Notes

Gaining Command & Control of the Northwest Passage: Strait Talk on Sovereignty

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I. INTRODUCTION

The Arctic Ocean remains one of the last frontier regions on earth to be explored and exploited. However, due to global warming, technological advances, and declining stocks of global resources, increasing interest and activity in the Arctic is underway. This renewed interest in the Arctic has sparked a new vigor by Canada and the United States to promote their State interests in the region.

The fabled Northwest Passage (hereinafter "NWP") runs through the Canadian territory known as the Arctic Archipelago, which is adjacent to the northern mainland Canadian coastline. It is the most direct, albeit seldom navigable, route for the United States to Alaska from its eastern population bases. Canada has historically claimed the constituent lands and waters of the NWP as its sovereign territory, whereas the United States has consistently referred to the NWP as an international strait to which they claim an unfettered right of passage of the freedom of the seas.

Canada, in contrast, has reactively grasped for every sovereign justification it can for establishing and maintaining arctic sovereignty. To support its claim, Canada cites its historic association through cession of its lands from the Indigenous people and the British Crown sovereign. Canada has also relied on the sector theory to lay claim to all the waters and lands within its sector to the North Pole. The country has most strongly relied on the setting of straight baselines around its arctic archipelago to assert that all constituent waters within the baselines are Canadian internal waters.

To ameliorate and respond to American demands for an undeterred right of passage, Canada has enacted environmental protectionist legislation for the arctic environment[1] and, in 1988, entered into a landmark arctic agreement with the U.S.[2] Under this agreement, the United States promises to notify Canada of any planned excursions by sea into the waters of the NWP. In return, Canada promises to grant blessings to all such endeavors as they are announced.

The ultimate problem involving the access and sovereignty rights to the Northwest Passage is one of 'command and control.' Namely, who

1. Arctic Waters Pollution Prevention Act, R.S.C., ch. A-12 (1985).
2. Canada-United States: Agreement on Arctic Cooperation and Exchange of Notes Concerning Transit of Northwest Passage, 28 I.L.M. 141 (1989).

should control the NWP and the important shipping access it allows to the Arctic Ocean? The United States, on one hand, sees the Canadian position as encroaching on the United States' right of innocent passage[3] and as violating the law of the sea as set out in the *Corfu Channel* case.[4] Canada, on the other hand, believes that the waters of the NWP are internal to Canada based on equity concerns and particularly because of the uniqueness of the NWP archipelago. Canada also claims that there is insufficient shipping traffic history to satisfy the 'functionality test'[5] as set out in the *Corfu Channel* case.

In response to the unannounced excursion of the *Polar Sea*[6] through the NWP without prior Canadian approval, the Canadian government set out a course to embed its sovereignty in the region. Primarily, Canada looked to the *Fisheries Case*[7] and the supporting archipelago principles for establishing extended straight baselines for including these island formations where the ecology is sensitive and vital needs are established.

3. United Nations Convention on the Law of the Sea, art. 17, Dec. 10, 1982, 1833 U.N.T.S. 397, 21 I.L.M. 1245 [hereinafter UNCLOS].

4. Corfu Channel (U.K. v. Alb.), 1949 I.C.J. 4, at *52 (Apr. 9) [hereinafter *Corfu Channel* case].

5. *Id.* at *28-29.

6. The *Polar Sea* is a U.S. Coast Guard heavy icebreaker, which circumnavigated the Northwest Passage in the summer of 1985. Whatever the motive - a challenge to Canada's claim to the Northwest Passage or simply a quick and inexpensive way to get the *Polar Sea* from Greenland to Alaska - the U.S. government was careful not to make a request for permission to make the crossing and thereby imply in any way recognition of Canada's claim to the strait. Instead, the United States made clear that the voyage was without prejudice to the legal position of the other side. J. M. SIMARD & T. HOCKIN, A NORTHERN DIMENSION FOR CANADA'S FOREIGN POLICY, INDEPENDENCE AND INTERNATIONALISM: REPORT OF THE SPECIAL JOINT COMMITTEE OF THE SENATE AND OF THE HOUSE OF COMMONS ON CANADA'S INTERNATIONAL RELATIONS (1986), *available at* http://www.carc.org/pubs/v14no4/6.htm. Ottawa, to save face, made a point of granting permission; it even asked to place several "observers" on board the *Polar Sea. See* Michael Byers, *The Need to Defend Our Northwest Passage*, THE TYEE, Jan. 30, 2006, http://thetyee.ca/Views/2006/01/30/DefendNorthwestPassage/. "Washington acceded to the request, strengthening Canada's argument that the transit was consensual and even promised to provide advance notice of any future transits by its Coastguard vessels." *Id.* "The voyage of the *Polar Sea* caused a rush of popular anxiety in Canada. Pressure built quickly, and on September 10, 1985, the government responded in a statement in the House of Commons by the Secretary of State for External Affairs. Mr. Clark announced a number of measures intended to strengthen Canada's claim, including notification that Canada was drawing straight baselines around the arctic archipelago to delineate its claim, the removal of the 1970 reservation to the jurisdiction of the International Court of Justice,* increased aerial surveillance, naval activities in Canada's eastern arctic waters, and construction of a class 8 polar icebreaker. Taken together these measures have the potential significantly to strengthen Canada's claim to sovereignty over the waters of the arctic archipelago." J. M. SIMARD & T. HOCKIN, A NORTHERN DIMENSION FOR CANADA'S FOREIGN POLICY, INDEPENDENCE AND INTERNATIONALISM: REPORT OF THE SPECIAL JOINT COMMITTEE OF THE SENATE AND OF THE HOUSE OF COMMONS ON CANADA'S INTERNATIONAL RELATIONS (1986), *available at* http://www.carc.org/pubs/v14no4/6.htm.

7. Fisheries Case (U.K. v. Nor.), 1951 I.C.J. 5 (Dec. 19) [hereinafter *Norwegian Fisheries Case*].

Canada has also attempted to influence the policy-making efforts of the UNCLOS, which had adopted Article 234 to allow for special state powers for ice-covered regions in order to protect the environment, health, and safety of these fragile regions.[8]

II. Statement of Claim

This note explores the substantive merit of Canada's position on its sovereignty claims over the Northwest Passage and the waters of the Arctic Archipelago. In particular, the issue is whether Canada's claims are justified and what legal premises support its position? In view of the claim of the United States to a right of innocent passage through an international strait, this note also attempts to identify potential alternatives for amicably resolving this dispute.

III. History of the NWP

The Northwest Passage is an ice-laded sea route linking the North Atlantic and North Pacific Oceans via the Canadian archipelago. This archipelago, also known as the Arctic Archipelago, is a group of 36,563 islands and contains ninety-four islands greater than 130 square kilometers, including three of the world's largest islands.[9] With the exception of Greenland, the Arctic Archipelago is the world's largest high-arctic land area and extends some 2400 kilometers longitudinally and 1900 kilometers from the mainland of Canada to its northern most point on Ellesmere Island.[10] It is bounded on the south by the Hudson Bay and the Canadian mainland; on the east by Greenland, Baffin Bay, and Davis Strait; on the north by the Arctic Ocean; and on the west by the Beaufort Sea. The various islands of the archipelago are separated from the mainland and from one another by a shallow myriad maze of narrow ice-blocked straits that are typically frozen throughout the year. To the north, these islands open into the frozen Arctic Sea.[11]

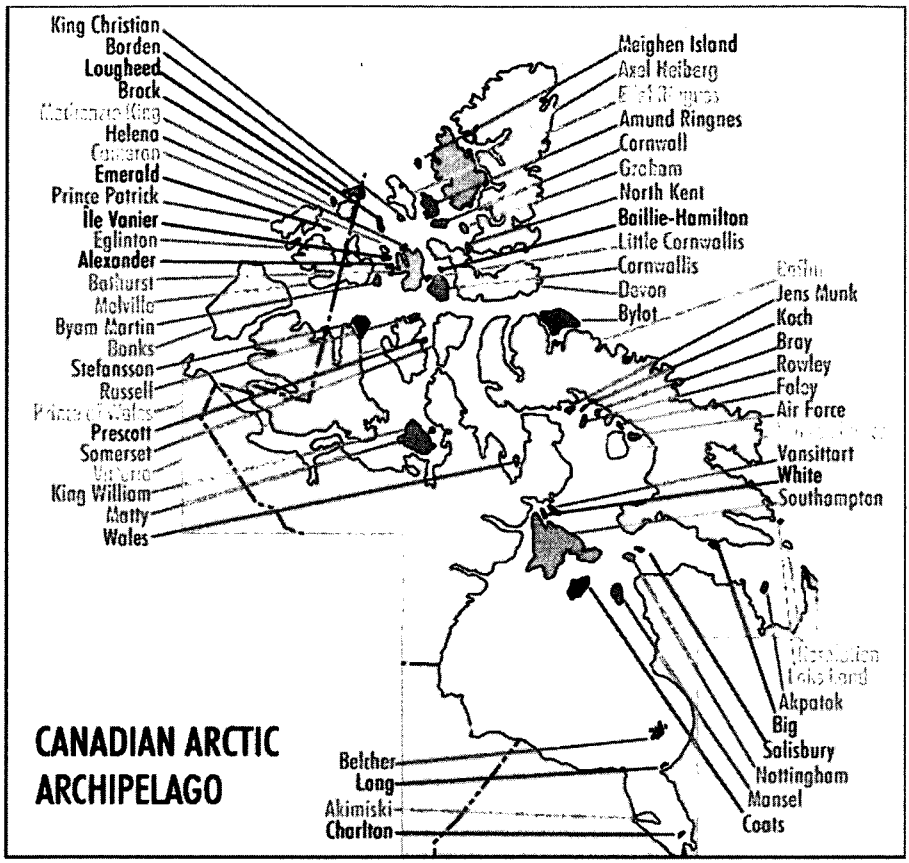
8. UNCLOS, *supra* note 3, at art. 234.

9. Encyclopedia Wikipedia, Northwest Passage, http://en.wikipedia.org/wiki/Arctic_Archipelago (last visited Sept. 14, 2007).

10. *Id.*

11. *Id.*

EXHIBIT 1. AN OVERVIEW OF THE ARCTIC ARCHIPELAGO[12]



The NWP was alternatively known as the Strait of Anián,[13] which was a sixteenth century Spanish name for a passage that was believed to connect the Pacific Ocean and the Atlantic Ocean in the temperate regions of North America.[14] Such a strait does not in fact exist, but for centuries European explorers searched for such a route while at the same time attempting to find an eastern bound passage north of Russia such as a Northeast Passage.[15]

12. *Id.*

13. ALICIA ZORZETTO, AMERICAN UNIVERSITY, CANADIAN SOVEREIGNTY AT THE NORTHWEST Passage, ICE Case Studies Number 185 (2006), http://www.american.edu/ted/ice/northwest-passage.htm.

14. Jorge A. Vargas, *Is the International Boundary Between the United States and Mexico Wrongly Demarcated? An Academic Inquiry into Certain Diplomatic, Legal, and Technical Considerations Regarding the Boundary in the San Diego-Tijuana Region*, 30 CAL. W. INT'L L.J. 215, 222 (2000).

