or high seas zone of the strait is impossible.¹²⁸

120. See UNCLOS, *supra* note 68, art. 8; see also RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW § 511(a) (1987).

121. UNCLOS, *supra* note 68, art. 8.

122. PHARAND, *supra* note 1, at 93.

123. *Id.*

124. *Id.*

125. PHARAND, *supra* note 1, at 90.

126. *Id.* at 215-17.

127. ARCTIC STRAITS, *supra* note 11, at 90.

128. *Id.* at 91.

2. The Right of Transit Passage Versus the Right of Innocent Passage

Although the right of transit passage is roughly comparable to non-suspendable innocent passage, the two rights differ in many ways.¹²⁹ First, fewer restrictions apply to transit passage. UNCLOS enumerates restrictions imposed on ships in innocent passage, whereas ships in transit passage are only obligated to refrain from “activities other than those incident to their normal modes of continuous and expeditious transit unless rendered necessary by *force majeure* or by distress.”¹³⁰ Second, a coastal State’s right to adopt laws and regulations with respect to ships in transit is more limited than with respect to ships in innocent passage. A coastal State may only regulate ships in transit with regard to pollution, safety of navigation, fishing customs, and immigration. While a coastal State’s jurisdiction to regulate vessels in innocent passage is also limited, it is more comprehensive than a State’s jurisdiction over transit passage. For example, a coastal State may regulate maritime traffic, the protection of cable and pipeline, and scientific research in areas subject to innocent passage.¹³¹

Third, a coastal State’s ability to establish sea lanes for ships in transit is much more limited than it is for ships in innocent passage. Within territorial waters, a “Coastal State may establish sea-lanes and traffic separation schemes for ships in innocent passage” to ensure safety in navigation.¹³² When establishing sea-lanes, the coastal State is required to take into consideration recommendations by a competent international organization

129. See RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW § 513 cmt. j (1987).

130. UNCLOS, *supra* note 68, art. 39(1)(c); see generally *id.* art. 19.

131. Articles 37 through 44 of UNCLOS state that:

1. The coastal State may adopt laws and regulations, in conformity with the provisions of this Convention and other rules of international law, relating to innocent passage through the territorial sea, in respect of all or any of the following:

- (a) the safety of navigation and the regulation of maritime traffic;
- (b) the protection of navigational aids and facilities and other facilities or installations;
- (c) the protection of cables and pipelines;
- (d) the conservation of the living resources of the sea;
- (e) the prevention of infringement of the fisheries laws and regulations of the coastal State;
- (f) the preservation of the environment of the coastal State and the prevention, reduction and control of pollution thereof;
- (g) marine scientific research and hydrographic surveys;
- (h) the prevention of infringement of the customs, fiscal, immigration or sanitary laws and regulations of the coastal State.

Id. arts. 37-44.

132. *Id.* art. 22; see also RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW § 513 cmt. d (1987).

such as the International Maritime Organization (IMO).¹³³ Although a coastal State is permitted to establish sea-lanes and similar traffic separation schemes with regard to transit passage, “the designation of such lanes or schemes requires concurrent action by the strait state (or states) and the competent international organization.”¹³⁴

Fourth, international straits and territorial waters differ in regard to air and submarine traffic. The right of innocent passage does not include the right of overflight by foreign states¹³⁵ and requires submarines to surface and fly the flag of their country.¹³⁶ Conversely, foreign states are entitled to fly over international straits, and foreign submarines may remain submerged while in transit.¹³⁷

3. Conclusion

Canada would retain the most control and the marine environment would be afforded the most protection if the Northwest Passage is classified as internal waters of Canada. If Canada prevails and the Northwest Passage is designated as internal waters, Canada would retain full jurisdiction. In short, Canada would have absolute control over the amount of vessel traffic through the Passage, be permitted to designate shipping lanes, and dictate operational procedures and construction requirements for all vessels within the Passage. Furthermore, all vessels would be subject to Canadian laws and regulations, including laws pertaining to pollution control and protection of marine natural resources.

Conversely, if the Passage is designated as an international strait, Canada’s ability to protect the Northwest Passage’s marine ecosystem, specifically its natural resources, would be severely limited. For example, Canada would not be able to suspend the passage of a ship in transit for the purpose of environmental protection. Therefore, vessels lacking the appropriate ice-breaking technology or double-hulled construction necessary to safely navigate the Passage could not be prevented from attempting transit, increasing the likelihood of an oil or LNG spill. Canada’s ability to protect its marine resources would be further limited because its natural resources laws, including laws and management schemes developed in cooperation with the Inuit, would not be enforceable against foreign vessels. A right of transit

