

SENATE



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CANADA

THE COAST GUARD IN CANADA'S ARCTIC: INTERIM REPORT

**STANDING SENATE COMMITTEE
ON FISHERIES AND OCEANS**

FOURTH REPORT

Chair

The Honourable William Rompkey, P.C.

Deputy Chair

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ACRONYMS

AMSA – Arctic Marine Shipping Assessment

AWPPA – *Arctic Waters Pollution Prevention Act*

CCG – Canadian Coast Guard

CFS – Canadian Forces Station

CFB – Canadian Forces Base

CLCS – Commission on the Limits of the Continental Shelf

DFAIT – Department of Foreign Affairs and International Trade

EEZ – Exclusive Economic Zone

EU – European Union

ICC – Inuit Circumpolar Council

IMO – International Maritime Organization

IPY – International Polar Year

ITK – Inuit Tapiriit Kanatami

LOS – Law of the Sea

MCTS – Marine Communications and Traffic Services

MDA – MacDonald, Dettwiler & Associates Ltd.

NTI – Nunavut Tunngavik Incorporated

RCMP – Royal Canadian Mounted Police

SAR – Search and Rescue

UN – United Nations

US – United States

FOREWORD

The Arctic has received a great deal of media attention in recent months. International Polar Year research, seabed mapping of the continental shelf, Russia's flag-planting at the North Pole, and the federal government's announcements of plans to bolster Canada's military presence in the north are some examples of news stories that have captured the attention of Canadians.

Last year, the Prime Minister said that Canada has a choice when it comes to defending its sovereignty in the Arctic: "Either we use it or we lose it," he said, and Canada intended "to use it." Strengthening and demonstrating Canada's sovereignty in the north was a major theme of the Speech from the Throne of 16 October 2007 and is one of the four priorities of the Northern Strategy led by Indian and Northern Affairs. Initiatives in support of the Strategy were announced in the 26 February 2008 Budget.

With these developments in mind, and in keeping with its order of reference, the Committee began hearings in Ottawa in February 2008 to better understand the issues at hand. Our interest soon focused on the Canadian Coast Guard, Canada's primary vehicle in demonstrating to the world its sovereignty in the Arctic. We asked ourselves if the Coast Guard was adequately prepared and equipped to meet future challenges.

We believe this to be an opportune time to sketch out what we have heard so far. The subject matter is complex, but one fact is clear: more thought must be given to the future role and capability of the Coast Guard, the agency that helps safeguard the values and environmental and economic interests of Canadians, especially those who live in the north. This interim report – an account of work in progress – is based on evidence gathered in Ottawa from 5 February 2008 to 15 May 2008.

Obviously, the northern perspective on issues still needs to be fully heard and considered. An essential aspect of the Canadian identity, the Arctic is first and foremost the homeland of Inuit who have been using the region and its resources for thousands of years. This interim report was written before the Committee conducted public hearings and fact-finding in Nunavut during the first week of June. Our findings will be conveyed more fully in a final report.

The Committee will consider our efforts worthwhile if they have made Canadians more aware of the Coast Guard's important role in the Arctic. We appreciate the interest shown by those who so generously made themselves available to participate in our study.



William Rompkey, P.C.
Chair

THE COAST GUARD IN CANADA'S ARCTIC: INTERIM REPORT

CURRENT OPERATIONS

The Canadian Coast Guard (CCG) is a national Special Operating Agency of the Department of Fisheries and Oceans (DFO) that provides marine safety and environmental protection services to Canadians, and essential at-sea support to other federal government departments and agencies, including the DFO itself. In the Arctic, the Coast Guard performs considerable and critical work. Its red and white icebreakers and helicopters are often said to be the most visible symbol of Canada's sovereignty and presence.

Each year, from late June to early November, two heavy icebreakers, four medium icebreakers and one light icebreaker are deployed to the Arctic to perform a broad range of important tasks in support of economic and commercial development (Map 1) – escorting ships through the ice-covered waters, keeping navigation channels open, breaking ice for commercial shipping, clearing ice in harbours, and maintaining navigation aids. Supplies are delivered to remote settlements and to Environment Canada and National Defence sites, and annual support is provided to the US Military Sealift Command at Thule, Greenland. The vessels operate in a harsh climate, in some of the most challenging ice conditions in the world. The Coast Guard's icebreakers are often the first ones into the Arctic each shipping season, and the last to leave.⁽¹⁾

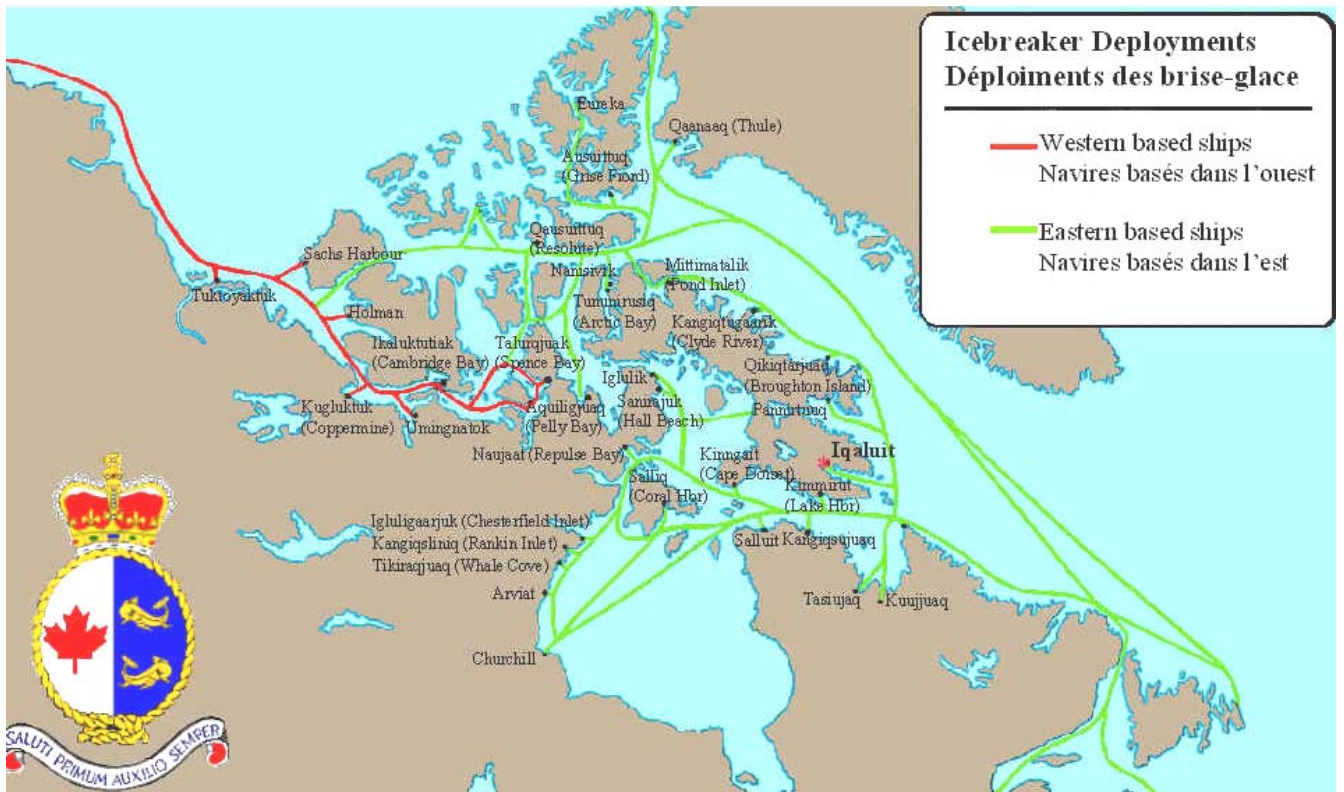
The Coast Guard also provides considerable support for scientific activity. In this respect, the DFO heavily depends on its fleet. Examples of important DFO-specific scientific work supported by the agency include:

- stock assessments of marine mammals, fish, and emerging fisheries in Nunavut;
- aquatic ecosystem assessments, including examination of the impact of various development activities;
- hydrographic surveys for the production of navigational products and services (to support an anticipated increase of ocean-going transport in the Arctic); and
- bathymetry (measurement of the depth of the water), in support of Canada's submission to the United Nations Commission on the Limits of the Continental Shelf.⁽²⁾

(1) George Da Pont, Commissioner, Canadian Coast Guard, *Committee Proceedings*, 5 February 2008. Three vessels also operate on the Mackenzie River and Beaufort Sea delta. A national review of levels of service to clients, including all Coast Guard services in the region, is currently under way.