15. Encyclopedia Wikipedia, Northwest Passage, *supra* note 9.

In recent years, amidst global warming and rapid melting in the Arctic, many reports on the subject of the NWP have declared that the NWP may soon be a viable option for circumpolar shipping.[16] Ice-free access to the NWP could shave five thousand miles off circumpolar sea voyages that otherwise would have to go through the Panama Canal to circumnavigate the Americas. However, these predictions need to be met with cautious optimism according to John Falkingham, Chief of Forecast Operations at the Canadian Ice Service. "Currently the Canadian Arctic's shipping season, such as it is, lasts only about four to six weeks, and that's not going to change anytime soon. We don't expect the [NWP] to be free of ice for an extended period of the summer until much later in the century."[17] Peter Tyson, in a report on the future of the NWP, suggests that the summer shipping season will remain treacherous for even the most well-equipped icebreaking vessels and that the alternative Russian Northeast Passage (also known as the Northern Sea Route) is currently utilized and recognized as "a more straightforward path than the labyrinthine Canadian archipelago."[18] According to Tyson,

> [R]ather than Canada's thicket of islands, Russia's route has just several straits for ships to pass through. And its summertime ice conditions are often better. The Northern Sea Route is already open up to eight weeks a year, with at least a million and half tons of shipping going through.[19]

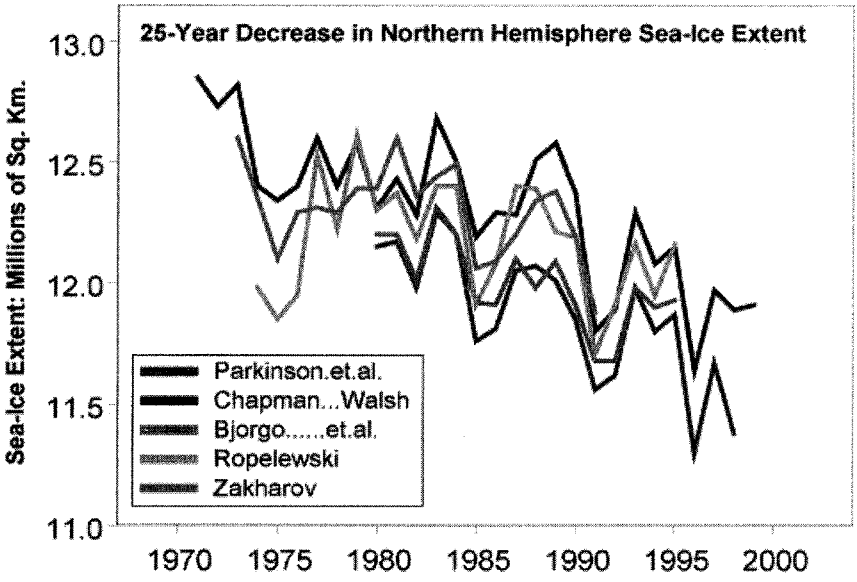
16. Andrew King, *Thawing the Frozen Treaty: Protecting United States Interests in the Arctic with a Congressional—Executive Agreement on the Law of the Sea*, 34 HASTINGS CONST. L.Q. 329, 330-331 (2007).

17. Peter Tyson, *Future of the Passage*, ARCTIC PASSAGE, Feb. 2006, http://www.pbs.org/wgbh/nova/arctic/passage.html.

18. *Id.*

19. *Id.*

EXHIBIT 2: DECREASE IN THE EXTENT OF SEA-ICE[20]



Similarly, experts also increasingly believe that a shipping route may become available in this century straight across the top of the northern hemisphere via a direct route through the thinning ice of the North Pole.[21] As John Falkingham argues, "since the oldest and thickest ice in the Arctic Ocean is that which is driven against the western flank of the Canadian Archipelago . . . this will likely be the last multi-year ice to remain"[22] in the Arctic.

20. Konstantin Y. Vinnikov et al., *Global Warming and Northern Hemisphere Sea Ice Extent*, SCIENCE MAGAZINE, Dec., 1999, at 1935.

21. Old ice from the Arctic Ocean drifts into the Queen Elizabeth Islands (QEI) (i.e. NWP – Canadian Archipelago) from the west, "blocking the narrow passages between islands. Ice concentrations in the QEI are extremely high resulting in limited and incomplete navigation and scientific study." K. J. WILSON, J. FALKINGHAM, H. MELLING, AND R. DE ABREU, CANADIAN ICE SERVICE METEOROLOGICAL SERVICE OF CANADA AND FISHERIES AND OCEANS, INSTITUTE OF OCEAN SERVICES, SHIPPING IN THE CANADIAN ARCTIC: OTHER POSSIBLE CLIMATE CHANGE SCENARIOS, http://www.arctic.noaa.gov/detect/KW_IGARSS04_NWP.pdf (last visited Sept. 14, 2007).

22. Arctic Marine Transport Workshop, Institute of the North, U.S. Arctic Research Commission, International Arctic Science Committee, at 5, http://www.institutenorth.org/servlet/content/ maritime_news.html (follow "Arctic Marine Transport Workshop Final Report" hyperlink)(statement of John Falkingham) (Dr. Lawson Brigham & Ben Ellis eds., 2004).

EXHIBIT 3: FUTURE OF THE PASSAGE[23]

"Despite the reported widespread thinning of Arctic ice, even the Swedish icebreaker Oden had trouble negotiating the Northwest Passage when it muscled through in mid-July 2005." Source: Tyson, *supra* note 17.

With the summer seasonal melt and clearing of ice at the North Pole, it is now being asserted that the Arctic Polar Route (APR) straight over the North Pole alternatively represents a more navigable and ice manageable Arctic shipping route, which would shorten circumpolar shipping by 8000 miles versus 5000 miles saved by NWP and NEP.[24]

23. Tyson, *supra* note 17.
24. *Id.*

EXHIBIT 4: ARTIC REGION[25]

Presumably, if both the NEP and APR, currently and in the future, represent more viable routes for circumpolar navigation, then why does the marine industry and the governments of the United States and Canada seem so interested in the NWP? Essentially, as Bob Gorman notes,

> [T]he marine industry is focused on the Arctic as a destination and not a short-cut between the Atlantic and the Pacific either now or in the next 10 to 20 years. Oil and gas activity is restricted to the on-shore MacKenzie Delta at the moment with plans by the Aboriginal Pipeline Group to build a gas pipeline to the delta during the next 10 years. Once the pipeline is in place offshore oil and gas activity in the Canadian Beaufort Sea[26] will likely pick-up once again.[27]

While the NWP dispute between the United States and Canada is a global issue in the context that it will affect the trading activity of many

25. *Id.*

26. CONTEXTS - GEOGRAPHY - NORTHERN PASSAGE, http://www.english.upenn.edu/projects/ knarf/contexts/passage.html ("The 900-mile east-west water route runs from Baffin Island to the Beaufort Sea through a field of thousands of icebergs, and thence into the Pacific through the Bering Strait, which separates Siberia from Alaska.").

27. Arctic Marine Transport Workshop, *supra* note 22, at 5.

countries, it is however, essentially a bilateral issue between two neighboring Arctic nations, the United States (Alaska) and Canada.[28]

> Commercially, the importance of the passage lies in the future possibilities for its use. Up through the present, navigation of the [NWP] has been extremely limited, consisting mainly of research and Arctic area community resupply vessels. However, technical advances [and global warming] could make the [NWP] a viable international commercial sea route by the end of this century. . . . The existence of vast amounts of oil and natural gas on Alaska's North Slope and the Beaufort Sea will likely provide an impetus for international commercial usage of the [NWP].[29]

IV. INTERNATIONAL STRAIT – THE UNITED STATES' POSITION ON THE NWP

As the world's largest trading nation, the United States has generally and consistently espoused the principle of the freedom of the seas.[30] Whereas Canada, who's territorial lands the frozen waterway zigzags through, has consistently claimed the NWP is sovereign to Canada. Until recently, the decades old dispute between the United States and Canada has been largely academic. But as global temperatures rise and polar ice caps melt, and as oil and gas commodity prices rise, the energy import dependant United States and the Canadian government have begun to envision the value and viability of the NWP as a control and access route to the abundant supply of under exploited natural resources of the Arctic. According to Robert Huebert, Associate Director of the Centre for Military and Strategic Studies at the University of Calgary, "[t]he heart of the dispute is the transit of international shipping, and who gets to set rules."[31] Canada considers the NWP as its internal waters and wishes to control and regulate emergent shipping traffic through this navigationally poor and environmentally risky zone located within its territorial lands.

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28. ZORZETTO, *supra* note 13.

29. A. Perrin, *Crashing Through the Ice: Legal Control of the Northwest Passage or Who Shall by 'Emperor of the North'*, 13 TUL. MAR. L.J. 139, 141 (1988).

30. Rebecca Dube, *Tiff over Northwest Passage Heats up as Ice Melts*, USA TODAY, Apr. 4, 2006 ("The United States generally supports maximum freedom of the seas. U.S. officials worry about what sort of precedent the Northwest Passage could set for international straits in global hot spots, such as the Strait of Hormuz near Iran and the Strait of Malacca between Malaysia and Indonesia."); *But see Norwegian Fisheries Case*, *supra* note 7 (refuting this theory).

31. Levon Sevunts, *Northwest Passage Redux*, THE WASHINGTON TIMES, June 17, 2005, *available at* http://www.sevunts.com/new_page_31.htm).

V. Mississippi River Waterway – A Comparative View: An Internal Waterway or International Passage of Transnational Origin, With Passage between Two Major Gulfs?

As a useful comparative analysis of the U.S. position on the NWP, an analogy can be drawn with the Mississippi River.[32] The Mississippi River originates in Canada and is arguably part of an integrated waterway connected with the Great Lakes and the St. Lawrence River. The Mississippi River has the potential to provide a semi-navigable watercourse of passage from the St. Lawrence Bay and North Atlantic, to the Gulf of Mexico, if developed for improved navigation.

Jus Cogens, which is a Latin term representing fundamental international legal principles, suggests that 'good neighborliness' is paramount for harmonious international relations. This principle is the very root of the U.S. position that the NWP is an international strait. Presumably then, without invoking double standards and hypocrisy among nearest neighbors, the same theory would suggest that if the United States is justified in exclusive control and access to the Mississippi River as an internal waterway for their exclusive use, then 'what is good for the goose should also be good for the gander.' As such, if the United States considers the great Mississippi River as internal waters, despite its international dimensions of origin and shipping potential between two distinct and distant Gulfs, then so too on similar grounds it can be reasonably argued that the NWP is a Canadian internal waterway despite exogenous notions of freedom of the seas under the United Nations Convention of the Law of the Sea. In essence, if as a good neighbor Canada, Mexico, and other nations who would stand to benefit from shorter shipping routes to internal American markets (or other proximate markets) accept or acquiesce with the notion that the Mississippi River is an internal U.S. waterway, then on the same principal, the United States should cooperate with Canada in recognizing the uniqueness of the NWP and its sovereignty within the baselines of the Canadian Arctic Archipelago.