133. UNCLOS, *supra* note 68, art. 22; *see also* RESTATEMENT (THIRD) OF FOREIGN RELATIONS § 513 cmt. d (1987).

134. RESTATEMENT (THIRD) OF FOREIGN RELATIONS § 513 cmt. j (1987).

135. *Id.*

136. UNCLOS, *supra* note 68, art. 20.

137. UNCLOS, *supra* note 68, art. 38; *see also* RESTATEMENT (THIRD) OF FOREIGN RELATIONS § 513 cmt. j (1987).

passage would also make it much more difficult for Canada to establish shipping lanes. This could significantly impact the area's natural resources as shipping lanes are necessary to ensure that vessels avoid biological "hot spots," as well as nesting and breeding areas. Finally, Canada would be unable to limit and monitor air and submarine traffic whose noise is known to have an adverse effect on some marine mammals and cetaceans.

If the Northwest Passage is designated as territorial seas, Canada would have slightly more regulatory control than it would over an international strait. Although Canada would retain the right to temporarily suspend innocent passage for security reasons, it is unlikely that Canada would be able to suspend innocent passage for the purpose of environmental protection. However, foreign vessels traveling through the Passage would be subject to Canadian laws and regulations regarding pollution, safety of navigation, fishing, customs, and immigration, as well as maritime traffic, protection of cable and pipelines, and scientific research.

B. Overview of the Current Unilateral and Multilateral Regulatory Regimes for Pollution Control and Renewable Resource Protection in the Arctic Archipelago

In addition to Canada's ability to regulate shipping traffic through the Northwest Passage, protection of the ecosystem will also depend on the effectiveness of the environmental regulatory regime. This regime—Canadian law, customary international law, treaty, or a combination—and the extent to which it is enforceable, will also be affected by the jurisdictional status of the waterway. The following section examines the current unilateral and multilateral regulatory regimes for pollution control and renewable resource protection, analyzing both the adequacy of the law and the effect the legal status of the Northwest Passage would have on the law's enforceability. Ultimately this analysis leads to the conclusion that the marine ecosystem would be afforded the most protection as internal waters or territorial seas of Canada because: (a) Canadian environmental laws are more stringent than international laws; (b) there would be no obstacles to the enforcement of these laws; and (c) domestic legislation is much easier to modify than multilateral or bilateral agreements.

1. Canadian Environmental Law

The Canadian federal government shares the responsibilities of pollution control and natural resource management with the provinces. The Constitution Act of 1867 grants the Canadian federal government the authority to

make laws for the peace, order, and good government of Canada.¹³⁸ Furthermore, the Act explicitly grants the Canadian federal government authority to regulate navigation, shipping, seacoast and inland fisheries, and criminal law.¹³⁹ Control over management of non-renewable resources and “all matters of a merely local or private nature” lie with the provincial governments.¹⁴⁰ Although the Constitution Act of 1867 is silent as to who has jurisdiction over the environment, the Canadian Supreme Court has indicated that “the federal government may regulate new matters not existing at the time of the Confederation, as well as matters considered of a local/provincial nature which evolve as national concerns.”¹⁴¹ Although the extent of the federal government’s authority over the environment and the definition of “national concern” remains unclear, both the federal and provincial governments play a role in environmental regulation and pollution control in Canada. This analysis, however, is limited to Canadian federal law.

a. Pollution Prevention and Control

i. Arctic Waters Pollution Prevention Act

In 1970, Canada adopted the AWPPA in response to what the Canadian government perceived as the inability of customary international law to protect the Arctic’s marine ecosystem from pollution.¹⁴² The AWPPA applies to all waters north of the sixtieth parallel in a frozen or liquid state

138. Constitution Act, 1867, 30 & 31 Vict. Ch. 3 § 91 (U.K.), as reprinted in R.S.C., No. 5 (Appendix 1985).

139. *Id.*

140. *Id.* § 92.

141. THE MARINE LAW INSTITUTE, ASSESSING U.S. AND CANADIAN LAWS AND PROGRAMS AFFECTING THE MARINE AND COASTAL ENVIRONMENT OF THE GULF OF MAINE B-2 (1992); *The Queen v. Crown Zellerbach Canada, Ltd.*, [1988] 1 S.C.R. 401, 402-403. (Can.) (holding that Canada’s Ocean Dumping Control Act did not exceed the constitutional authority of the federal government because marine pollution both falls within the federal government peace, order, and good government powers and is of an international character). The Ocean Dumping Control Act has since been repealed. THE MARINE LAW INSTITUTE, *supra* note 141, at B-2.