(2) Ibid.

Map 1 – CCG Arctic Operations



Source: DFO, Canadian Coast Guard, Icebreaking Program,
http://www.ccg-gcc.gc.ca/eng/CCG/Ice_Service_Dates.

Canadian and other scientists make use of Coast Guard vessels as platforms for a wide variety of scientific missions pertaining to climate change and the northern environment. Scientific work in 2007–2008 is especially significant in view of the wide-ranging research efforts being conducted in conjunction with International Polar Year (IPY), the largest international program of scientific research focused on the Arctic ever undertaken.⁽³⁾ Canada's Three Oceans for example, the largest of the DFO-led IPY projects, employs the *CCGS Sir Wilfrid Laurier* and the *CCGS Louis S. St-Laurent* to cover 15,000 square kilometres of ocean over a two-year period. The goal is to study how the Pacific, Arctic and North Atlantic Oceans interconnect and to establish a “scientific fence” around all of Canada’s ocean waters in support of Canadian sovereignty in the Arctic.

(3) IPY, the first initiative of its kind in 50 years, is an international program of scientific research focused on the Arctic and Antarctic regions, involving the participation of a large number of scientists and researchers from more than 60 countries. The Government of Canada’s IPY website can be accessed at: <http://www.ipy-api.gc.ca>.

The *CCGS Amundsen*, Canada's first dedicated Arctic science icebreaker (formerly known as the *CCGS Franklin*) is also used as a platform support to facilitate Government of Canada initiatives, including:

- the conduct of the Inuit Health Survey, which uses the icebreaker as a floating medical centre;
- the Circumpolar Flaw Lead System Study, Canada's largest International Polar Year project in terms of resources;⁽⁴⁾ and
- the ongoing work of ArcticNet – a member of the Canadian Networks of Centres for Excellence that brings together scientists and managers from the fields of human health, natural sciences and social sciences, and partners them with Inuit organizations, northern communities, federal and provincial agencies, and the private sector.

CCG icebreakers provide logistical and platform support to the Royal Canadian Mounted Police (RCMP) and the Canadian Forces. Virtually all of Canada's ice operations capabilities are now with the Coast Guard as a result of government decisions taken over 50 years ago.⁽⁵⁾ The Coast Guard's experience and expertise are recognized worldwide, and most of its commanding officers have over 20 years' experience in the Arctic.⁽⁶⁾

Icebreakers are not the Coast Guard's only presence in the Arctic, however. Other essential services are delivered in Canada's northern seaways, which are used for the resupply of communities, the export of raw materials, tourism, and science-related activity. These services include:

- Marine Communications and Traffic Services, including radio operations, to help ensure the safety of people at sea and the protection of the environment through effective traffic management and efficient movement of shipping;
- Aids to Navigation, to help ensure the safe voyages of vessels by reducing the risks of grounding and collision. The Coast Guard places and maintains over 1,500 visual and aural aids to navigation on the Mackenzie River from Great Slave Lake to Tuktoyaktuk, over 300 across the Arctic Ocean and some 30 or so in Hudson Bay and James Bay. Navigation safety information is provided through the publication of monthly Notices to Mariners, lists of lights and buoys, and an annual edition of *Notice to Mariners*;
- Search and Rescue (SAR), typically involving pleasure crafts or local community vessels; on average, there are 11 marine SAR cases per year;

(4) The flaw lead is an area of ice-free water that opens up each year when central pack ice moves away from coastal ice, creating a "flaw" in the ice surface. Studying the flaw lead will provide a better understanding of meteorological effects on Arctic ecosystems.

(5) There are also a few private-sector marine companies.

(6) George Da Pont, *Committee Proceedings*, 5 February 2008.

- Environmental Response, given that the Coast Guard has the primary response lead for pollution incidents or marine spills north of 60 degrees;
- Waterways Management, which includes forecasting water levels during the summer navigation season on the Mackenzie, Liard and Peel Rivers; and
- cargo management and coordination for Iqaluit, an important transshipment and resupply route.⁽⁷⁾

Important Coast Guard commitments for 2008 include:

- continued participation in an ongoing Arctic exercise with the Department of National Defence and other government departments (in the Iqaluit area). In each of the last three summers, the Coast Guard and the Canadian Forces have participated in joint exercises in the Arctic;
- resupply of the Eureka and Kugaaruk missions for National Defence, Environment Canada, and the Government of Nunavut;
- placement of underwater cables in the Northwest Passage for Defence Research and Development Canada;
- icebreaker participation in an Arctic environmental response exercise in Ilulissat (Greenland) with the United States and Denmark, the host country of the 2008 North Atlantic Coast Guard Forum;
- continued icebreaking support to the US Military Sealift Command off Greenland; and
- continued and significant activity related to IPY research and mapping of the Canadian continental shelf.⁽⁸⁾

BACKDROP: A RAPIDLY CHANGING CIRCUMPOLAR ARCTIC

A. New Realities

With its vast and largely untapped natural resources, the Arctic is growing in strategic and economic importance. Marine activity is expected to increase significantly because of the converging circumstances of melting polar ice and high energy prices. The Canadian Coast Guard's role in the Arctic, a region of tremendous potential, will become ever more critical in the coming years.

(7) Ibid.

(8) Ibid.

1. Climate Change and Receding Ice

Climate change is fundamentally transforming the Arctic. The ice cover is becoming thinner, covering less of the circumpolar Arctic, and receding more quickly than previously believed possible.

In September 2007, record low levels of ice were observed, exceeding the worst-case predictions of the experts. Sea ice shrank to 39% below its 1979–2000 mean, the lowest level since satellite monitoring began in 1979 and the lowest for the entire 20th century based on monitoring from ships and aircraft.⁽⁹⁾ In 2005, the extent of the ice cover was the lowest on record. Significantly for Canada, by the end of the 2007 melt season the legendary Northwest Passage opened up, becoming fully navigable for the first time in recorded history. The Arctic Ocean is now expected to become largely ice-free in summer within the next two decades,⁽¹⁰⁾ or perhaps even by 2013.⁽¹¹⁾

Appearing before the Committee, Duane Smith, president of the Inuit Circumpolar Council (ICC) Canada,⁽¹²⁾ indicated that 2008 could be the first year on record without the presence of hard, “multi-year ice” – ice that has survived at least one summer. Multi-year ice presents a serious hazard to shipping, whereas softer, thinner “first-year ice” can be broken by “ice-strengthened” vessels.