VI. Global Interests in the NWP Dispute

Not entirely unlike the potential community of interest for Canada, Mexico, and other nations' freedom to use the Mississippi River system as discussed above, I see the NWP as a dispute where all countries involved (neighboring Arctic nations of Greenland, Denmark, Norway, Russia, Iceland, and others) have significant economic and legal interests at stake. Furthermore, beyond trade development and efficiencies, and

32. Dube, *supra* note 30.

> [b]esides the importance of the immense hydrocarbon reserves in the Canadian Arctic (especially in the context of increasing political instability in the Middle East), the central proximity of the Canadian Arctic Archipelago to the [former] Soviet Union and the United States makes this an area of vital strategic interest. Indeed, the shortest distance between the two super powers is across the Arctic Circle.[33]

While the European Union, led by the influence of the United Kingdom, in recognizing its economic interest has supported[34] the United States position that the NWP is an international strait[35] (although the support is qualified in the context of environmental concerns), Russia (Former Soviet Union - FSU) has in contrast expressed its support for Canada's claim of complete control over the passage.[36] The FSU's position may have seemed surprising at the time in view of their strategic interest during the cold war in using the NWP for nuclear submarine defense, security, and potential warfare. However, of a kindred sovereign character, the NEP similarly links the Atlantic and Pacific, and is located in the Russian Arctic. The FSU has

> claimed this passage through the Arctic by enacting legislation establishing 'straight baseline' boundaries around the waters, and classifying them as internal waters subject to complete [Russian] control. Thus, the [FSU] has an interest in establishing complete legal sovereignty over the [NEP] through the Arctic waters which is identical[37] to Canada's interest in establishing sovereignty over the [NWP] through the Arctic.[38]

This position by Russia seems broadly accepted as international commercial shipping through the NEP has been compliant with Russian statutory regulations and guidelines, which include both fees and supervision through the route.

The United States as the sole remaining world super power has to approach this dispute delicately as it has in contemporary years garnered a reputation internationally for taking what is in its best interest e.g. oil fields in Iraq and the Middle East. According to Bob Huebert, the best

33. Paul A. Kettunen, *The Status of the Northwest Passage Under International Law*, 1990 Det. C.L. Rev. 929, 940 (1990).

34. Huebert, *Climate Change and Canadian Sovereignty in the Northwest Passage*, http://isuma.net/v03n04/huebert/huebert_e.shtml) (last visited Sept. 12, 2007).

35. Presumably every nation that wants to potentially use the NWP for international shipping and prospective resource access and/or exploration will skew their expressed interpretation and application of international law to promote their own national and/or regional domestic needs and economic growth.

36. Perrin, *supra* note 29, at 143.

37. The NEP is comprised of only a few straits and a small number of scattered islands over an otherwise open northern Russian Arctic coastline and sea, versus the extensive ice laden island waterway archipelago network of the Canadian Arctic.

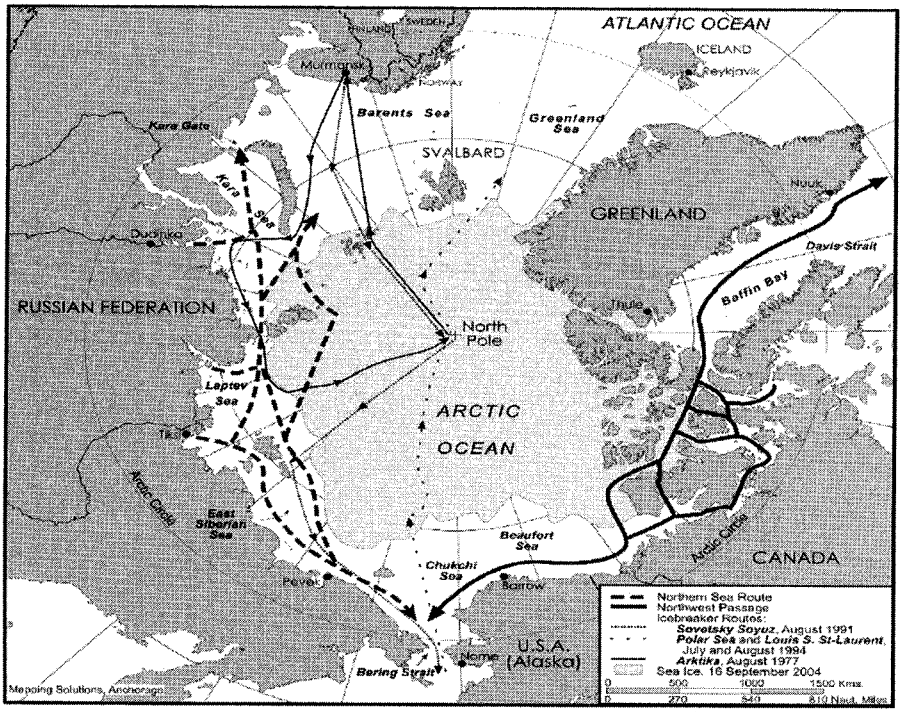
38. Perrin, *supra* note 29, at 143.

solution to the dispute would be to "negotiate a joint management scheme for the Beaufort Sea without necessarily saying that one side was right and the other wrong."[39]

Due to the high need for North American security measures in the wake of 9/11, and the Bush led war on terror across the world, it is obviously beneficial socio-politically, environmentally, and fiscally efficient for Canada to patrol and supervise the NWP. Effectively this also would ensure that the ecologically fragile arctic waterway will not be open to all and any global users. Whereas the United States can without an inherent right of innocent passage or freedom of seas transit, confidently rely on the 1988 Arctic Agreement signed by both nations and the North American Free Trade Agreement to ensure its continued use and access of the NWP route through Canadian territory.

39. Sevunts, *supra* note 31.

EXHIBIT 5: ARTIC OCEAN MARINE ROUTES[40]



This map is a general portrayal of the major Arctic marine routes shown from the perspective of Bering Strait looking northward. The official Northern Sea Route encompasses all routes across the Russian Arctic coastal seas from Kara Gate (at the southern tip of Novaya Zeadyal to Bering Strait. The Northwest Passage is the name given to the marine routes between the Atlantic and Pacific oceans along the northern coast of North America that open the straits and sounds of the Canadian Arctic Archipelago. Three historic polar voyages in the Central Arctic Ocean are indicated: the first surface ship voyage to the North Pole by the Soviet nuclear icebreaker *Arktika* in August 1977, the tourist voyage of the Soviet nuclear icebreaker *Sovetsky Soyuz* across the Arctic Ocean in August 1991; and the historic scientific (Arctic) transect by the polar icebreaker *Polar Sea* (U.S.) and *Louis S. St-Laurent* (Canada) during July and August 1994. Shown is the ice edge for 16 September 2004 (near the minimum extent of Arctic sea ice for 2004) as determined by satellite passive microwave sensors. Noted are ice-free coastal seas along the entire Russian Arctic and a large, ice-free area that extends 300 nautical miles north of the Alaskan coast. The ice edge is also shown to have retreated to a position north of Svalbard.

Furthermore, in recommending U.S. acquiescence that NWP is Canadian internal waters, the United States would exclusively qualify as a neighboring land-locked state with a right of "traffic in transit" as a

40. Arctic Marine Transport Workshop, *supra* note 22.

transit state under UNCLOS Article 124 (1)(b).[41] UNCLOS Article 124 (1)(b) provides a neighboring land-locked state is a state "with or without a sea coast, situated between a land-locked State and the sea, through whose territory traffic in transit passes."[42] For example, Alaska is effectively land-locked from convenient and effective land based access to the continental U.S. and, therefore, stands to benefit from transit passes through the Canadian Arctic coastline.

Practically, the legal consequences of water course classification differ significantly according to whether the NWP is deemed an international strait as the United States claims, or as Canada claims, an internal waters or a territorial sea strait. As one commentator has noted:

> If [the NWP] is considered an international strait, then the more liberal right of 'transit passage' would exist for foreign vessels transiting through the waters of the Passage, as envisaged by the 1982 Convention on the Law of the Sea. . . . Nevertheless, even if the transit passage regime lacked prerequisites to enable it to be considered binding under international law, the legal regime of non-suspensive innocent passage would exist, as enunciated in the 1958 Geneva Convention. However, if the [NWP] is considered to be merely a territorial seas strait, which is not used for international navigation, then the narrower right of suspensive-innocent passage would apply to foreign vessels transiting through its waters, as enunciated in both the 1958 and the 1982 conventions (significantly, this right does not allow a foreign vessel to travel in a submerged state), although the latter convention appears to limit the situations where a littoral state may suspend such innocent passage.[43]

Ultimately, the distinction between international straits, territorial seas, and internal waters is an important one, as the classification triggers the interpretation of the applicable laws of the sea as set out in UNCLOS.

> Internal waters are viewed as part of a state's land domain and are thus subject to the complete sovereignty of the coastal state. In the territorial waters of a coastal state (waters seaward of the baseline), foreign states have the right of innocent passage. Under both multilateral maritime conventions, when waters not previously considered to be internal are subsequently enclosed by baselines, the same right of innocent passage exists for foreign states. If the waters are classified as an international strait, a coastal state's powers are restricted to an even greater degree. The right of passage through an international strait is not suspendable by the coastal state. The rights of passage through international straits also include the right of overflight by aircraft, and the right of submarines to traverse in a sub merged mode.[44]

41. UNCLOS, *supra* note 3, at art. 124.
42. *Id.* at art. 124(b).
43. Kettunen, *supra* note 33, at 977.
44. Perrin, *supra* note 29, at 155-156.

In arguing the NWP is an international strait, the U.S. has relied primarily on the criteria established in the *Corfu Channel* case. The test applied for determining if a body of water is considered an international strait consists of two elements: (a) a geographic test and (b) a functional (or use) test.[45] In the first instance, the NWP clearly meets the geographic test; it is indeed a body of water joining two oceans or two areas of high seas.[46] Similarly, applying this definition literally to the Mississippi River it could arguably be identified as a body or course of navigable water that joins two areas of high seas (as a conduit watercourse of the Great Lakes/St. Lawrence river system emanating at the Gulf of St. Lawrence in the North Atlantic, with a nexus to the Gulf of Mexico). Regardless of the potential for international transit between the Gulf of St. Lawrence and Gulf of Mexico, the United States understandably prefers to recognize the Mississippi as internal waters for its sovereign control and security purposes. And whereas the navigability of Mississippi River in its full length from the Great Lakes to the Gulf of Mexico is impractically questionable, it as such fails the functionality test. Likewise, the NWP does not meet the functionality test due to adverse navigability, as the shipping traffic historically has been minimal (and almost exclusively Canadian or with Canadian permission and supervision). No established route among uncertain branch routes exists, and the traffic is subject to seasonality and advanced ice breaking technology (see Exhibits 12 and 13).[47] As such, and from a functional perspective, the NWP does not have an established international usage. The natural geography encompassing diverse networks of shallow and ice laden passages with adverse weather do not lend to ready navigability. Thus, it is not an international strait because there is no established viable use as an international strait.

Whether we are hypothetically speaking of the Mississippi River or of the NWP and their navigational potential to serve as international waterways, the fact that a body of water could potentially be used for navigation does not necessarily constitute it an international waterway.[48] The voyage of the Polar Sea is the only known transit of the NWP undertaken without consent of the Canadian government, and the U.S. government made it clear to the Canadian government that, in taking the expeditious short cut through the NWP, it did not regard the voyage as establishing a

45. Donald McRae, *Arctic Sovereignty: Loss by Dereliction?, in* CANADA'S CHANGING NORTH 427, 434 (William C. Wonders rev. ed., 2003).