142. Arctic Waters Pollution Prevention Act, R.S.C., ch. A 12 (1985). Canadian Minister for External Affairs Mitchell Sharp said, in reference to the AWPPA, that:

We are determined to discharge our own responsibility for the protection of our territory. We are equally determined to act as pioneers in pushing back the frontiers of international law so that the laissez-faire regime of the high seas will no longer prevent effective action to deal with a pollution threat of such a magnitude that even the vast seas and oceans of the world may not be able to absorb, dissolve or wash away the discharges deliberately or accidentally poured into them.

Canada, Commons Debates, vol.6 at 5,951 (Apr. 16 1970).

adjacent to the mainland and Canadian islands to an outer distance of one hundred nautical miles.¹⁴³ Under the AWPPA, Canada may establish shipping control zones and standards for construction, operation, and navigation on all ships passing within the Act's jurisdiction.¹⁴⁴ In addition, the Act imposes absolute liability on vessel and cargo owners for intentional or accidental discharges of waste.¹⁴⁵ Prohibited wastes include any substance that would alter the waters "to an extent that is detrimental to their use by man or by any animal, fish, or plant that is useful to man."¹⁴⁶ The Canadian Coast Guard's "Pollution Prevention Officers" are responsible for implementing and enforcing regulations promulgated under the AWPPA.¹⁴⁷ Any ship that is suspected of being in violation of the AWPPA may be seized, denied the right of transit, destroyed or otherwise disposed of if the ship is in distress, grounded, wrecked, sunk, or abandoned, or is depositing or is likely to deposit waste into the water.¹⁴⁸

It is likely that the AWPPA would be applicable to the Northwest Passage regardless of whether or not it is categorized as internal waters of Canada, territorial seas, or an international strait. As coastal States' pollution prevention laws apply to foreign ships in all adjacent sea zones except high seas,¹⁴⁹ transit passage through an international strait, which is free from many of the restrictions imposed on ships in innocent passage, is still subject to pollution control regulations.¹⁵⁰ However, a coastal State may not regulate construction, design, operation or equipment of ships in innocent or transit passage, or establish shipping lanes for transit passage without concurrent action by the IMO.¹⁵¹ Furthermore, coastal States are not permitted to impede or suspend transit passage through international straits.¹⁵² Therefore, categorization of the Northwest Passage as territorial seas or an international strait may moot the most stringent and effective provisions of the AWPPA.¹⁵³

143. Arctic Waters Pollution Prevention Act, R.S.C., ch. A 12, §§ 2, 3(2) (1985).

144. *Id.* § 12.

145. *Id.* § 7(1).

146. *Id.* § 2.

147. *Id.* §§ 14, 15; *see also* DONAT PHARAND, *THE LAW OF THE SEA OF THE ARCTIC WITH SPECIAL REFERENCE TO CANADA* 231-32 (1973) [hereinafter *THE LAW OF THE SEA OF THE ARCTIC*].

148. Arctic Water Pollution Prevention Act, R.S.C., ch. A 12 §§ 23(1), 13 (1985); *see also* *THE LAW OF THE SEA OF THE ARCTIC*, *supra* note 147, at 230.

149. UNCLOS, *supra* note 68, art. 210(5).

150. *Id.*

151. *See id.* art. 42(1); *id.* art. 41(6).

152. *Id.* art. 44.

153. For a more detailed analysis of the AWPPA and the Canadian Shipping Act as they apply to shipping in the Northwest Passage, *see* Lee Clark, *Canada's Oversight of Arctic Shipping: The Need for Reform*, 33 *TUL. MAR. L.J.* 79 (2008).

ii. The Canadian Shipping Act

The Canadian Shipping Act (CSA) includes provisions for the reduction and prevention of ship pollution and oil spills and applies to “vessels in Canadian waters or waters in the exclusive economic zone of Canada.”¹⁵⁴ The Act prohibits the discharge of pollutants, unless the discharge is the result of an emergency or is unavoidable as part of normal operations.¹⁵⁵ The Act defines pollutants to include “specific chemicals, garbage, oily mixtures, and persistent oily mixtures.”¹⁵⁶ Furthermore, the Act provides guidelines for reducing the discharge of oil during loading, unloading, and bunkering. The Act imposes penalties of up to one million dollars for illegal discharges.¹⁵⁷ In addition, the CSA requires both Canadian ships and non-Canadian ships entering Canada’s territorial seas to carry publications and charts, and maintain navigational appliances to reduce accidents at sea.¹⁵⁸ Under Article 43 of UNCLOS, coastal States are permitted to mandate that ships in transit employ specific navigational and safety aids, and may impose pollution controls on vessels in transit.¹⁵⁹ Thus, it is likely that the CSA would be enforceable against foreign vessels regardless of how the Northwest Passage is categorized.

iii. Fisheries Act

The Federal Fisheries Act (Fisheries Act) regulates discharge of pollutants from point sources to waters of Canada, including coastal waters.¹⁶⁰ This Act provides that “no person shall carry on any work or undertaking that results in harmful alteration, disruption, or destruction of fish habitat.”¹⁶¹ The Fisheries Act imposes absolute liability of up to one hundred thousand dollars per day on any person who had management or control of, or who caused, an illegal discharge.¹⁶² As a coastal State’s laws regarding pollution prevention and protection of the marine environment are applicable to foreign vessels in both territorial seas and international straits, it is likely that the Fisheries Act

154. Canada Shipping Act, 2001 S.C., ch. 26 § 166 (Can).

155. *Id.* § 187; see also MARINE LAW INSTITUTE, *supra* note 141, at B-6.