White sea ice reflects sunlight and keeps the polar regions cool, but retreating sea ice exposes darker and less reflective seawater that absorbs heat, causing even more ice to melt. This cycle is known as the ice-albedo feedback loop. According to Dr. Scott G. Borgerson of the (US) Council on Foreign Relations, whom the Committee invited to provide a non-governmental American perspective on the geopolitics of a melting Arctic, the tipping point at which sea ice will begin to melt at an exponential rate may already have been reached.⁽¹³⁾

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- (9) World Wildlife Fund, *Arctic Climate Impact Science – An Update Since ACIA*, Report commissioned by WWF International Arctic Programme, 2008, http://assets.panda.org/downloads/final_climateimpact_22apr08.pdf.
- (10) US National Snow and Ice Data Center, “Arctic Sea Ice Shatters All Previous Record Lows,” *NSIDC Arctic Sea Ice News*, 1 October 2007, http://nsidc.org/news/press/2007_seaiceminimum/20071001_pressrelease.html.
- (11) Advanced modelling studies presented at the 2007 meeting of the American Geophysical Union forecast northern polar waters to be ice-free in summers within just 5–6 years.
- (12) Duane Smith, President, Inuit Circumpolar Council (Canada), *Committee Proceedings*, 1 April 2008.
- (13) Dr. Scott G. Borgerson, International Affairs Fellow, Council on Foreign Relations, *Committee Proceedings*, 8 April 2008.

Dr. Louis Fortier, ArcticNet's Scientific Director, further explained to the Committee that reaching the tipping point will result in a new climatic equilibrium in the northern hemisphere and the rest of the planet, which could take thousands of years to reverse.⁽¹⁴⁾ For 2008, the forecast was said to be grim; as far as science is able to predict, the extent of ice cover will be much lower than in 2007. The Committee was shown a series of animated images depicting changes to and the variability of the circumpolar ice cover over time. Earth is losing its "capital of sea ice" in the Arctic, Dr. Fortier said, and as multi-year ice disappears completely, conditions will become similar to those in the St. Lawrence Seaway in winter. This will open up the Canadian Arctic Archipelago to navigation.⁽¹⁵⁾

Dr. Rob Huebert of the University of Calgary, a renowned authority on Arctic matters, began his presentation to the Committee with satellite photographs showing the extent of the loss of ice cover since January 1990.⁽¹⁶⁾ The Arctic will become much busier, he warned, and "it will catch us off guard." Although no one knows for sure what will happen in the years ahead, Dr. Michael Byers, Canada Research Chair in International Law and Politics at the University of British Columbia, said that government cannot wait for certainty before responding to this phenomenon.

[T]here is ... a significant possibility, a risk, that the rate of ice loss will continue and perhaps even accelerate. In my view, good public policy is based on risk analysis. If there is a 20 per cent chance that we will have an open Northwest Passage, the government needs to move quickly to guard against that risk and prepare for the eventualities. I think it is more significant than a 20 per cent risk; I think it is almost certain.⁽¹⁷⁾

Judging from what the Committee heard, it is no longer a matter of if, but when, the Arctic Ocean will open to regular shipping. This prospect has huge implications. Navigation shortcuts are expected over Eurasia (the Northern Sea Route, once called the Northeast Passage)

(14) Dr. Louis Fortier, Scientific Director, ArcticNet, *Committee Proceedings*, 13 May 2008. Dr. Fortier, a Professor at Université Laval, holds the Canada Research Chair on the Response of Arctic Marine Ecosystems to Climate Change, and has sat on the Natural Sciences and Engineering Research Council of Canada since 2005.

(15) *Ibid.*

(16) Dr. Rob Huebert, Associate Director of the Centre for Military and Strategic Studies, Associate Professor, Department of Political Science, University of Calgary, *Committee Proceedings*, 13 March 2008.

(17) Dr. Michael Byers, Professor, Canadian Research Chair in International Law and Politics, *Committee Proceedings*, 6 March 2008.

and North America (the Northwest Passage), reducing oceanic travel by days and thousands of kilometres. As a navigation route, the Northwest Passage would offer international shipping companies significant time and cost savings; the distance from Shanghai to New Jersey would be 7,000 kilometres shorter than a similar voyage through the Panama Canal. If the sea ice recedes sufficiently, a marine route could be created directly over the North Pole.

We heard from witnesses that the further diminishment of ice will benefit the energy and mining sectors, leading to economic development and even more shipping. According to Dr. Byers, Canada should be thinking in terms of an Arctic Gateway project similar to the Asia-Pacific Gateway and Corridor being built in Western Canada. ICC Canada president Duane Smith mentioned that Canada and Russia had been looking at the possibility of keeping the port of Churchill open throughout the year, and that Russia had volunteered the use of icebreakers to create a shipping link between Churchill and the Russian port of Murmansk, the most northerly ice-free port in the world.

Inuit will be most directly affected by increased marine activity, which is likely to have far-reaching consequences for their culture, well-being and traditional way of life. In this regard, the Committee learned that the Inuit Circumpolar Council had submitted an Inuit perspective on shipping to the eight-nation Arctic Council, which has been preparing a comprehensive Arctic Marine Shipping Assessment, or AMSA. A report is expected to be released in autumn 2008 on likely scenarios for 2020 and 2050.⁽¹⁸⁾

The effects of climate change in the Arctic are expected to be among the greatest of any region on Earth. Although global in scope, climate change is having real and serious consequences at the local level, as the ICC Canada president made clear in his presentation. In the western Arctic, where temperature increases in the Canadian north have been greatest, the serious problem of coastal erosion has been brought on by rising sea levels and tides caused by melting ice. Some communities, Mr. Smith said, are now having to relocate further inland.⁽¹⁹⁾

2. Other Developments

Coastal states that border the Arctic Ocean (Canada, Denmark, Norway, the Russian Federation, and the United States) are currently mapping the ocean floor as prescribed

(18) Duane Smith, *Committee Proceedings*, 1 April 2008. The ICC is an international non-government organization representing approximately 150,000 Inuit living in Alaska, Canada, Greenland and Russia. The ICC is a Permanent Participant in the Arctic Council, an eight-state intergovernmental forum established in 1996.

(19) *Ibid.*

by the United Nations Convention on the Law of the Sea. The objective is to determine how much of the sea floor is an extension of each coastal nation's continental shelf, with a view to claiming the maximum amount of the seabed allowable beyond their 200-nautical-mile Exclusive Economic Zone.⁽²⁰⁾

Enormous hydrocarbon resources are suspected below the Arctic Ocean's surface. The often-quoted estimate attributed to the US Geological Survey is that the Arctic may contain one-quarter of the world's undiscovered oil and gas reserves. The Committee learned that the Arctic Council has been conducting a circumpolar scientific oil and gas assessment. The objective is to identify oil and gas reserves in the circumpolar Arctic, to present an assessment of the environmental, social, economic, and human health consequences of current oil and gas activity in the circumpolar Arctic, and to evaluate the likely course of development and its future impact.⁽²¹⁾

Witnesses frequently mentioned Russia's assertiveness and its capacity to operate in the Arctic. The Committee heard that centralized control over northern oil and gas resources had allowed Russia to rebuild its military, including the construction of submarines, so that a resumption of submarine traffic could be expected in the coming years similar to that which took place during the Cold War. Along the coast of Siberia, where Arctic sea ice is melting faster and ice conditions are more favourable, Russia has been developing the offshore sector and investing in the port of Murmansk, as well as other Arctic ports, to develop its very considerable hydrocarbon resources.⁽²²⁾

According to Dr. Rob Huebert of the University of Calgary, increased commercial navigation will result mainly from the reduction of sea ice but, with respect to oil and gas, investment in the Arctic will continue to accelerate regardless of climate change. The reasons given were historic high energy prices, the entry of China as a major oil consumer on a level equal to the developed world, and the expectation that India will also become a major consumer.