46. UNCLOS, *supra* note 3, at art. 37, 45.

47. McRae, *supra* note 45, at 434 ("In 1984, Professor Pharand pointed out that in an 80-year period there had been only 11 foreign transits of the Northwest Passage, all 'with Canada's consent or acquiescence, either expressed or implied.'").

48. McRae, *supra* note 45, at 429-430.

precedent that would challenge the Canadian claim of sovereignty over the NWP waters.[49] In response, the Canadian government formally sanctioned the Polar Sea's voyage. Moreover, the subsequent 1988 Arctic Cooperation Agreement, signed between the United States and Canada, suggests there will be no more Polar Sea voyages – that is, no more American navy icebreakers transiting the NWP without Canadian consent.[50] So, even if the Polar Sea was a precedent, it is no more than an isolated, single instance. Thus, the conclusion remains: the NWP is not a strait that is "used for international navigation" and hence cannot constitute in law an international strait.[51]

Whereas Alaska is not a land-locked state and has a coastline on the Pacific Ocean, Bering Sea, and Beaufort Sea, there are numerous non-coastal U.S. states that have only land-locked based access to their fellow state of Alaska. For instance, Vermont, which is a long distance from both the Alaskan highway and pipeline, will greatly benefit from an Atlantic seaboard access to the North Atlantic and the NWP for expedient commercial shipment of trade goods between Alaska and the New England region via its neighboring New England states. Similarly New York and the South Eastern U.S. seaboard would also greatly benefit from efficient access to the prospective energy and mineral resources in Alaska, the Beaufort Sea, and the broader Arctic region in general.

Generally, it would be in the best interest of the U.S. for the sake of good relations with Canada, Canadian sovereignty, North American sovereignty, security, environmental, and trade purposes to establish a cooperative strategic Arctic framework which would effectively provide the U.S. with exclusive transit access for shipping and a right of innocent passage, but would exclude other nations doing so without express permission, because they would be unable to qualify as either a riparian or affected land-locked state status. Furthermore, under UNCLOS Part VIII & IX:

> The terms and modalities for exercising freedom of transit shall be agreed between the land-locked States and transit States concerned through bilateral, subregional or regional agreements. Transit States, in the exercise of their full sovereignty over their territory, shall have the right to take all measures necessary to ensure that the rights and facilities provided for in this Part for land-locked States shall in no way infringe their legitimate interests.[52]

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49. *Id.* at 434.

50. Arctic Cooperation Agreement cite Agreement on Arctic Cooperation and Exchange of Notes Concerning Transit of Northwest Passage, U.S.-Can., Jan. 11, 1988, 28 I.L.M 141, 143.

51. McRae, *supra* note 45, at 435.

52. LAKSHMAN GURUSWAMY ET AL, SUPPLEMENT OF BASIC DOCUMENTS TO INTERNATIONAL ENVIRONMENTAL LAW AND WORLD ORDER 776-778 (2d ed. Supp. 1999).

This essentially means that the U.S. and Canada are obliged to arrive at a bilateral agreement providing a right of transit to the U.S. through the NWP, which by its nature and application, does not infringe on Canada's sovereign interests in the NWP.

VII. The Canadian Position on the NWP – Internal Canadian Waters

The position of the Canadian Government with respect to the NWP is oxymoronically both firm and soft. In the first instance, Canada has consistently claimed sovereignty over the NWP and, in contemporary years, has taken to strategically referring to the waters as Canadian internal waters. In 1986, after having signed the 1982 UNCLOS in a reaction to challenges by the U.S. to its sovereignty over the NWP, Canada declared straight baselines premised on the outer shores of its arctic archipelago, to which the U.S. protested.[53]

In contrast, while Canada has at least been firmly consistent in defense of their claim to sovereignty of the NWP, it has in fact by its own conciliatory nature, arguably eroded the Canadian projection of sovereignty. This occurred through declarations that while Canada considers the waters of the NWP internal, they also support international shipping through the passage, provided Canadian regulations are followed.[54] Albeit gracious diplomacy, the implicit legal intent is an offer to accommodate the U.S. right of transit through the NWP on Canada's terms with the belief that the U.S. really does not want an international channel, which would be an additional threat to their security and would erode their comparative shipping advantage in the area.

Canada's claim to sovereignty over the waters of the Arctic Archipelago[55] stands or falls on whether the drawing of straight baselines enclosing the waters as internal waters can be justified in law, and on whether the waters of the NWP constitute an international strait. The argument supporting the use of "straight baselines" in the context of the

53. "The weakness of this argument lies in the timing of the Canadian declaration. Canada implemented straight baselines around the Arctic on January 1, 1986. However, in 1982, it had signed the [UNCLOS], in which article 8(2) states that a State cannot close an international strait by declaring straight baselines." Rob Heubert, *Climate Change and Canadian Sovereignty in the Northwest Passage*, Can. J. Pol'y Res. 2, no. 4, 2001, *available at* http://www.isuma.net/v02n04/huebert/huebert_e.shtml. Although the likely Canadian counter argument to this is that the NWP fails the *Corfu Channel* test for functionality as there has been no established historical use of the passage as an international strait prior to establishing the baselines. Furthermore, reference can be made to the Norwegian Fisheries case where similar baselines declared by Norway around their coastal archipelago was recognized by the ICJ.

54. Heubert, *supra* note 53.

55. The Archipelago concept in international law was established under part IV (Articles 46-54) of UNCLOS 1982. *See* UNCLOS, *supra* note 3, at pt. IV.

Arctic Archipelago derives from the decision of the International Court of Justice (ICJ) in the 1951 *Norwegian Fisheries Case*.[56] Professor Donald Pharand maintains that "the preponderant view of legal authorities is that the waters of the Canadian Arctic Archipelago are properly enclosed by straight baselines and are the internal waters of Canada."[57] In addition, "[t]he Canadian Arctic is nothing more than the Norwegian *skjaergaard* writ large."[58] Professor Donald McRae also points out that the geographic nexus between the Canadian mainland, its arctic archipelago, and the archipelago islands themselves; the use of the frozen waters by Canadian Inuit for land premised passage and their dependence on the whole of the archipelago (interrelationship between the land, ice, and water of the area for indigenous people);[59] and the uncertainty of "the highly irregular and indented nature of the coastline and islands lead to the conclusion that this is almost a classic case for departure from the low-water line rule."[60]

In the 1951 *Norwegian Fisheries Case*, the issue before the ICJ concerned the west coast of Norway, a coastline similar to the Canadian Arctic coastline. It is cut into by fjords and a series of many small coastal islands (known as "skjaergaard"). In the ICJ's decision, instead of following the rule of low-water line, which would follow the mainland coastline, straight baselines were allowed to be drawn seaward from the mainland to the island coasts and from island coast to island coast. The effect was a linkage of baselines drawn along the outer shores of the coastal islands that linked on each end to the mainland, enclosing significant areas of water between the islands and between the islands and mainland. Effectively, by the ICJ allowing these baselines to be drawn along the outer shores of the skjaergaard, it provided that the waters behind them would be 'internal waters.'[61]

56. *Norwegian Fisheries Case*, *supra* note 7.

57. McRae, *supra* note 45, at 434.

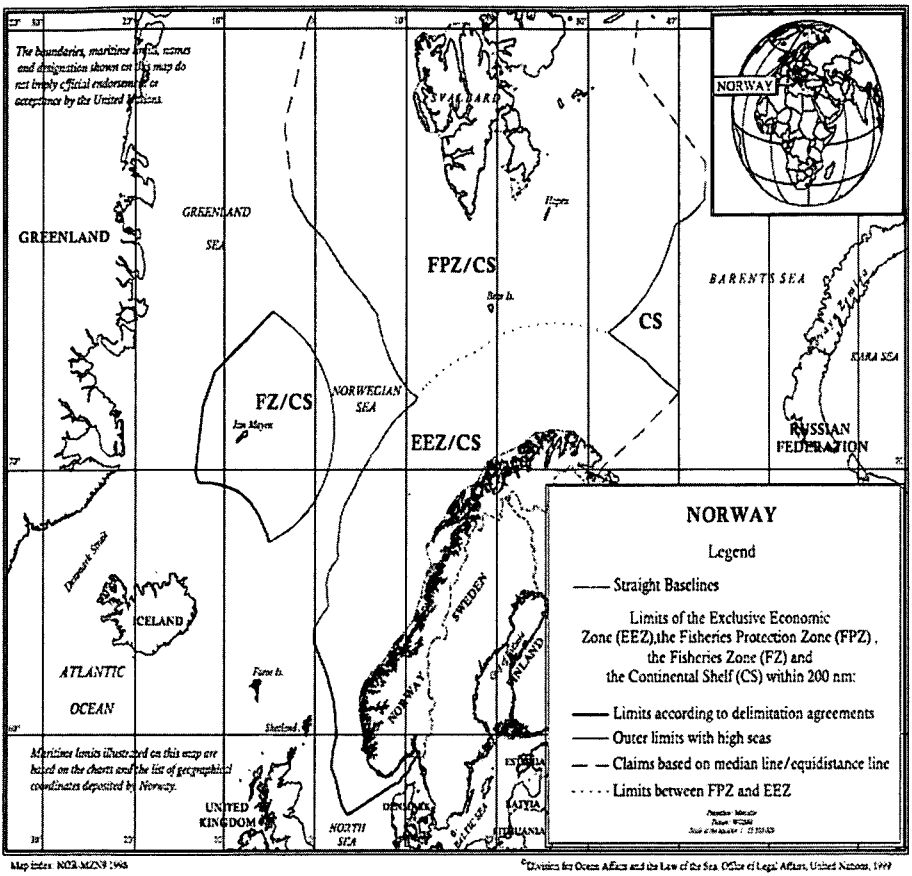
58. *Id.* at 433.

59. As the result of a 1951 decision by the International Court of Justice, straight baselines became a legally accepted means for determining the extent of coastal state control along fragmented coastlines, or "coastal archipelagos." *See Norwegian Fisheries Case*, *supra* note 8, at 131. Canada has also invoked its prior argument of historic internal waters in support of its straight baselines claim, arguing that its title to the waters within the baselines-which by definition are internal waters-was consolidated by historic usage. The historic usage argument was reinforced in 1993 by the Nunavut Land Claims Agreement, whereby the Canadian government and Inuit affirmed that "Canada's sovereignty over the waters of the arctic archipelago is supported by Inuit use and occupancy." Nunavut Land Claims Agreement Act, 1993 S.C., Art. 15.1.1(c) (Can.).

60. McRae, *supra* note 45, at 433.

61. *Id.* at 432.

EXHIBIT 6: PASSAGES SURROUNDING NORWAY[62]



As previously noted, a paradox results when straight baselines are applied enclosing waters as inland waters where an existing strait used for international navigation exists.