156. *Id.* § 185; see also MARINE LAW INSTITUTE, *supra* note 141, at B-6.

157. *Id.* § 191(2); see also MARINE LAW INSTITUTE, *supra* note 141, at B-6.

158. Canadian Shipping Act, R.S.C., ch. S 9 § 562.1 (1985).

159. UNCLOS, *supra* note 68, art. 43.

160. Fisheries Act, R.S.C., ch. F 14 (1985), *amended by* 1985 (1st Supp.), ch. 35 §§ 1, 3, 5, 6, 7; 1985 (2nd Supp.), ch. 1 § 213(1), ch. 27 § 10; 1985 (4th Supp.), ch. 40 § 2; 1990 S.C. ch. 16 § 10, ch.17 § 20; 1991 S.C., ch. 1.

161. *Id.* § 35(1).

162. *Id.* § 78; see also MARINE LAW INSTITUTE, *supra* note 141, at B-3.

will continue to apply to foreign vessels in the Northwest Passage, regardless of how the Passage is categorized.

iv. Canadian Water Act

The Canadian Water Act contains provisions that allow the Minister of the Environment to establish water quality management areas (WQMA).¹⁶³ The Minister may designate areas within federal waters, interjurisdictional waters, and international and boundary waters as WQMA if there is a significant national interest in the waters. To do so, the federal Cabinet must approve the creation of the WQMA, and, for interjurisdictional waters, the federal and provincial governments must reach an agreement with regard to the area to be protected.¹⁶⁴ A Water Management Area, created to manage the WQMA, would be authorized to develop and implement a Water Quality Management Plan for the areas.¹⁶⁵ To date, no Minister of the Environment has established WQMA pursuant to the Canadian Water Act.¹⁶⁶ Furthermore, it is unclear whether Canada has the authority to control water quality in international and inter-jurisdictional waters deemed WQMA. As the Minister of the Environment has yet to establish any WQMA, this question remains unanswered.

b. Protection of Nonrenewable Resources

i. The Migratory Bird Convention Act and the Fisheries Act

The Migratory Bird Convention Act was adopted for the purpose of implementing and enforcing the Migratory Bird Convention of 1916.¹⁶⁷ The Convention was signed by the United States and the United Kingdom on August 16, 1916 for the purpose of protecting migratory birds.¹⁶⁸ The Act establishes bird sanctuaries, including a bird sanctuary that encompasses all of Bylot Island in the Arctic Archipelago, as well as regulatory measures protecting migratory birds and their habitat.¹⁶⁹

163. The Canadian Water Act, R.S.C., ch. C 11 (1985), *amended by* 1985 (1st Supp.), ch. 31 § 29; 1985 (4th Supp.), ch. 16 §§ 141, 142, 143, 144.

164. *Id.* § 13(1).

165. *Id.* § 13(3).

166. West Coast Environmental Law, *The B.C. Guide to Watershed Planning*, Canada Water Act, <http://www.wcel.org/issues/water/bcgwlp/n7.shtml> (last visited Mar. 29, 2009).

167. The Migratory Bird Convention Act, R.S.C., ch. M 7 (1985), *amended by* 1985 (1st Supp.), ch. 31 § 38; 1985 (4th Supp.), ch. 40 § 2.

168. THE MARINE LAW INSTITUTE, *supra* note 141, at B-12.

169. *Id.*; *see also* Environment Canada, *Migratory Bird Sanctuaries*, <http://www.mb.ec>.