The Committee learned that South Korean shipyards, driven by oil and gas markets, are constructing new ice-strengthened and "double-bowed" oil tankers that can operate efficiently in both open and ice-covered waters up to one metre thick. When travelling forward, the vessels proceed as they normally would through open water; when in ice, they operate stern-

(20) The United States, which has yet to ratify the LOS Convention, has nonetheless been conducting scientific work in the Arctic to collect evidence for a possible future claim. Procedural rules of the US Senate were said to have been preventing ratification of the treaty. Dr. Scott G. Borgerson, Council on Foreign Relations, *Committee Proceedings*, 8 April 2008.

(21) Duane Smith, *Committee Proceedings*, 1 April 2008.

(22) Dr. Rob Huebert, *Committee Proceedings*, 13 March 2008.

first (the propellers can be turned around) and act as icebreakers. The Russians are purchasing these state-of-the-art dual purpose vessels to transport oil from Siberia to Murmansk for reloading onto larger tankers for export to the European market. The goal, Dr. Huebert explained to the Committee, is to eliminate the need for pipeline systems, which have been collapsing partly because of poor Soviet construction techniques, but also because of the melting permafrost.

The Northern Sea Route is expected to open to international shipping sooner than the Northwest Passage because the ice pack tends to shift toward North America.⁽²³⁾ Dr. Donat Pharand, Professor of Law Emeritus of the University of Ottawa, informed the Committee that Russia has fully prepared itself for international navigation.⁽²⁴⁾ Three years ago, with the cooperation of Japan and Norway, Russia concluded a six-year study (paid for mainly by Japan, under the aegis of the Nansen Institute in Norway) covering all possible aspects of the future use of the Northern Sea Route. Russia, it was pointed out, has the infrastructure in place and the capacity to control future navigation, including 12 nuclear-powered icebreakers.

Europe, for its part, appears to view the opening-up of new trade routes and increased accessibility of the region's hydrocarbon resources as having potential consequences for international stability and its own security interests. In a widely quoted report prepared for the March 2008 EU summit, the High Representative for the Common Foreign and Security Policy and the European Commissioner for External Relations identified the need to "address the growing debate over territorial claims and access to new trade routes by different countries which challenge Europe's ability to effectively secure its trade and resource interests in the region and may put pressure on its relations with key partners." Climate change was said to be "best viewed as a threat multiplier which exacerbates existing trends, tensions and instability."⁽²⁵⁾

Other countries have also shown interest in the Arctic. For instance, China (despite its lack of Arctic waters) has been doing vigorous research in the polar regions. China operates the icebreaker *Xue Long*, a 21,000-tonne research vessel built in the Ukraine and retrofitted to state-of-the-art scientific capabilities. Considered to be on par with any icebreaker of any developed country, the vessel is employed primarily for China's research station in the

(23) Natural Resources Canada, *From Impacts to Adaptation: Canada in a Changing Climate*, "Case Study 2: The Future of the Northwest Passage," 2007, p. 84, http://www.adaptation.nrcan.gc.ca/assess/2007/index_e.php.

(24) Dr. Donat Pharand, Professor of Law Emeritus of the University of Ottawa, *Committee Proceedings*, 6 May 2008.

(25) "Climate Change and International Security," Paper from the High Representative and the European Commission to the European Council, 14 March 2008, http://www.consilium.europa.eu/ueDocs/cms_Data/docs/pressData/en/reports/99387.pdf.

Antarctic. Chinese researchers were, however, in the region of Tuktoyaktuk in 1999 and in 2003, and may be preparing for another trip to the Arctic as part of International Polar Year.⁽²⁶⁾

B. Sovereignty-Related Issues

“Sovereignty” is a word used in connection with the Arctic. At the outset of his presentation, Dr. Donat Pharand, an eminent authority on international and maritime law, made a point of mentioning the immense confusion surrounding this term. As generally understood in international law, sovereignty may be defined as “the totality of the various forms of exclusive jurisdiction which a state may exercise within its boundaries.” In international law, sovereignty applies mainly to land, but it may also apply to certain waters or sea areas known as “internal waters.”⁽²⁷⁾

At our meetings, witnesses often said that the Coast Guard has an important role to play in demonstrating to the world Canada’s sovereignty in the Arctic (i.e., in Canada’s internal waters). Former CCG Deputy Commissioner Michael Turner stated in his presentation that sovereignty is based on “the 80/20 rule”: the ability of a country to demonstrate the effective management and administration of its territories and the waters over which it claims jurisdiction is said to represent 80% of sovereignty, the other 20% being the ability to defend and repel an aggressor nation.⁽²⁸⁾ According to Dr. Byers, the recent controversy over the proposed sale of RADARSAT-2 suggests perhaps a need to revisit traditional assumptions on how infrastructure should be defined with respect to sovereignty in the 21st century (see Appendix 1).

The key message Paul Kaludjak, president of Nunavut Tunngavik Incorporated (NTI), left with the Committee is that the Government of Canada needs to fully implement the Nunavut Land Claims Agreement “to demonstrate Arctic sovereignty on-the-ground.” Although they are important, he said, military and Coast Guard activities and satellite surveillance do not by themselves constitute an effective strategy.⁽²⁹⁾ Similarly, John Merritt, Senior Policy Advisor of Inuit Tapiriit Kanatami (ITK) emphasized that Canada’s sovereignty in the Arctic is a function

(26) Dr. Rob Huebert, *Committee Proceedings*, 13 March 2008.

(27) Dr. Donat Pharand, *Committee Proceedings*, 6 May 2008.

(28) Michael Turner, Former Deputy Commissioner of the Canadian Coast Guard, *Committee Proceedings*, 28 February 2008.

(29) Paul Kaludjak, President, Nunavut Tunngavik Incorporated, *Committee Proceedings*, 15 April 2008. NTI’s mission is to foster Inuit economic, social and cultural well-being through the implementation of the Agreement. The organization, which represents Inuit under the 1993 NLCA, initiated a legal suit in December 2006 to force the Government of Canada to live up to its responsibilities under the NLCA.

not only of military and diplomatic approaches and activities, but also of the effectiveness of social policies.⁽³⁰⁾

Canada is indeed bound by its laws to protect the needs and interests of Inuit. This interim report was written before the Committee conducted public hearings and fact-finding in Nunavut in June 2008 to hear first-hand their views and concerns.⁽³¹⁾ Our findings will be conveyed more fully in a final report.

1. Land

Canada faces a number of actual and potential challenges to sovereignty and its sovereign rights in the Arctic.

With respect to land, Canada and Denmark both claim ownership of Hans Island – a tiny, uninhabited rocky island located in the Kennedy Channel of Nares Strait, which separates Ellesmere Island from northern Greenland. The dispute, which witnesses categorized as relatively minor, received a great deal of publicity in Canada when former National Defence Minister Bill Graham went there in 2005 to reassert Canadian sovereignty. This was in response to Denmark having sent naval vessels in 2002 and 2003. Interestingly, Dr. Rob Huebert noted that when the Danish naval vessel *Vaedderen* went to Hans Island in 2002 to challenge Canada's sovereignty, the Danes had purchased Canadian satellite imagery to help the vessel get there.

With the exception of the Hans Island dispute, there are no challenges to Canada's ownership of and sovereignty over its Arctic lands.

2. The Continental Shelf

At sea, the 1982 UN Law of the Sea (LOS) Convention (often referred to as “the Constitution of the Oceans”), which Canada ratified in 2003, sets out a legal classification system for ocean space and establishes the limits of the various maritime zones (the 12-mile territorial sea, the 200-mile Exclusive Economic Zone, and the outer edge of the continental margin).

(30) John Merritt, Senior Policy Advisor, Inuit Tapiriit Kanatami, *Committee Proceedings*, 15 April 2008. ITK is the national voice of Canada's Inuit and represents Inuit living in Nunatsiavut (Labrador), Nunavik (Northern Quebec), Nunavut, and the Inuvialuit region of the Northwest Territories.