> In such straits, vessels have a right of passage equivalent to the right of innocent passage in the territorial sea or, where the regime of 'transit passage' applies, a right even greater than that of innocent passage. Although the extent of use necessary to constitute a strait as 'international' is a matter of controversy, there must be some evidence that foreign shipping does in fact use the route for navigation.[63]

Inherently, Canada's claim of sovereignty over the waters of the NWP is supported by the fact there is no established history of interna-

62. United Nations, Office of Legal Affairs, Division for Ocean Affairs and the Law of the Sea: Oceans and Law of the Sea (Illustrative map—Maritime claims), http://www.un.org/Depts/los/LEGISLATIONANDTREATIES/PDFFILES/MAPS/NOR_MZN9_1996b&w.pdf.

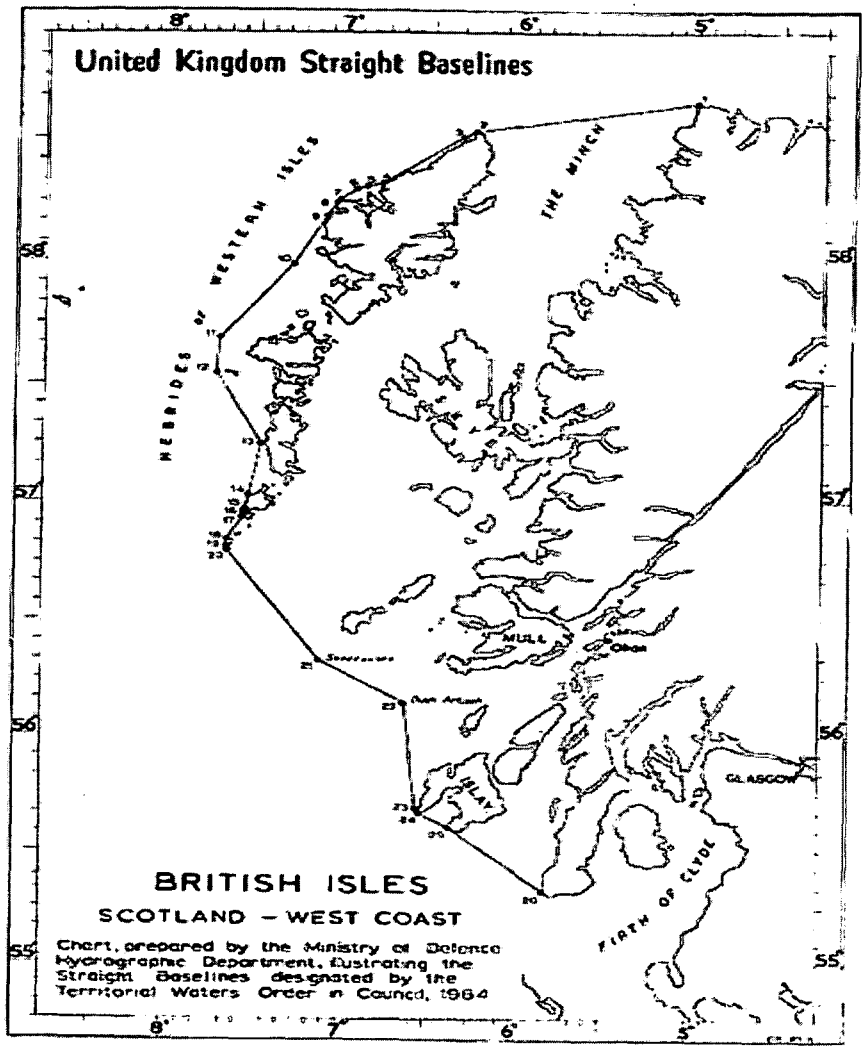
63. McRae, *supra* note 45, at 429.

tional shipping through the NWP and, as a result, it fails the functionality test of an 'international strait.' This, by default, implies that Canada's application of straight baselines in 1986 will adhere to international legal scrutiny as there are no grounds to recognize a pre-existing international shipping use of the waterway.

Further in support of Canada's straight baseline application to the outer shores of its arctic archipelago, and in addition to citing the *Norwegian Fisheries Case*, it is useful to note that there are an abundance of other nations who have similarly applied straight baselines out from their mainland coastline and along their coastal islands, effectively enclosing adjoining seas behind the baselines. For instance, in Exhibit 7 below, note the extension of straight baselines by the United Kingdom to outer coastlines of the Outer and Inner Hebrides of the Western Isles,[64] which effectively enclosed the Hebridean Sea and the Sea of Minch within national boundaries, albeit a navigational short cut historically used by many maritime nations for circumnavigating the British Isles.

64. A series of Celtic Islands once ironically part of Great Britain's "Clearances." Encyclopedia Wikipedia, Outer Hebrides, http://en.wikipedia.org/wiki/Outer_Hebrides (last visited Sep. 6, 2007).

EXHIBIT 7: UNITED KINGDOM STRAIGHT BASELINES[65]



Two other legal premises for Canada's claim of sovereignty over the waters of the Canadian Arctic Archipelago are historic title and the 'sector theory.'[66] Basically, Canada has not aggressively asserted its historic title argument implicit in its sovereignty claim to the NWP, as the United States does not seem to have issues with Canada's land based claims to the Arctic Archipelago. However, U.S. dissention arises from Canada's

65. Office of the Geographer, Bureau of Intelligence and Research, *Limits on the Seas*, No. 23 Straight Baselines: United Kingdom, at 9 (June 26, 1970) http://www.state.gov/documents/organization/61604.pdf.

66. McRae, *supra* note 45, at 430.

claim to sovereignty of the associated waterway. Furthermore, I suspect that historical claims[67] often prove difficult to argue when it comes to proving that other states have recognized or acquiesced in any claim to historic title by Canada to all the waters of its arctic archipelago. Although, the time immemorial presence of the Inuit people, indigenous to Canada on these lands and ice fields, is a strong inherent supporting historical element to Canada's (or its Inuit peoples') claim to the waters of the NWP.

An earlier tenet which Canada has also employed in its claim of sovereignty over its adjoining arctic and polar region is the sector theory. "According to the sector theory, polar states are entitled to exercise sovereignty between their mainland territory and the North Pole in an area of longitude running from their east and west coasts to the Pole." This theory is associated with the famous resolution asserting Canadian sovereignty up to the North Pole, introduced into the Canadian Senate in 1907 by Senator Poirier.[68]

Canada may also assert its claim for sovereignty on the principle of acquired title (cession from a sovereign); equity with respect to Canada's distinct interest in using the NWP for national security, protection of the environment, and Inuit people and culture; or finally, as in the Norwegian and Iceland *Fisheries* cases,[69] Canada may assert that the archipelago waters are vital to traditional Inuit community for hunting and fishing to sustain their needs.[70]

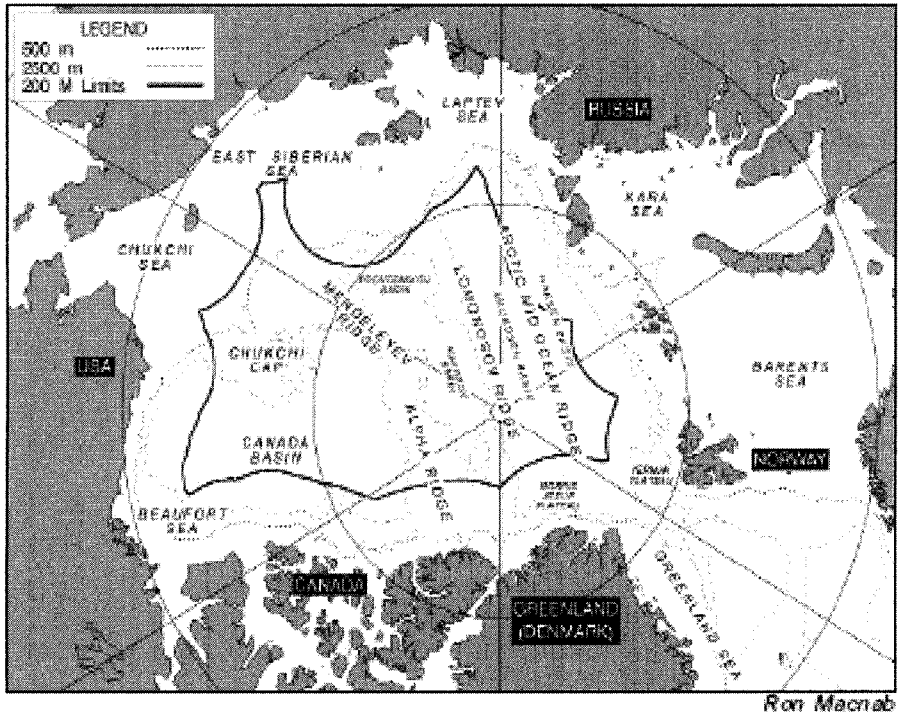
67. "The historic consolidation argument is also supported by judgments of international courts. In 1975, in a dispute between Spain and Morocco over the Western Sahara, the International Court of Justice held that the historic presence of nomadic peoples can help to establish sovereignty. And in 1933, in a dispute between Norway and Denmark over Eastern Greenland, the predecessor to the International Court of Justice, the Permanent Court of International Justice, held that the degree of presence necessary to establish title over territory is lower in inhospitable regions than in more temperate climes." Michael Byers, *The Need to Defend Our Northwest Passage*, THE TYEE, Jan. 30, 2006, http://thetyee.ca/Views/2006/01/30/DefendNorthwestPassage/.

68. McRae, *supra* note 45, at 430 .

69. Fisheries Jurisdiction Case (U.K. v. Ice.), 1974 I.C.J. 3 (July 25) (finding that the Icelandic Regulations of 1972, which established a zone of exclusive fisheries jurisdiction extending to 50 nautical miles from baselines around the coast of Iceland, were not opposable to the United Kingdom).

70. Perrin, *supra* note 29 at 148-49.

EXHIBIT 8: MAP OF NORTHERN ARCTIC STATES[71]



"[T]he fact of the existence of the coastal state is the backbone of all legal regimes in the law of the sea where the state exercises some degree of legal power based on its territory."[72] This notion provides the basis

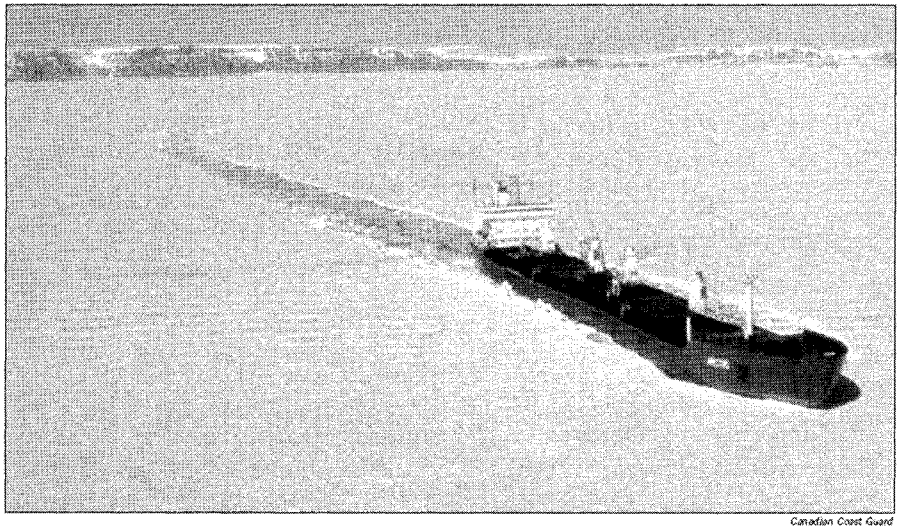
> for delimitation of different legal regimes for the marine and submarine areas, with their respective disparate statuses. While the coastal state possesses a certain degree of legal power over the marine and submarine areas situated relatively close to its coast (the internal waters, the territorial sea, the contiguous zone, the exclusive economic zone and the continental shelf), such legal power is not recognized by the law of the sea rules for the marine and submarine areas situated relatively distant from its coast (the high seas, the seabed outside the limits of national jurisdiction).[73]

71. Arctic Marine Transport Workshop, *supra* at note 22, at 7.

72. LAKSHMAN D. GURUSWAMY ET AL., INTERNATIONAL ENVIRONMENTAL LAW AND WORLD ORDER: A PROBLEM ORIENTED CASEBOOK 415 (2d ed. 1999).