Canada has no legislation for the protection of marine mammals independent of the Fisheries Act.¹⁷⁰ Marine mammals are included in the definition of “fish” in the Fisheries Act.¹⁷¹ The Act prohibits the destruction of fish habitats.¹⁷²

It is unclear whether or not Article 234 of UNCLOS would permit the laws of Arctic coastal States, enacted to protect renewable resources and their habitats, to extend to a State’s EEZ or vessels in transit passage. However, Article 234, which allows coastal States to “adopt and enforce non-discriminatory laws and regulations for the prevention, reduction and control of marine pollution from vessels in ice-covered areas within the limits of the exclusive economic zone.”¹⁷³ However, this provision appears to be limited to laws and regulations pertaining to pollution prevention and control. In addition, the list of regulations that may be imposed on vessels in transit does not include protection of renewable resources.¹⁷⁴ UNCLOS mandates that coastal States “ensure through proper conservation and management measures that the maintenance of the living resources in the exclusive economic zone is not endangered by over-exploitation.”¹⁷⁵ Similar to exploitation of the resource, ships in transit have the potential to impact marine populations. However, it is unclear how, or if, laws for the protection and conservation of marine resources would apply to ships in transit. This is particularly true since the most effective conservation measures would restrict vessel traffic in time and space.

ii. Co-Management Agreements

The Fisheries Joint Management Committee, the Inuvialuit/Alaska Beluga Management Committee, and the Nunavut Wildlife Management Board are co-management schemes between the Department of Fisheries and Oceans (DFO) of Canada and aboriginal managers to regulate subsistence takes of marine mammals.¹⁷⁶ Committees “conduct harvest-

gc.ca/nature/whp/sanctuaries/dc01s00.en.html (last visited Mar. 29, 2009).

170. Although Canada’s Oceans Act of 1996 (OA) creates an “overarching framework for ocean management that includes conservation of marine mammals,” the OA does not specifically address marine mammal protection or conservation. M.L. Campbell & V. G. Thomas, *Protection and Conservation of Marine Mammals in Canada: A Case for Legislative Reform*, 7 OCEAN & COASTAL L.J. 221, 223 (2002).

171. Fisheries Act, R.S.C., ch. F 14 § 2 (1985).

172. *Id.* § 35.

173. UNCLOS, *supra* note 68, art. 234.

174. *Id.* arts. 37-44.

175. *Id.* art. 61(2).

176. Campbell, *supra* note 170, at 236. These co-management schemes are the product of two land claims agreements: the Inuvialuit Final Agreement and the Nunavut Final

monitoring programs, and examine regional abundance, distribution, and movement of whales.”¹⁷⁷ Co-management and integration of traditional knowledge into conservation management schemes are important; however, as they exist now, these agreements are a piecemeal approach to marine renewable resource conservation.¹⁷⁸ For example, states and aboriginal nations not parties to the agreements are not governed by their terms.¹⁷⁹ Furthermore, these co-management schemes generally address only certain species, leaving other species without protection.¹⁸⁰

Despite the current weaknesses of Canada’s co-management system, it provides an opportunity for aboriginal control and management over renewable resources. These management systems strive to integrate traditional knowledge with the needs of substance hunters and the conservation goals of the state. International regulation of marine resources is unlikely to provide a similar forum for native peoples to play a role in the management of the resources compromising the Inuit substance hunters’ cultural and physical survival.

iii. Canada’s Environmental Review and Assessment Process

In 1973, the Canadian government created the Environmental Review and Assessment Process (ERAP).¹⁸¹ The ERAP creates a mechanism for the

Agreement. *Id.* The Inuvialuit Final Agreement—in addition to being a land claims agreement—was designed with the goal of “protect[ing] and preserv[ing] the Arctic wildlife, environment and biological productivity through the application of conservation principles and practices.” The Western Arctic Claim, Inuvialuit Final Agreement § 14(1), available at <http://www.irc.inuvialuit.com/publications/pdf/Inuvialuit%20Final%20Agreement.pdf>.

The Nunavut Final Agreement divided the existing Northwest Territories into two separate territories creating the “first full territory in a modern nation ever to be governed and administered by aboriginal people.” Colin Nickerson, *For the Inuit, New Territory is ‘Our Land,’* BOSTON GLOBE, Mar. 23, 1998, at A1. In addition, the Agreement “provides for the establishment of complete co[-]management regime for the Nunavut designed to produce land use plans, regulate access to wildlife, regulate water use, review the potential impacts of development, and meaningfully advise government on the management of the Nunavut marine environment.” Bruce Gillies, *The Nunavut Final Agreement and Marine Management in the North*, 23 N. PERSPECTIVES 17, 17 (1995), available at <http://www.carc.org/pubs/v23no1/marine4.htm>.

177. Campbell, *supra* note 170, at 236.

178. *Id.* at 236-37.

179. *Id.* at 237.

180. *Id.* at 238.