(31) In preparation for the Committee's hearings in Nunavut, Michelle Wheatley (Regional Director, Science, Regional Science Director's Office) and K. Burt Hunt (Regional Director, Fisheries and Aquaculture Management) of the DFO's Central and Arctic Region provided an overview of the Department's role and activities in the region on 1 May 2008.

With respect to continental shelf, coastal states do not have “sovereignty” in the full sense of the word. Article 77 of the LOS Convention stipulates that coastal states exercise “sovereign rights” over the continental shelf for the purpose of exploration and exploitation of the natural resources there – both living resources (sedentary species) and non-living resources located on or beneath the ocean floor of the shelf (e.g., oil and gas).

Although nobody disputes these sovereign rights, Canada, like other states, has “delimitation problems” with its neighbours.⁽³²⁾

With respect to the Lincoln Sea, Canada and Denmark disagree on the precise positioning of certain straight baselines to arrive at a common border based on equidistance. Two relatively small areas are in dispute, each slightly more than 30 square nautical miles.⁽³³⁾

As for the Beaufort Sea, there is also a longstanding disagreement between Canada and the United States over the maritime border between the Yukon and Alaska. Canada’s position is that the border should follow the land boundary along the 141st meridian. The United States maintains that the border should extend along a path equidistant from the coasts of the two countries. A complicating factor raised in testimony is the constitutionally protected 1984 Inuvialuit Final Agreement, which is based on Canada’s understanding of the maritime boundary. The disagreement between Canada and the United States could become more significant if petroleum resources are discovered in the contested area.

Record-high oil prices have renewed industry interest in the Beaufort Sea. The Committee learned from witnesses that, on Canada’s side of the border, Imperial Oil Ltd. and Exxon Mobil Canada had acquired an exploration licence from the federal government in 2007. Under the terms of the licence (covering an area of 205,000 hectares of Arctic sea floor about 100 kilometres north of the Mackenzie Delta in the Northwest Territories), the two companies agreed to spend \$585 million on exploration within the next five years. In the United States, Shell was also awarded leases off Alaska’s northern coast in 2005.⁽³⁴⁾

(32) Dr. Donat Pharand, Brief submitted to the Committee, 6 May 2008.

(33) Ibid.

(34) The company had planned a multi-year exploration drilling program. However, operations were put on hold, pending the outcome of an appeal by environmental organizations and the Alaska Eskimo Whaling Commission.

3. The Outer Limits of the Shelf

Canada is in the process of confirming its sovereign rights in the region by defining the outer limits of Canada's continental shelf. Seabed mapping will make certain, at least from a scientific standpoint, the full extent of the area over which Canada has sovereign rights for the purpose of exploring and exploiting the natural resources of the seabed and subsoil beyond its 200-nautical-mile Exclusive Economic Zone (EEZ).

A coastal state can claim control of the seabed beyond its EEZ if it can prove the ocean floor is a physical extension of its continental shelf (see Map 2). The LOS Convention provides a formula for determining the outer limit based on the geological characteristics of the seafloor (Article 76)⁽³⁵⁾ and establishes a procedure whereby a coastal state can have the exact limits of its extended shelf confirmed internationally. A coastal state has 10 years from the date of its ratification of the Convention to submit the particulars of its intended limits to the UN Commission on the Limits of the Continental Shelf (CLCS), along with scientific and technical evidence in support of its submission.

Canada's ratification of the LOS Convention came into force on 7 December 2003; thus the target date for Canada's submission is 7 December 2013. The Committee learned that the federal government had allocated \$70 million to the mapping of the seabed shelf on Canada's Atlantic and Arctic sea coasts in 2004, and that an additional \$20 million was made available in the 26 February 2008 budget (over the next two years). Officials of the Department of Foreign Affairs and International Trade (DFAIT) who appeared before the Committee in February 2008 were confident that the work would be completed by the 2013 deadline. On 14 May 2008, a further \$20 million (over four years) was announced for seabed mapping and related work.⁽³⁶⁾

The role of the CLCS, a body of 21 experts from state parties to the Convention, is to alert countries to exaggerated submissions or overlaps and to help legitimize reasonable claims. In considering submissions, the CLCS does not make a determination, final or otherwise, other than to say that a country's submission seems reasonable from a scientific

(35) Article 76 provides for two ways to measure the maximum length of the extended continental shelf: 350 miles from the baseline, or 100 miles beyond the 2,500-metre isobath (i.e., the line demarcating where the depth of the ocean is 2,500 metres). See DFAIT, Article 76, http://geo.international.gc.ca/cip-pic/geo/article_76-en.aspx.

(36) Natural Resources Canada, "Government of Canada Takes Important Steps to Advance Canada's Northern Strategy," News release, 14 May 2008.

standpoint. If national claims overlap, the countries themselves must then negotiate mutually satisfactory agreements, or take their disputes to arbitration.⁽³⁷⁾

Map 2 – Limits of Arctic Coastal State Jurisdiction



- * The lighter area at the centre represents the combined EEZs of Canada, Denmark, Norway, Russia and the United States within the central Arctic Ocean (for the sake of clarity, the EEZs in adjoining seas are not shown). The darker area represents a high-seas zone beyond coastal state EEZs. The white areas are zones where a provisional analysis suggests that Article 76 of the LOS Convention would not apply.

Source: Ron Macnab, Olav Loken and Arvind Anand, The Law of the Sea and Marine Scientific Research in the Arctic Ocean, *Meridian*, Canadian Polar Commission, Fall/Winter 2007, <http://www.polarcom.gc.ca/media.php?mid=3278>.

Alan Kessel, Legal Adviser to DFAIT,⁽³⁸⁾ noted in his presentation to the Committee that Canada had been collaborating with other countries on mapping. This, he said, not only makes good economic and scientific sense, but will also help avoid the potential

(37) Alan H. Kessel, Legal Adviser, Department of Foreign Affairs and International Trade, *Committee Proceedings*, 12 February 2008.

(38) Ibid.

overlapping of national claims and reduce the need for future arbitration. Mr. Kessel also emphasized that the Article 76 process had been incorrectly portrayed in the media as an adversarial scramble for natural resources.

[T]his is not a race. Therefore, there is not a beginning and an end – except that when you sign on, you have 10 years to make your submission. Those who signed on earlier make their submission earlier. Since you cannot get more than you are entitled to, whether you do it now or then does not really matter. ... I will reiterate; this is not a race. We will all go to the finish line at different paces, but there is no gun starting it and there is no flag ending it.⁽³⁹⁾

Scientific work by Canada to delineate its extended continental shelf in the Arctic and Atlantic Oceans began in 2005, involving three federal departments.⁽⁴⁰⁾ Because the collection of data in the Arctic takes place in a very remote, often dark, region under extreme weather conditions, the mapping exercise there is sometimes referred to as “Canada’s moon mission.” In the western Arctic, scientists aboard the Canadian Coast Guard ship *Louis S. St-Laurent* have been gathering seismic data and conducting bathymetry in the Beaufort Sea. With respect to national claims to the seabed, there is a potential three-way overlap among Canada, the United States and Russia.⁽⁴¹⁾

In the eastern Arctic, despite Canada’s ongoing dispute with Denmark over Hans Island, the two countries have been cooperating closely on mapping the shelf area north of Ellesmere Island and Greenland to determine if the Lomonosov Ridge, an undersea elevation between Siberia and Canada’s Ellesmere Island near the North Pole, is a geological extension of their land mass.⁽⁴²⁾ If this is the case, a three-way delimitation problem will result between Canada, Denmark and Russia.⁽⁴³⁾ According to Dr. Huebert, Canada’s claim will not only likely overlap with Russia’s, but could also potentially reach over to the Russian side of the North Pole,

(39) Ibid.