73. *Id.*

EXHIBIT 9: CANADIAN COAST GUARD[74]



Canadian ice breaking carrier M/V *Arctic* (owned by Fednav Limited) in the Northwest Passage.

Furthermore, Section 603 (State Responsibility for Marine Pollution) of the Restatement (Third) of the Foreign Relations Law of the United States, as adopted by the American Law Institute,[75] provides that,

> A coastal state also has the right to adopt and enforce nondiscriminatory laws and regulations for the prevention, reduction, and control of marine pollution from vessels in ice-covered areas within the limits of its exclusive economic zone, where particularly severe climatic conditions and the presence of ice for most of the year create obstructions or exceptional hazards to navigation, and where pollution of the marine environment could cause major harm to, or irreversible disturbances of, the ecological balance. The coastal state is obligated to base such laws and regulations on the best available scientific evidence and to have due regard to navigation. Article 234.[76]

Author Guruswamy, referencing Article 19(2)(h), 21(1)(f), 27, and 220(2) of the United Nations Convention on the Law of the Sea, also states that,

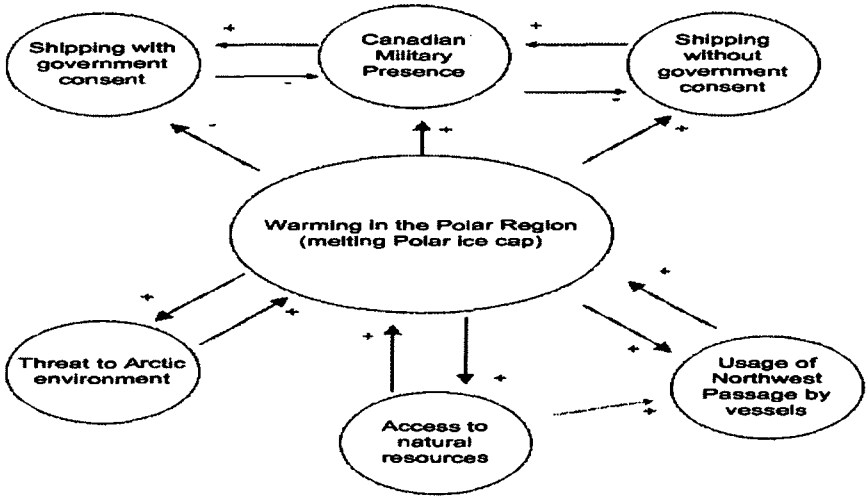
> Where there are clear grounds for believing that a foreign ship, while passing through the territorial sea of the coastal state, violated laws and regulations of that state adopted in accordance with applicable international rules and standards, the coastal state may, subject to certain procedural safeguards (see Article 226), undertake physical inspection of the vessel in the territorial sea in order to ascertain the facts relating to the violation. Where evidence so warrants, the coastal state may institute proceedings against the

74. Arctic Marine Transport Workshop, *supra* at note 22, at 5.
75. *See also* UNCLOS, *supra* note 3, at pt. XII.
76. GURUSWAMY, SUPPLEMENT OF BASIC DOCUMENTS, *supra* note 52 at 145.

ship, in accordance with its laws, and may detain the ship pending such proceedings.[77]

Alicia Zorzetto, in her American University Ice Case Study on *Canadian Sovereignty at the Northwest Passage*, provides in her conflict environment scan that "the conflict should not be considered a 'yield' or 'stalemate' because it is unique. This issue may be in the midst of being amicably resolved. Therefore, it is too early in this situation to determine an outcome."[78] For a synoptic overview of the dynamics of the US-Canada NWP dispute, note Exhibit 10 below. The problem identification in the NWP conflict is described as having its core origin rooted with "Warming in the Polar Region."

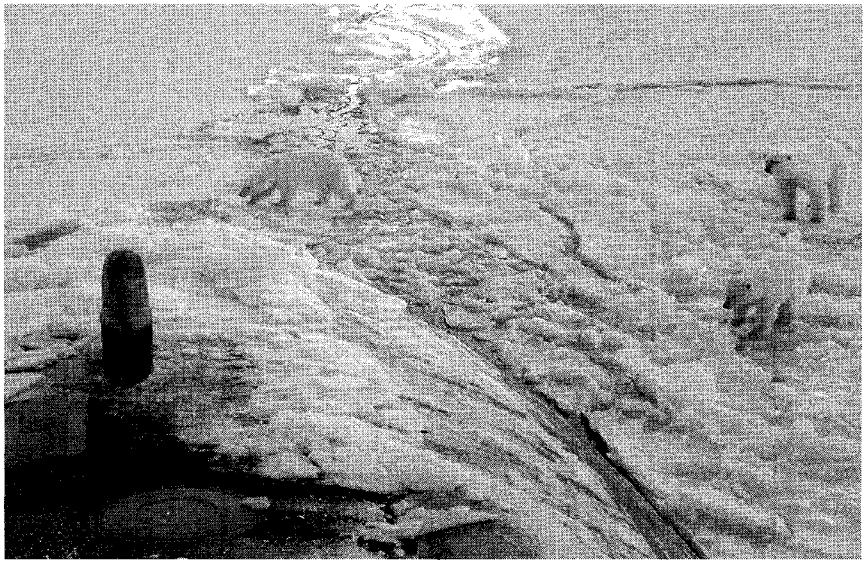
EXHIBIT 10: US/CANADA NWP CONFLICT ENVIRONMENT[79]



This exhibit, interestingly enough, shows that global warming and environmental changes can have extensive geo-political effects, such as changing water and ice dynamics placing new pressures on demands for new international shipping routes, sovereignty claims, environmental concerns and resource control.

77. *See* UNCLOS, *supra* note 3.
78. ALICIA ZORZETTO, *supra* at note 13.
79. *Id.*

EXHIBIT 11: POLAR BEARS BOARDING SUBMARINE[80]



"Three Polar bears approach the starboard bow of the USS Honolulu submarine while surfaced 280 miles from the North Pole." Source: Encyclopedia Wikipedia, Featured Picture Candidates/Polar Bears Approaching the USS Honolulu Submarine, http://en.wikipedia.org/wiki/Wikipedia: Featured_picture_candidates/Polar_Bears_approaching_the_USS_Honolulu_submarine (last visited Sept. 14, 2007).

VIII. CONCLUSION

The NWP is a strategic route from the Atlantic Ocean to the Pacific Ocean through a myriad of northern Canadian Arctic Archipelago islands. The NWP was not traditionally a commercially viable trading route due to shallow waters and, in particular, ice blockades. Global warming has now altered this reality! Because of climate change, the Canadian government is experiencing new challenges from multiple national governments, especially the United States, concerning the feasibility of international transit through the NWP.

The Canadian perspective is that they have full sovereignty encompassing the islands/waterways and thereby will assert complete control over all activity in that specific region. However, many countries perceive the NWP to be an international waterway between the Atlantic and Pacific Oceans. In response, the Canadian government has continually

80. Encyclopedia Wikipedia, Featured Picture Candidates/Polar Bears Approaching the USS Honolulu Submarine, http://en.wikipedia.org/wiki/Wikipedia:Featured_picture_candidates/Polar_Bears_approaching_the_USS_Honolulu_submarine (last visited Sept. 14, 2007).

stated that it does support international shipping through the NWP, as long as Canadian awareness and regulations, within the guidelines of international law, are followed.

International law under the United Nations requires that disputing nations seek in the first instance to cooperatively resolve their differences. In fact, the United Nations International Court of Justice has no general jurisdiction to hear applications from complainant states submitted unilaterally, with few exceptions.[81] Furthermore, "states often do not want to risk losing a case when the stakes are high or be troubled with litigation in minor matters."[82]

Given the changing environment and the obvious elevating interest in the NWP, a more vigorous search for resolution palatable for both the United States and Canada is required. Primary to the U.S. claim is the fundamental law of the sea espousing "freedom of the sea," and the right of innocent passage through international waters and territorial seas. Primary to the Canadian claim is its desire to prevent diminution of sovereignty over its arctic. In customary international law, the U.S. claim is supported by the *Corfu Channel* case and the Canadian claim is founded on the I.C.J.'s decision in the *Norwegian Fisheries Case* (straight baseline use by numerous other States with coastal archipelago's, such as the United Kingdom's extension of baselines to the outer shores of the Outer Hebrides of its Western Isles off the Sea of Minch).

The arguments in favor and contra for both the U.S. and Canadian positions are numerous and the law is inconclusive. Although the author favors the Canadian legal argument, he recognizes that in the end, even if Canada were to have the NWP recognized as its internal waterway, there would still remain a very basic obligation of good neighborliness to allow passage on a non-discriminatory basis when and where navigation could be executed with due care and sensitivity for the region. Alternatively, if a hard line were to be drawn, it would be readily noted that the alternative NEP and Polar Route remain logistically viable routes. Those routes could be used, consistent with the concept of equity where the practice is one of what a reasonable prudent person would do, except that exclusionary provisions are indeed acceptable where the situation merits and alternative options are comparatively more favorable.

I believe that the most contentious issue that Canada has with the U.S. position is that, although the U.S. has declared they recognize Canada's ownership of the maze of islands through which the NWP flows, as

81. C. G. WEERAMANTRY ET AL., LEGAL VISIONS OF THE 21ST CENTURY: ESSAYS IN HONOUR OF JUDGE CHRISTOPHER WEERAMANTRY 586 (Antony Anghie & Garry Sturgess eds., Martinus Nijhoff Publishers 1998) (citing OSCAR SCHACHTER, INTERNATIONAL LAW IN THEORY AND PRACTICE (Martinus Nijhoff Publishers 1991)).

82. *Id.*

a sovereign nation, they feel violated when the U.S. does not feel compelled to seek consent, or at least to give notice that they will be passing through Canadian territory. It has been readily seen through out history that one person's liberties can be another's intrusions. As 'self' and 'mutually' respecting nations, Canada and the United States must begin to earnestly work together toward building a strategic approach to resolving the NWP dispute which synergistically may be broadened to include a framework for a joint plan dealing with not only passage to and through the NWP, but as well the ongoing management and protection needs for the area.