181. FEDERAL ENVIRONMENTAL ASSESSMENT REVIEW OFFICE, DETAILED OUTLINE OF CONTENTS OF THE CABINET MEMORANDA ESTABLISHING THE FEDERAL ENVIRONMENTAL ASSESSMENT AND REVIEW PROCESS (Apr. 1978). The cabinet memorandum of 1978

federal government to assess the environmental impacts of federal and private projects that require federal permits.¹⁸² The ERAP requires that the main decision-making agency for a federal project conduct a preliminary environmental assessment.¹⁸³ If the agency decides that either the project will not have a significant impact on the environment or that the environmental impacts may be mitigated, the project may commence.¹⁸⁴ If, however, the decision-making agency finds potential for harm, the proposal is subject to independent review by an ERAP panel consisting of members outside the federal government with expertise in the project area.¹⁸⁵ The panel, after public review of the proposal, provides the Minister of the Environment and the minister of the decision-making agency with a report containing the board's recommendations.¹⁸⁶ The board's recommendations are not binding, and the ultimate decision of whether or not the project should proceed remains with the minister of the decision-making agency.¹⁸⁷ The ERAP is procedural rather than substantive, and was designed to allow "developer's plans to be reviewed by both experts and generalists, by organized vested interests, and by ordinary citizens."¹⁸⁸ As a result, the effectiveness of this regulation is debatable.

2. International Law: Bilateral and Multilateral Treaties

a. Pollution Prevention and Controls

i. UNCLOS

Article 192 of UNCLOS provides that: "States have the obligation to protect and preserve the marine environment."¹⁸⁹ Specifically, contracting parties are required to "take, individually or jointly as appropriate, all measures consistent with this Convention that are necessary to prevent,

"legislatively solidified an environmental review process already initiated through previous policy memoranda," specifically, a recommendation by the Cabinet Committee on Science, Culture, and Information made on December 18, 1973. David L. Vanderzwagg & Cynthia Lamson, *Northern Decision Making: A Drifting Net in a Restless Sea*, in *TRANSIT MANAGEMENT IN THE NORTHWEST PASSAGE*, *supra* note 8, at 153, 208.

182. David Marshall, *The Federal ERAP Experience*, in *THE CHALLENGE OF ARCTIC SHIPPING*, *supra* note 9, at 169.

183. *Id.*

184. *Id.*

185. *Id.*

186. *Id.*

187. *Id.*

188. *Id.* at 170.

189. UNCLOS, *supra* note 68, art. 192.

reduce and control pollution of the marine environment from any source.”¹⁹⁰ This requirement applies to a variety of different pollution sources, including land-based sources,¹⁹¹ dumping at sea,¹⁹² vessel-source pollution,¹⁹³ and pollution resulting from the exploitation of nonrenewable resources.¹⁹⁴ Furthermore, contracting parties are required to conduct scientific research for the purpose of assessing the risks and effects of pollution on the marine environment.¹⁹⁵ This provision applies to all waters of a coastal State except for internal waters. In addition, UNCLOS includes a provision that specifically addresses coastal States’ rights regarding pollution prevention in the Arctic.

ii. Article 234

Article 234 of UNCLOS¹⁹⁶ “provides multilateral recognition of the special features of the Arctic Ocean and the interests of adjacent coastal states in protecting the marine environment.”¹⁹⁷ Although this provision allows coastal States to extend pollution controls to waters within the EEZ, the provision requires that the “laws and regulations shall have due regard to navigation” and be “non-discriminatory.”¹⁹⁸ This language is likely to limit the pollution prevention measures that an Arctic coastal State may adopt. While the extent of the authority conferred on Arctic coastal States by Article 234 is unclear, its incorporation into UNCLOS legitimized Canada’s AWPPA by extending the right of Arctic coastal States to implement and enforce marine protection laws within the EEZ.¹⁹⁹

190. *Id.* art. 194(1).

191. *Id.* art. 207.

192. *Id.* art. 210.

193. *Id.* art. 211.

194. *Id.* art. 208.

195. *Id.* art. 204(1).

196. Article 234 of UNCLOS 234 provides:

Coastal States have the right to adopt and enforce non-discriminatory laws and regulations for the prevention, reduction and control of marine pollution from vessels in ice-covered areas within the limits of the exclusive economic zone, where particularly severe climatic conditions and the presence of ice covering such areas for most of the year create obstructions or exceptional hazards to navigation, and pollution of the marine environment could cause major harm to or irreversible disturbance of the ecological balance. Such laws and regulations shall have due regard to navigation and the protection and preservation of the marine environment based on the best available scientific evidence.

UNCLOS, *supra* note 68, art. 234.