(40) The DFAIT is the lead department for the preparation, presentation and defence of Canada’s claim before the CLCS. Natural Resources Canada (the Geological Survey of Canada) is responsible for seismic surveys, and the DFO (the Canadian Hydrographic Service) is responsible for bathymetry.

(41) Dr. Donat Pharand, Brief submitted to the Committee, 6 May 2008.

(42) See DFAIT, Canada’s Program: Arctic, http://geo.international.gc.ca/cip-pic/geo/canada_program-en.aspx. A memorandum of understanding was signed in June 2005 between the Geological Survey of Canada and the Geological Survey of Greenland and Denmark for joint surveying in the area north of Greenland (Denmark) and Ellesmere Island (Canada).

(43) Dr. Donat Pharand, Brief submitted to the Committee, 6 May 2008.

depending on the physical attributes of the ridge. However, Canada's exploration work, he said, stops at the North Pole.

Russia, the first country to officially make a submission with the CLCS in December 2001,⁽⁴⁴⁾ views the Lomonosov Ridge as a natural prolongation of the Eurasian landmass, allowing it to claim a vast expanse of the sea floor, including the North Pole. The CLCS responded to its submission by recommending that additional scientific data be gathered and that a revised claim be submitted by 2009.

All witnesses at our meetings viewed Russia's flag-planting expedition to the North Pole last year as a publicity stunt with no relevance to sovereignty or significance in international law. The North Pole is on the high seas, beyond any national jurisdiction, and has no legal or special status. According to Dr. Huebert, Russia has been trying to convince the world to adopt what is known as the "sector theory" – dividing the Arctic into sectors belonging to the Arctic rim states using the North Pole as the reference point.⁽⁴⁵⁾ On Russia's gesture at the North Pole, Dr. Scott Borgerson of the (US) Council on Foreign Relations remarked:

In terms of the international relations and diplomacy of it all, it [was] a photo opportunity, nothing more than pure symbology. ... That said, the Russians have the ability to operate in the Arctic. ... At the end of the day, while planting a flag is purely symbolic, and international law and the rule of law should govern such issues, there is also an old expression in history of "might makes right." Having the ability to operate there and present a presence is worth something.⁽⁴⁶⁾

Denmark invited the foreign ministers of Canada, Norway, Russia and the United States to a special conference to be held in Ilulissat, Greenland, from May 27 to 29, 2008. The five countries reaffirmed their commitment to cooperation and existing international law, including the 1982 LOS Convention.

4. Water: Shipping in the Northwest Passage

Although there is broad international recognition that all of the islands in the Archipelago are exclusively under Canadian jurisdiction, the same cannot be said with respect to their surrounding waters. A potentially serious challenge to Canadian sovereignty concerns

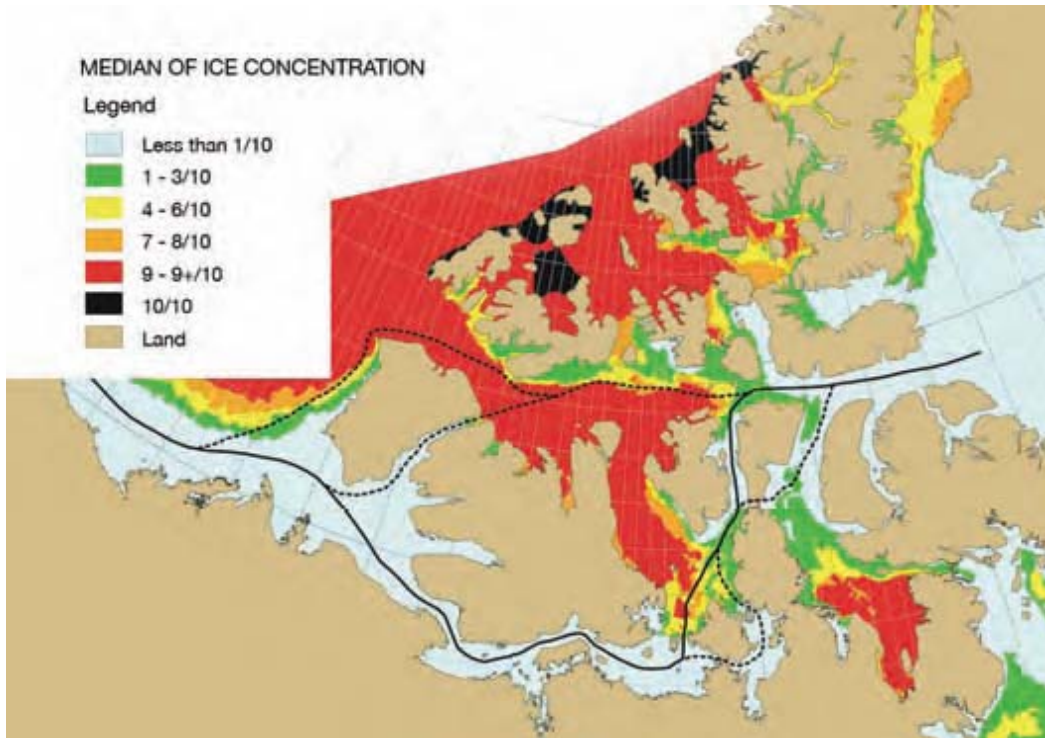
(44) Russia ratified the LOS Convention in 1997.

(45) The Canadian Senator P. Poirier is credited as having been the first to propose the sector theory in 1907.

(46) Dr. Scott G. Borgerson, *Committee Proceedings*, 8 April 2008.

control over shipping in the Northwest Passage – the long-sought shortcut linking the Atlantic and Pacific oceans, which consists of several possible water routes that run through Canada’s Arctic islands (the world’s largest archipelago) and connect the Davis Strait in the east to the Beaufort Sea in the west (Map 3).

Map 3 – Typical Routes for the Northwest Passage*



* The routes are superimposed on charted median ice concentration (1971–2000) for September 3. Colour indicates ice concentration in tenths.

Source: Natural Resources Canada, *From Impacts to Adaptation: Canada in a Changing Climate*, “Case Study 2: The Future of the Northwest Passage,” 2007, p. 83, http://www.adaptation.nrcan.gc.ca/assess/2007/index_e.php.

Canada considers the Passage to be part of its internal waters, over which it enjoys full sovereignty, including the right to unilaterally pass laws and regulations to protect Canadian interests, including those of its northern residents and particularly the Inuit. In response to the crossing of the US icebreaker *Polar Sea* through the Passage without Canada’s prior consent in 1985, Canada established, under customary law, “straight baselines”⁽⁴⁷⁾ around the Archipelago, which took effect in 1986. At the time, the United States and the European

(47) At the time, Canada had not yet ratified the LOS Convention. The purpose of straight baselines is to enable a coastal State with the required geography to measure its territorial waters from those lines instead of following the sinuosity of the coast. The rules governing the use of straight baselines were first formulated by the International Court of Justice in the *Fisheries Case* of 1951. Similar rules were then incorporated in the 1958 Territorial Sea Convention, and were retained in the 1982 LOS Convention (Article 5). Dr. Donat Pharand, Brief submitted to the Committee, 6 May 2008.

Union sent notes of protest objecting to Canada's historical claim over these waters and to the validity of the baselines.