EXHIBIT 12: MARINE TRAFFIC IN THE CANADIAN ARCTIC
JUNE – NOVEMBER 2004[83]

Canadian Government Vessels	8	
Commercial Traffic		
Canadian Vessel Voyages	62	
Foreign Vessel Voyages	18	(14 to Churchill)
Foreign Cruise Ships	7	
Foreign Research Vessels	2	
Foreign Pleasure Craft	5	
	Total = 94	
Northwest Passage Transits		
Canadian Coast Guard	2	
Canadian Commercial Vessels	0	
Foreign Cargo Vessels	0	
Foreign Cruise Ships	1	
Foreign Pleasure Craft	2	
	Total = 5	
Σ	**Total Voyages = 107**	

Note: Listing prepared from responses to the Canadian Coast Guard voluntary reporting system.

Source: Canadian Coast Guard

83. Arctic Marine Transport Workshop, *supra* at note 22, at A-19.

EXHIBIT 13: TRANSITS OF THE NORTHWEST PASSAGE[84]

Seven routes have been used for transits of the Northwest Passage between the Atlantic Ocean (Labrador Sea) and Pacific Ocean (Bering Sea) or in the opposite direction. Several minor variations have also been used (for example through Pond Inlet and Navy Board Inlet, Jones Sound, etc). These routes are:

Route 1: Labrador Sea, Davis Strait, Lancaster Sound, Barrow Strait, Viscount Melville Sound, McClure Strait, Beaufort Sea, Chukchi Sea, Bering Strait, Bering Sea.

The shortest and deepest, but most difficult way owing to the severe ice of McClure Strait; the route could be used by submarines because of its depth.

Route 2: Labrador Sea, Davis Strait, Lancaster Sound, Barrow Strait, Viscount Melville Sound, Prince of Wales Strait, Amundsen Gulf, Beaufort Sea, Chukchi Sea, Bering Strait, Bering Sea.

An easier variant of route 1 which may avoid severe ice in McClure Strait; suitable for deep draft vessels.

Route 3: Labrador Sea, Davis Strait, Lancaster Sound, Barrow Strait, Peel Sound, Franklin Strait, Victoria Strait, Coronation Gulf, Amundsen Gulf, Beaufort Sea, Chukchi Sea, Bering Strait, Bering Sea.

This is route used by most vessels of draft less than 10 m.

Route 4: Labrador Sea, Davis Strait, Lancaster Sound, Barrow Strait, Peel Sound, Rae Strait, Simpson Strait, Coronation Gulf, Amundsen Gulf, Beaufort Sea, Chukchi Sea, Bering Strait, Bering Sea.

A variant of route 3 for small vessels if ice from McClintock Channel has blocked Victoria Strait; Simpson Strait is only 6.4 m deep and has difficult currents.

Route 5: Labrador Sea, Davis Strait, Lancaster Sound, Prince Regent Inlet, Bellot Strait, Franklin Strait, Victoria Strait, Coronation Gulf, Amundsen Gulf, Beaufort Sea, Chukchi Sea, Bering Strait, Bering Sea.

This route is dependent on ice conditions in Bellot Strait which has difficult currents; mainly used by eastbound vessels.

Route 6: Labrador Sea, Davis Strait, Lancaster Sound, Prince Regent Inlet, Bellot Strait, Rae Strait, Simpson Strait, Coronation Gulf, Amundsen Gulf, Beaufort Sea, Chukchi Sea, Bering Strait, Bering Sea.

A variant of route 5 for small vessels if ice from McClintock Channel has blocked Victoria Strait, Simpson Strait is only 6.4 m deep, difficult currents run in Bellot and Simpson Straits.

Route 7: Labrador Sea, Hudson Strait, Foxe Basin, Fury and Hecla Strait, Bellot Strait, Franklin Strait, Victoria Strait, Coronation Gulf, Amundsen Gulf, Beaufort Sea, Chukchi Sea, Bering Strait, Bering Sea.

A difficult route owing to severe ice usually at the west of Fury and Hecla Strait and the currents of Bellot Strait.
Transits of the Northwest Passage (continued)

Until the 2004-05, winter 99 complete transits of the Northwest Passage (Atlantic to Pacific waters or vice versa) have been made. Including these are 175 partial transits recorded through waters of the Canadian Arctic Archipelago. An analysis of these routes shows:

Complete transits of the Northwest Passage

Route 1	west	1	east	0	total	1
Route 2	west	7	east	3	total	10
Route 3	west	16	east	29	total	45
Route 4	west	6	east	5	total	11
Route 5	west	4	east	10	total	14
Route 6	west	3	east	10	total	13
Route 7	west	0	east	2	total	2
All Routes	west	37	east	62	total	99

Partial transits through the Canadian Arctic Archipelagos

Route 1	west	2	east	1	total	3
Route 2	west	10	east	6	total	16
Route 3	west	50	east	58	total	108
Route 4	west	6	east	6	total	12
Route 5	west	5	east	12	total	17
Route 6	west	3	east	10	total	13
Route 7	west	1	east	2	total	3
All Routes	west	77	east	98	total	175

Source: Robert Headland,
Scott Polar Research Institute, United Kingdom

84. *Id.* at A-20-25.

Transits of the Northwest Passage Cont.

The following 99 voyages, by 67 vessels, carrying 17 different flags, have made complete transits of the Northwest Passage to September 2004. These transits proceed to or from the Atlantic Ocean (Labrador Sea) in or out of the eastern approaches of the Canadian Arctic archipelago (Lancaster Sound or Foxe Basin), then the western approaches (McClure Strait or Amundsen Gulf), across the Beaufort Sea and Chukchi Sea of the Arctic Ocean, from or to the Pacific Ocean (Bering Sea). The seven routes which have been used are indicated, with any significant variations listed. Some voyages are discontinuous because the complement left the vessel during a winter. Details of submarine transits are not included because only two of them (USS Seadragon in 1960 and USS Skate in 1962) have been reported and they do not navigate through ice.

The sources for these data include a compilation Thomas Pullen and Charles Swithinbank published 1991 (Cambridge: *Polar Record*, 27 [163]; 365-36 subsequent information from Brian McDonald (Canadi Coast Guard) who maintained and expanded the compi tion (completing it for a Centenary Edition in 200 details provided by Captains Patrick Toomey (CCG) a Lawson Brigham (USCG), some personal observatic acquired during voyages aboard *Kapitan Khlebnikov* a *Kapitan Dranitsyn*, and many published works.

	Year	Vessel	Registry	Master	Route
1	1903-06	*Gjøa* (21 m auxiliary sloop)	Norway	Roald E. G. Amundsen	West 4
		Wintered twice in Gjøa Haven and once off King Point			
2	1940-42	*St Roch*[1] (29.7 m RCMP aux. schooner)	Canada[1]	Henry Asbjørn Larsen[1]	East 6
		Wintered at Walker Bay and Pasley Bay, traversed Pond Inlet			
3	1944	*St Roch*[2] (RCMP auxiliary schooner)	Canada[2]	Henry Asbjørn Larsen[2]	West 2
		Return voyage, first transit in one season, traversed Pond Inlet			
4	1954	HMCS *Labrador* (icebreaker)	Canada[3]	Owen Connor S. Robertson	West 2
		First continuous circumnavigation of North America			
5	1957	USCGC *Storis* (icebreaker)	United States[1]	Harold L. Wood	East 6
6	1957	USCGC *Bramble* (buoy tender)	United States[2]	H. H. Carter	East 6
7	1957	USCGC *Spar* (buoy tender)	United States[3]	C. V. Crewing	East 6
		USCGC *Storis* escorted convoy with *Bramble* and *Spar*			
8	1967	CCGS *John A. McDonald*	Canada[4]	Paul M. Fournier	West 3
		Dispatched to assist USCGC *Northwind* beset 900 km N off Point Barro with damaged propeller, circumnavigated North America			
9	1969	USCGC *Staten Island* (icebreaker)	United States[4]	Eugene F. Walsh	East 3
		Escorted oil tanker *Manhattan* on return voyage from Point Barrow			
10	1970	CSS *Baffin* (research icebreaker)	Canada[5]	P. Brick	East 2
11	1970	CSS *Hudson*[1] (research icebreaker)	Canada[6]	David W. Butler	East 2
		First circumnavigation of the Americas			
12	1975	*Pandora II* (hydrographic research vessel)	Canada[7]	R. Dickinson	East 7
13	1975	*Theta* (research vessel)	Canada[8]	K. Maro	East 7
		Traveled in company			
14	1975	CSS *Skidgate* (buoy tender)	Canada[9]	Peter Kallis	East 6

TRANSITS OF THE NORTHWEST PASSAGE CONT.

	Year	Vessel	Registry	Master	Route
15	1976	CCGS *J. E. Bernier*[1] (icebreaker)	Canada[10]	Paul Pelland	East 3
16	1977	*Williwaw* (13 m sloop)	Netherlands	Willy de Roos	West 4
		Single-handed after Gjøa Haven, continued to circumnavigate the Americas			
17	1978	CCGS *Pierre Radisson* (icebreaker)	Canada[11]	Patrick M. R. Toomey	East 2
18	1976-79	*J. E. Bernier II* (10 m ketch)	Canada[12]	Real Bouvier	West 4
		Wintered in Holsteinburg, Resolute, and Tuktoyaktuk			
19	1979	*Canmar Kigoriak* (icebreaker)	Canada[13]	C. Cunningham	West 2
20	1979	CCGS *Louis S. St Laurent* (icebreaker)	Canada[14]	George Burdock	West 2
		Circumnavigated North America			
21	1980	CCGS *J. E. Bernier*[2] (icebreaker)	Canada[15]	E. Chasse	East 4
22	1980	*Pandora II* (hydrographic survey vessel)	Canada[16]	R. A. Jones	East 4
23	1981	CSS *Hudson*[2] (research icebreaker)	Canada[17]	F. Mauger	East 3
24	1979-82	*Mermaid* (15 sloop)	Japan	Kenichi Horie	West 6
		First single-handed transit, wintered in Resolute and Tuktoyaktuk			
25	1983	*Arctic Shiko* (tug)	Canada[18]	S. Dool	East 3
26	1983	*Polar Circle* (research vessel)	Canada[19]	J. A. Strand	East 4
27	1983-88	*Belvedere* (18 m yacht)	United States[5]	John Bockstoce	East 6
		Reached Tuktoyaktuk 1983, conducted whaling research to 1987, completed transit in 1988, traversed Pond Inlet			
28	1983-90	*Ikaluk*[1] (icebreaker)	Canada[20]	R. Cormier[1]	East 3
		Reached Beaufort Sea in 1983, where worked to 1990 when completed transit			
29	1984	*Lindblad Explorer*[1] (ice strengthened ship)	Sweden	Hasse Nilsson	West 4
		First passenger[1] transit			
30	1982-85	*Vagabond III* (23.1 m yacht)	France[1]	W. Jacobsen[1]	West 6
		Wintered in Arctic Bay, Gjøa Haven, and Tuktoyaktut, eastbound voyage made in 1986-88			
31	1985	USCGC *Polar Sea*[1] (icebreaker)	United States[6]	John T. Howell	West 2
		Accompanied by CCGS *John A. McDonald* for part of voyage			
32	1985	*World Discoverer* (ice-strengthened ship)	Singapore	Heinz Ayel	East 4
		Carried passengers[2], traversed Pond Inlet			
33	1976-88	*Canmar Explorer II* (drilling ship)	Canada[21]	Ronald Colby	West 3
		Reached Beaufort Sea for oil drilling program from 1976 until completed transit			
34	1986-88	*Vagabond II*[2] (23.1 m yacht)	France[2]	W. Jacobsen[2]	East 6
		Wintered twice in Gjøa Haven, westbound voyage made in 1982-85			
35	1986-89	*Mabel E. Holland* (12.8 m lifeboat)	Britain[1]	David Scott Cowper	West 6
		Single-handed voyage, discontinuous transit, wintered at Fort Ross twice and at Inuvik			
36	1988	CCGS *Henry A. Larsen* (icebreaker)	Canada[22]	Stephen Gomes	East 3
37	1988	*Society Explorer*[2] (ice-strengthened ship)	Bahamas[1]	Heinz Aye[2]	East 3
		Carried passengers[3], traversed Pond Inlet [formerly *Lindblad Explorer*]			
38	1988	CCGS *Martha L. Black* (icebreaker)	Canada[23]	Robert Mellis	East 3

TRANSITS OF THE NORTHWEST PASSAGE CONT.