197. ROTHWELL, *supra* note 13, at 294.

198. UNCLOS, *supra* note 68, art. 234.

199. Mills, *supra* note 17, at 13.

iii. The 1996 Protocol Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter

The Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London Convention) was adopted on November 13, 1972, and entered into force on August 30, 1975.²⁰⁰ On March 24, 2006, the 1996 Protocol to the London Convention (Protocol), a more restrictive approach to regulation of marine dumping intended to eventually replace the London Convention, came into force.²⁰¹ Canada is a party to both the London Convention and the Protocol.²⁰² Canada implements the London Convention and the Protocol through the Canadian Environmental Protection Act.²⁰³

The objective of both the London Convention and the Protocol is to protect the marine environment from all sources of pollution and to prevent, reduce, and eliminate pollution caused by dumping and incineration at sea.²⁰⁴ However, the Protocol, which requires parties to dispose of most categories of waste through land-based solutions, rather than controlled dispersal at sea, is a more preventative approach than the London Convention.²⁰⁵ In addition, provisions codifying the “precautionary” approach, the “polluter pays” principle, and the “black list” or “reverse list” approach make the Protocol a more stringent and potentially more effective regulatory regime for controlling the dumping of waste into the world’s oceans.²⁰⁶

200. The Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, Dec. 29, 1972, 26 U.S.T. 2405 [hereinafter London Convention].

201. *See generally* 1996 Protocol to the 1972 Convention on the Prevention of Marine Pollution by Dumping of Wastes and other Matter, Nov. 8, 1996, 36 I.L.M. 1 [hereinafter Protocol]; London Convention, *supra* note 200.

202. Canada ratified the London Convention on November 13, 1975. International Maritime Organization: Conventions & Amendments Coming Into Force Dates, Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972, <http://www.tc.gc.ca/marinesafety/rsqa/imosite/lc1972.htm> (last visited Jan. 22, 2009). Canada became a party to the Protocol on May 15, 2000. Press Release, Environment Canada, International Rules on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter to be Strengthened (Mar. 24, 2006), *available at* <http://www.ec.gc.ca/default.asp?lang=En&n=714D9AAE-1&news=F54191FC-F996-4DB6-9A6B-399EB214BA74> (last visited Mar. 31, 2009).

203. Environment Canada, Press Release, *supra* note 202.

204. *See generally* London Convention, *supra* note 200; Protocol, *supra* note 201.

205. *Id.*

206. International Maritime Organization: Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972, http://www.imo.org/Conventions/contents.asp?topic_id=258&doc_id681 (last visited Jan. 22, 2009). The “precautionary” approach requires contracting parties to take precautionary measures “when there is reason to believe that wastes or other matter introduced into the marine environment are likely to cause harm even when there is no conclusive evidence to prove a causal relation between

A contracting party to the Protocol is required to prohibit the dumping of any waste matter (as defined by the Protocol), without a permit from vessels and aircraft flying its flag or operating within its territory, as well as “vessels, aircraft and platforms or other man-made structures” over which the contracting party is entitled to exercise jurisdiction under international law.²⁰⁷ Contracting parties may, however, issue permits for the dumping of waste in specific circumstances and after strict scrutiny.²⁰⁸ Under the Protocol, contracting parties are to develop procedures regarding liability arising from the dumping of waste, “[t]aking into account the approach that the polluter should . . . bear the cost of the pollution.”²⁰⁹

Obligations and restrictions imposed by the Protocol and the Convention do not apply to internal waters.²¹⁰ However, contracting parties are required to either adopt the provisions of the Protocol or Convention, or to adopt permitting and regulatory mechanisms for effectively controlling deliberate dumping of wastes within internal marine waters consistent with the purpose of the Protocol.²¹¹ Furthermore, contracting parties are encouraged to provide the IMO with information detailing adoption, implementation, and enforcement of legislative measures intended to control dumping in internal marine waters.²¹² Moreover, the Protocol does not prohibit contracting parties from taking more stringent measures to prevent the dumping of wastes into marine waters.²¹³

b. Protection of Natural Resources

i. The Arctic Environmental Protection Strategy

In 1991, eight Arctic states: Canada, the USSR, Denmark, Finland, Iceland, Norway, Sweden, and the United States, adopted the Arctic

inputs and their effects.” Protocol, *supra* note 201, art. 3(1). Under the “polluter pays” principle, the polluter bears the cost of pollution. *Id.* art. 3(2). The “reverse list” approach prohibits ocean dumping of all wastes or other matters, except for a few wastes specified by the Protocol, rather than the London Convention’s approach, which prohibits the dumping of listed wastes and materials. President’s Message to Senate Transmitting the Protocol to the Convention on Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 43 WEEKLY COMP. PRES. DOC. 1163, 1180 (Sept. 4, 2007).

207. Protocol, *supra* note 201, arts. 4, 10.

208. *See id.* arts. 8, 9.

209. *Id.* arts. 3(2), 15.

210. *Id.* art. 7(1).

211. *Id.* art. 7(2).

212. *Id.* art. 7(3).

213. *Id.* art. 3(4).