The United States, so far the most vocal opponent of Canada's claim, considers the Northwest Passage to be an "international strait" – a corridor where its vessels have the right of "transit passage," a right under international law that is as extensive as on the high seas (international waters). From the standpoint of the United States, a country that has focused on security interests and on keeping the world's straits and channels open for its navy since the Cold War and even earlier, Canada's claim threatens to create an unwanted legal precedent elsewhere in the world (e.g., the Strait of Malacca, Hormuz, Gibraltar, and other strategic straits).⁽⁴⁸⁾

Canada does not oppose international navigation in the Northwest Passage, nor is it in Canada's interest to prevent it. But if the Passage were considered an international strait, Canada would not have the right to pass and enforce its own laws and regulations governing international shipping. Instead, international safety and marine standards would apply.⁽⁴⁹⁾

Ironically, the US position means that foreign ships, including warships, would have virtually the same right of passage as they have on the high seas. If the Passage were considered an international strait (as the United States claims it to be), submarines would not have to surface and alert Canada (the adjacent coastal state) to their presence, and military aircraft would have the right to use the airspace above the Passage. There would, in fact, be very few restrictions on navigation, which means that the Passage could potentially be used for illegal activities, such as drug smuggling, illegal immigration, trafficking or even the import of weapons of mass destruction. Put simply, US security interests would be better protected if the United States recognized Canada's sovereignty and control.

In 1970, in response to what Canada viewed as a challenge to its sovereignty when the American supertanker *Manhattan* sailed into the Northwest Passage in 1969 without seeking Canada's permission,⁽⁵⁰⁾ Canada passed the *Arctic Waters Pollution Prevention Act* (AWPPA) to protect the marine environment and preserve the traditional way of life of Inuit people. At the time, the United States denounced this legislation.

The AWPPA applies to shipping to a distance of 100 nautical miles from the nearest Canadian land north of 60 degrees. The Act provides for regulations forbidding the

(48) Dr. Scott G. Borgerson, *Committee Proceedings*, 8 April 2008.

(49) Such as those set by the International Maritime Organization (IMO), which flag states are responsible for enforcing.

(50) The objective of the voyage was to test the viability of moving Alaskan oil to refineries on the east coast of the United States. The route, however, was deemed impractical and too expensive at the time. Instead, industry opted for an Alaskan pipeline. Canada sent an icebreaker to accompany the *Manhattan* and was able to arrange to have a Canadian government representative on board.

discharge of fluids or solid wastes into the Arctic waters, for setting design requirements for vessels, and for prescribing Shipping Safety Control Zones within which ships must meet specific standards, for example hull and fuel tank construction. At our meetings, the Act was said to be ahead of its time. DFAIT's Legal Advisor, for instance, said that neighbouring Arctic countries had shown an interest in passing similar legislation.

That being said, the Committee learned that NORDREG, Canada's marine traffic system in Arctic waters where the AWPPA applies,⁽⁵¹⁾ is voluntary. Unlike the situation on Canada's east and west coasts, foreign vessels entering Canada's Arctic waters are not required to report under NORDREG.

The AWPPA of 1970 was later legitimized in 1982 when Article 234, the so-called "Arctic exception," was included in the LOS Convention at Canada's insistence. Article 234 allows coastal states to enforce non-discriminatory, science-based regulations relating to maritime pollution prevention and control within EEZs (i.e., to 200 nautical miles) "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." Russia applies and enforces its regulations for navigation along the Northern Sea Route on the basis of Article 234.⁽⁵²⁾

As long as ice conditions hazardous to international shipping remained, Canada's interests were protected. DFAIT's approach has been to gradually build international acceptance of Canada's position over time.⁽⁵³⁾ So far, countries have had no reason to challenge Canada's position on the Northwest Passage. Until now, Canada could afford to go on "agreeing to disagree" with the United States over its legal status.⁽⁵⁴⁾ But, as noted earlier, ice conditions in the Arctic are rapidly changing.

(51) NORDREG also includes the waters of Ungava Bay, Hudson Bay and James Bay south of 60° N latitude. It excludes MacKenzie Bay and Kugmallit Bay south of 70° N latitude and east of 139° W longitude.

(52) For its part, the United States enacted its own version of Canada's AWPPA, the *Oil Pollution Act* of 1990, following the *Exxon Valdez* incident. The Committee was informed that the Act is enforced in international waters by protectionist means, however: under the *Jones Act*, goods shipped between two American port destinations, such as oil from southern Alaska to California, must be carried out by US-built vessels under American regulations. Dr. Rob Huebert, *Committee Proceedings*, 13 March 2008.

(53) Dr. Michael Byers, *Committee Proceedings*, 6 March 2008.

(54) For example, in 1988, when heavy ice conditions prevailed, the dispute with the United States was partly set aside with the signing of a treaty on "Arctic Cooperation" in which Canada and the United States sought to "facilitate navigation by their icebreakers in their respective Arctic waters and to

a. The February 2008 Canada–US Model Negotiation

Three witnesses who appeared before the Committee (Dr. Michael Byers, Dr. Rob Huebert, and Dr. Scott Borgerson) were also participants at a two-day “Model Negotiation on Northern Waters,” which took place at the headquarters of the International Joint Commission in Ottawa in February 2008. Described as “an extraordinary exercise in simulated diplomacy,”⁽⁵⁵⁾ this mock or unofficial negotiation involved two teams of high-profile, non-governmental experts on international relations and polar politics. One team represented the United States, the other Canada. Their objective was “to discuss issues, identify possible solutions and make joint recommendations concerning navigation in Northern waters.”⁽⁵⁶⁾ Nine “Agreed Recommendations” were subsequently forwarded to the governments of the United States and Canada (see Appendix 2).

What emerged from the simulation were proposals on how to protect Canadian interests and values in the Arctic, while at the same time side-stepping the issue of navigation in international straits. Although *the underlying legal dispute* over the status of the Northwest Passage was not resolved, witnesses said that the Model Negotiation had shown opportunities for cooperation between the two countries if the issue of control of international shipping is set aside.

For instance, the first recommendation proposed that United States and Canada “collaborate in the development of parallel rules and standards and co-operative enforcement mechanisms with respect to notifications and interdiction zones in the northern waters of Alaska and Canada.” Off the north of Alaska, the United States would adopt a mandatory Arctic shipping traffic system to protect the western approaches of the Northwest Passage, and Canada would be notified of foreign vessels coming toward Canada.⁽⁵⁷⁾ With its own mandatory

develop cooperative procedures.” The United States undertook to request Canada’s consent for “all navigation by US icebreakers within waters claimed by Canada to be internal.” However, the agreement applies only to US Coast Guard icebreakers and states that either country’s legal position vis-à-vis Arctic waters were unaffected.

(55) Randy Boswell, “Simulated Talks Show Possible Solution for Arctic Dispute,” *The National Post*, 19 February 2008, <http://www.nationalpost.com/news/story.html?id=319703>.

(56) Michael Byers, “A Thaw in Relations,” *The Ottawa Citizen*, 6 March 2008, p. A13.

(57) The United States currently does not require vessels approaching from north of Alaska to notify the US government.

notification system, the United States would not be in a position to object if NORDREG were made mandatory.⁽⁵⁸⁾

A major recommendation of the Model Negotiation was a proposal to create a new Canada–US Arctic Navigation Commission to address the common interests the two countries have “in navigation, environmental protection, security, safety, and sustainable economic development.” The proposed Commission “would follow the model of the International Joint Commission by acting as a recommendatory body.”⁽⁵⁹⁾

Dr. Scott Borgerson of the (US) Council on Foreign Relations fully endorsed the proposed bilateral Commission when he appeared before the Committee. His presentation stressed that Canadian and American values and interests are similar, both countries have a long history of working together (e.g., in NATO, NORAD, the Arctic Council), and that good management of international shipping in the Arctic is in the best interest of both parties. Dr. Borgerson proposed that Canada and the United States therefore begin discussions on how they might work together to establish shipping lanes and infrastructure and jointly police the northern waters. Among other things, he suggested that Canada lay all Arctic issues on the table to achieve a “grand compromise” with the United States, including with respect to the disputed boundary in the Beaufort Sea. There should also be joint Canada–US leadership in the International Maritime Organization (IMO) for a mandatory polar code regarding international shipping.

b. Other Considerations

While acknowledging that there should be close cooperation with the United States, Dr. Donat Pharand, a prominent legal authority on Canada’s Arctic waters and a specialist on the Northwest Passage, considered the idea of a Canada–US Arctic Navigation Commission similar to the International Joint Commission (in place along the southern Canada–US border) as somewhat “dangerous,” given the specific status of Canada’s Arctic waters:

We do not share sovereignty over the Northwest Passage with anyone. I do not think that we want to. I think that we must maintain our independence, if I can put it this way, and maintain our complete sovereignty over those waters but with, at the same time, the closest possible cooperation with the United States.⁽⁶⁰⁾

(58) Michael Byers (2008), p. A13.