	Year	Vessel	Registry	Master	Route
39	1988	USCGC *Polar Star*[1] (icebreaker)	United States[7] Accompanied by CCGS *Sir John Franklin* to Demarcation Point	Paul A. Taylor	East 3
40	1988-89	*Northanger* (15 m ketch)	Britain[2] Wintered in Inuvik	Richard Thomas	West 4
41	1989	USCGC *Polar Star*[2] (icebreaker)	United States[8] Accompanied by CCGS *Sir John Franklin* to Demarcation Point	Robert Hammond	West 3
42	1990	USCGC *Polar Sea*[2] (icebreaker)	United States[9] Accompanied by CCGS *Pierre Radisson* to Demarcation Point	Joseph J. McCleland	West 3
43	1990	*Terry Fox* (icebreaker)	Canada[24]	P. Kimmerley	East 3
44	1991	*Canmar Tugger* (tug)	Canada[25]	L. Lorengeek	East 3
45	1992	*Frontier Spirit*[1] (ice-strengthened ship)	Bahamas[2] Carried passengers[4], traversed Pond Inlet	Heinz Aye[3]	West 3
46	1992	*Ikaluk*[1] (icebreaker)	Canada[26]	R. Cormier[2]	West 3
47	1992	*Kapitan Khlebnikov*[1] (icebreaker)	Russia 1 Carried passengers[5]	Piotr Golikov[1]	East 3
48	1993	*Kapitan Khlebnikov*[2] (icebreaker)	Russia[2] Carried passengers[6]	Piotr Golikov[2]	East 3
49	1993	*Frontier Spirit*[2] (ice-strengthened ship)	Bahamas[3] Carried passengers[7]	Heinz Aye[4]	West 3
50	1993	*Dagmar Aaen*[1] (27 m yacht)	Germany	Arved Fuchs	West 5
51	1994	*Kapitan Khlebnikov*[3] (icebreaker)	Russia[3]	Piotr Golikov[3]	East 3
52	1994	*Kapitan Khlebnikov*[4] (icebreaker)	Russia[4] Return voyage, carried passengers[8 & 9]	Piotr Golikov[4]	West 2
53	1994	*Hanseatic*[1] (ice-strengthened ship)	Bahamas[4] Carried passengers[10]	Hartwig van Harling[1]	West 3
54	1994	*Itasca* (converted tug)	Britain[3]	Allan Jouning	East 4
55	1995	*Kapitan Khlebnikov*[5] (icebreaker)	Russia[5] Carried passengers[11]	Viktor Vasiliev[1]	East 5
56	1995	CCGS *Arctic Ivik*[1] (icebreaker)	Canada[27]	Norman Thomas	East 5
57	1995	CCGS *Arctic Ivik*[2] (icebreaker)	Canada[28] Return voyage to and from Kap York	Robert Mellis	West 5
58	1995	*Canmar Ikaluk*[2] (icebreaker) [formerly Ikaluk]	Canada[29]	D. Connolly	East 3
59	1995	*Dove III* (8.2 m yacht)	Canada[30] The smallest vessel to have completed the transit	Winston Bushnell	East 3
60	1995	*Canmar Miscaroo* (icebreaker)	Canada[31]	D. W. Harris	East 3
61	1995	*Hrvatska Cigra* [Croatian Tern] (19.8 m yacht)	Croatia	Mladan Sutej	West 5
62	1996	*Kapitan Dranitsyn*[1] (icebreaker)	Russia[6] Carried passengers[12]	Oleg Agafonov	East 5

TRANSITS OF THE NORTHWEST PASSAGE CONT.

	Year	Vessel	Registry	Master	Route
63	1996	CCGS *Sir Wilfrid Laurier* (icebreaker)	Canada[32]	Norman Thomas	East 5
		Escorted by CCGS *Louis S. St Laurent* for part of voyage, traversed Pond Inlet			
64	1996	*Hanseatic*[2] (ice-strengthened ship)	Bahamas[5]	Hartwig van Harling[2]	West 3
		Carried passengers[13] until grounded in Simpson Strait, escorted by CCGS *Henry A. Larsen* to Victoria Strait, traversed Pond Inlet			
65	1996	*Canmar Supplier II* (cargo vessel)	Canada[33]	P. Dunderdale	East 3
66	1996	*Arctic Circle* (tug)	Canada[34]	J. McCormick	East 3
67	1997	*Hanseatic*[3] (ice-strengthened ship)	Bahamas[6]	Heinz Aye[5]	West 3
		Carried passengers[14], escorted to Victoria Strait by CCGS *Henry A. Larsen*, traversed Pond Inlet			
68	1997	*Kapitan Khlebnikov*[5] (icebreaker)	Russia[7]	Viktor Vasiliev[2]	East 3
		Carried passengers[15]			
69	1997	*Alex Gordon* (tug)	Canada[35]	Paul Misata	East 5
		Escorted by CCGS *Sir Wilfred Laurier* to Franklin Strait and then CCGS *Pierre Radisson*			
70	1997	*Supplier* (tug)	Bahamas[7]	Allan Guenter	East 5
		Escorted by CCGS *Terry Fox* to Victoria Strait			
71	1998	*Kapitan Khlebnikov*[7] (icebreaker)	Russia[8]	Piotr Golikov[5]	East 3
		Carried passengers[16]			
72	1998	*Hanseatic*[3] (ice-strengthened ship)	Bahamas[8]	Heinz Aye[6]	East 3
		Carried passengers[17], escorted to Victoria Strait by CCGS *Sir John Franklin*, traversed Pond Inlet			
73	1999	*Admiral Makarov* (icebreaker, dock in tow)	Russia[9]	Vadim Akholodenko	East 3
74	1999	*Ibis* (tug, dock in tow)	Russia[10]	Aleksandr Aleksenko	East 3
		Travelled in convoy each towing a component of a steel floating dock, Korea to Carribean			
75	1999	*Kapitan Dranitsyn*[2] (icebreaker)	Russia[11]	Viktor Terekhov[1]	West 3
		Carried passengers[18], circumnavigated the Arctic			
76	2000	USCGC *Healy*[1] (icebreaker)	United States[10]	Jeffery M. Garrett	West 3
77	2000	*Hanseatic*[4] (ice-strengthened ship)	Bahamas[9]	Thilo Natke	West 3
		Carried passengers[19], traversed Pond Inlet			
78	2000	*Kapitan Dranitsyn*[3] (icebreaker)	Russia[12]	Viktor Terekhov[2]	West 3
		Carried passengers[20], circumnavigated the Arctic			
79	2000	*Nadon [St Roch II]* (17.7 m RCMP catamaran)	Canada[36]	Kenneth Burton	East 6
		Voyage to commemorate St Roch 1940-42 transit			
80	2000	*Simon Fraser* (icebreaker, formerly CCGS)	Canada[37]	Robert Mellis	East 6
		Escorted Nadon			
81	2000	*Evohe* (25 m yacht)	New Zealand	Stephen Kafka	East 6
82	2001	*Kapitan Khlebnikov*[8] (icebreaker)	Russia[13]	Viktor Vasiliev[3]	East 3
83	2001	*Kapitan Khlebnikov*[9] (icebreaker)	Russia[14]	Viktor Vasiliev[4]	West 1
		Return voyage, carried passengers[21 & 22]			
84	2001	*Turmoil* (46 m yacht)	Cayman Islands	Philip Walsh	West 4

TRANSITS OF THE NORTHWEST PASSAGE CONT.

	Year	Vessel	Registry	Master	Route
85	2001	*Northabout* (14.9m yacht)	Ireland (Eire)	Patick Barry	West 3
86	2001-02	*Le Nuage* (12.8 m yacht)	France[3]	Michèle Demai	East 3
		Complement of mother and daughter, wintered in Cambridge Bay			
87	2002	*Kapitan Khlebnikov*[10] (icebreaker)	Russia[15]	Piotr Golikov[6]	East 3
		Carried passengers[23]			
88	2002	*Sedna IV* (51 m yacht)	Canada[38]	Stéphan Guy	West 5
89	2002	*Apostol Andrey* (16.2 m yacht)	Russia[16]	Nikolay Litau	East 5
		Assisted by CCGS *Louis S. St Laurent* through Prince Regent Inlet, voyage previously made a transit of Northeast Passage			
90	2002	*Arctic Kalvik* (icebreaker tug)	Barbados	Sanjeev Kumar	East 3
91	2002	*Hanseatic*[6] (ice-strengthened ship)	Bahamas[10]	Thilo Natke	West 3
		Carried passengers[24], traversed Pond Inlet			
92	2003	*Kapitan Khlebnikov*[11] (icebreaker)	Russia[17]	Viktor Vasiliev[5]	East 5
93	2003	*Bremen*[3] (ice-strengthened ship)	Bahamas[11]	Daniel Fogner	West 3
		Carried passengers[25 & 26], *Bremen* (formerly *Frontier Spirit*) traversed Pond Inlet			
94	2003	*Norwegian Blue* (12.9 m yacht)	Britain[4]	Andrew Wood	East 5
95	2003	*Vagabond II*[3] (23.1 m yacht)	France[4]	Eric Brossier	East 5
		Both traversed Pond Inlet			
96	2003	*USCGC Healy*[2] (icebreaker)	United States[11]	Daniel Oliver	West 3
97	2003-04	*Polar Bound* (14.6 m motorboat)	Britain[5]	David Scott Cowper[2]	West 5
		Wintered in Cambridge Bay, assisted by CCGS *Louis S. St Laurent* for part of voyage, traversed Pond Inlet			
98	2003-04	*Dagmar Aaen*[2] (27 m yacht)	Germany[2]	Arved Fuchs[2]	West 5
		Wintered in Cambridge Bay, traversed Pond Inlet, previously made a transit of the Northeast Passage			
99	2004	*Kapitan Khlebnikov*[12] (icebreaker)	Russia[18]	Pavel Ankudinov	East 5
		Carried passengers[27]			