Environmental Protection Strategy (AEPS).²¹⁴ The purpose of the AEPS is “to ensure the protection of the Arctic environment and its sustainable and equitable development, while protecting the cultures of indigenous peoples.”²¹⁵ Specifically, the five objectives of the AEPS are: (1) to protect Arctic ecosystems; (2) to protect the environmental quality and the sustainable exploitation of natural resources; (3) to acknowledge and incorporate into environmental management the traditional cultural needs, values, and practices of the indigenous peoples; (4) to monitor the state of the Arctic environment; and (5) to eliminate pollution.²¹⁶

Despite its lofty goals, it appears that the parties to the AEPS did not intend it to be a treaty registered with the United Nations and enforceable under international law.²¹⁷ Rather, the parties “see the AEPS as a cooperative multilateral agreement . . . designed to expose Arctic environmental problems” and provide a forum for multilateral problem-solving.²¹⁸ Instead of imposing obligations on the signing parties, the AEPS provides a unified goal and framework to be carried out at the discretion of the parties through national legislation comporting with international law.²¹⁹ To date, the AEPS has resulted in the creation of several task forces and working groups to conduct research and make recommendations concerning conservation of Arctic flora and fauna, biodiversity, sustainable development, circumpolar protected areas, and seabirds.²²⁰ However, there has been little effort on the part of the parties, as individuals or a collective, to implement the provisions of the AEPS through national legislation. Furthermore, opportunities for Inuit participation under the AEPS are limited.²²¹

ii. UNCLOS

Although UNCLOS does not provide specific measures for management and conservation of renewable marine resources, Article 61 mandates that contracting parties adopt conservation and management schemes ensuring that “the living resources in [their] exclusive economic zone [are] not endangered by over-exploitation.”²²² Furthermore, UNCLOS requires coastal

214. Arctic Environmental Protection Strategy, June 14, 1991, 30 I.L.M. 1627 [hereinafter AEPS]. In 1991, the USSR disbanded. Russia did not replace the USSR as a party to this treaty.

215. *Id.* § 1.

216. *Id.* § 2.

217. ROTHWELL, *supra* note 13, at 241.

218. *Id.*

219. *Id.*

220. *Id.* at 236.

221. *Id.* at 246.

222. UNCLOS, *supra* note 68, art. 61(2).

States to cooperate to protect and conserve marine mammals.²²³ UNCLOS also authorizes each contracting party to “take such measures [within its EEZ], including boarding, inspection, arrest and judicial proceedings, as may be necessary to ensure compliance with the laws and regulations adopted by it in conformity with [UNCLOS]” to conserve and protect marine wildlife.²²⁴

3. Conclusion

The environmental law applicable to the Northwest Passage as internal waters of Canada or territorial seas would provide more protection than those applicable to international straits. Regardless of whether the Northwest Passage is internal waters of Canada, territorial seas, or an international strait, it is likely that, with strict enforcement of the Protocol and the AWPPA, current international and domestic schemes for pollution protection are sufficient to protect the waters of the Arctic Archipelago. However, designation of the Passage as an international strait is likely to prevent the AWPPA from being enforced in full. Furthermore, although the provisions of the Protocol do not apply to internal waters of a coastal State, contracting parties are required to either adopt the provisions of the Protocol or to adopt permitting and regulatory mechanisms for controlling dumping of wastes within internal marine waters consistent with the purpose of the Protocol. Therefore, the Northwest Passage would be afforded the most complete pollution protection by a designation as either internal waters of Canada or territorial seas.

Neither current Canadian law, international law, nor current multilateral or bilateral treaties are adequate to protect the Arctic’s living resources. Although Canada’s existing laws are insufficient, it is much easier to enact, amend, implement, and enforce domestic legislation than international agreements. Furthermore, Canadian law allows for the co-management of renewable resources with aboriginal peoples and recognizes the rights and needs of the Inuit subsistence hunters. Therefore, categorization of the Northwest Passage as internal waters of Canada or territorial seas would be the most effective way to ensure the protection of the marine renewable resources of the Arctic Archipelago and their continued use and management by native peoples.

223. *Id.* art. 65.

224. *Id.* art. 73(1).

V. CONCLUSION

Inevitably, the Northwest Passage will be exposed to year-round shipping, and extraction and transport of hydrocarbons. Thus, the protection of the marine ecosystem and the preservation of the Inuit's cultural heritage will be contingent upon adoption of a comprehensive approach to managing these activities. Such an approach requires integration of international standards, domestic laws designed to fill the gaps in the international regime, and coordination between the littoral State and other stakeholders. Such a scheme, however, cannot be developed overnight, and will likely take years, if not decades, to establish. In the interim, to ensure that the area's living natural resources are afforded the most protection possible, Canada's Northwest Passage should be treated as internal waters of Canada.