(59) The International Joint Commission has jurisdiction over the waters of the Great Lakes and the St. Lawrence River, and other waters along the Canada–US border.

(60) Dr. Donat Pharand, *Committee Proceedings*, 6 May 2008.

Dr. Pharand instead proposed that Canada negotiate a bilateral Transit Agreement under which “the United States would recognize Canada’s sovereignty over the waters of the Archipelago, including those of the Northwest Passage.” In return, “Canada would recognize a right of transit for American merchant ships and icebreakers, under stipulated conditions to ensure the protection of Canada’s marine environment and related interests.”⁽⁶¹⁾

Canada claims sovereignty (i.e., complete jurisdiction over the Arctic waters) on the basis of historic title, and by virtue of straight baselines established around the Arctic Archipelago. In Dr. Pharand’s view, Canada does not have a strong case with respect to historic title, and the burden of proof is also heavy.⁽⁶²⁾ Straight baselines, on the other hand, fully meet all legal criteria for international validity.⁽⁶³⁾

In addition to Canada having the required geography to use the straight baseline system, the Committee was advised that Canada can invoke, as was done in the Anglo-Norwegian *Fisheries Case* of 1951, “certain economic interests peculiar to a region, the reality and importance of which are clearly evidenced by a long usage.” In this case, the International Court of Justice allowed Norway to rely on traditional fishing rights reserved to local inhabitants in certain large basins to support the validity of their enclosure by straight baselines. Canada, Dr. Pharand asserted, can similarly invoke the vital needs and economic interests of its Inuit population. The historical rights and use of the Inuit of Arctic waters and ice for fishing, hunting and trapping from time immemorial can be relied on to reinforce Canada’s title to the enclosed waters.⁽⁶⁴⁾

In his presentation to the Committee, Paul Kaludjak, president of Nunavut Tunngavik Incorporated (NTI), stated that when Canada drew straight baselines around the Arctic Archipelago in 1985 and declared all waters within them to be Canada’s internal waters.

The Department of Justice relied, in part, on Inuit occupancy to support this legal move. This fact is reflected in Article 15 of the Nunavut Land Claims Agreement which states that: “Canada’s sovereignty over the waters of the arctic archipelago is supported by

(61) Dr. Donat Pharand, Brief submitted to the Committee, 6 May 2008.

(62) The requirements for acquiring an historic title are similar to those for land: the exercise of exclusive state jurisdiction, long usage, and acquiescence by foreign states, particularly those whose interests are primarily affected. Dr. Pharand was unaware of any British or Canadian explorers ever having taken possession of any part of the Arctic waters, especially not those of the Northwest Passage.

(63) Dr. Donat Pharand, *Committee Proceedings*, 6 May 2008; brief submitted to the Committee, 6 May 2008. See also Donat Pharand, “The Arctic Waters and the Northwest Passage: A Final Revisit,” *Ocean Development and International Law*, Vol. 38, Issue 182, January 2007, pp. 23–69.

(64) *Ibid.*

Inuit use and occupancy.” More broadly, the rights and benefits Inuit receive through the Nunavut Agreement are, to quote from the Agreement: “in recognition of the contributions of Inuit to Canada’s history, identity and sovereignty in the Arctic.”⁽⁶⁵⁾

The Government of Canada, NTI’s president argued, needs to fully implement all the Articles of the Nunavut Land Claims Agreement and to respect the Agreement’s spirit and intent. John Merritt, Senior Policy Advisor of Inuit Tapiriit Kanatami, likewise stated that if Canada intends to rely on continued Inuit use and occupation of marine areas as an argument, the international community will expect Canada to have delivered on its commitments to the Inuit with honour.⁽⁶⁶⁾

As for the US position on the legal status of the Northwest Passage, Dr. Pharand informed the Committee that the 1982 LOS Convention does not clearly define an international strait; the definition is a matter of customary international law. In this regard, two criteria were said to have been applied by the International Court (in the *Corfu Channel Case*) in 1949. The first criterion requires that there be an overlap of 12-mile territorial waters, which was the case in the Barrow Strait of the Northwest Passage before Canada drew straight baselines in 1985. The second condition is whether there has been a “useful route for international maritime traffic.”⁽⁶⁷⁾

The Committee was very concerned by Dr. Pharand’s statement that if foreign navigation takes place in the Northwest Passage without Canada having taken adequate preventive measures, the Passage could at some point become “internationalized” and subject to the right of transit passage. The waterway, he argued, may not have had a history as a useful route for international maritime traffic, but because of the remoteness of the region and the difficulties of navigation, comparatively little use for international navigation might be sufficient to make the Northwest Passage an international strait. The position of the United States is obviously based on a criterion of potential use, rather than one of actual use.⁽⁶⁸⁾

(65) Paul Kaludjak, *Committee Proceedings*, 15 April 2008.

(66) John Merritt, *Committee Proceedings*, 15 April 2008.

(67) The various routes of the Northwest Passage have seen only a total of 69 complete transits by foreign ships from 1903 to the end of 2007. Dr. Donat Pharand, Brief submitted to the Committee, 6 May 2008.

(68) Dr. Donat Pharand, Brief submitted to the Committee, 6 May 2008.

THE CANADIAN COAST GUARD: MEETING FUTURE CHALLENGES

A. Main Issues

Canada considers the Northwest Passage as part of its internal waters, over which it enjoys full sovereignty. It views the waterway as a national sea route, requiring Canada's consent for foreign use. Although Canada's position may not be accepted by all countries, no country has yet taken Canada to court over the matter. So far, the presence of ice hazardous to international shipping has protected Canadian and Inuit interests. But the testimony heard by the Committee strongly suggests that, in view of the warming Arctic climate and receding polar ice, maintaining the status quo is no longer a viable long-term option for Canada.

In Dr. Rob Huebert's view, the United States might be more inclined to support or recognize Canada's legal claim if Canada had the tools to enforce its laws and regulations. Dr. Michael Byers indicated that Canada might want to break ice for foreign vessels as a way of persuading other countries to accept Canadian sovereignty and control. He also advised that the United States will not recognize Canada's claim in the Northwest Passage for one simple reason:

They are not convinced that we are truly committed to stepping up to the plate and actually exercising the degree of authority needed to protect their interests. Their worst case scenario is to actually recognize Canada's sovereignty and then have us do nothing. If they recognize our sovereignty in the Northwest Passage and we do nothing or do not do enough, then they lose.⁽⁶⁹⁾

Dr. Donat Pharand similarly commented: "It seems to me the United States will never agree to recognize our full control over those waters unless they know that we have the capability to exercise that control, which we do not have at the moment."⁽⁷⁰⁾

The challenges faced by Canada in consolidating its sovereignty in the Northwest Passage and controlling activity beyond the waters inside the Arctic Archipelago are related in various ways to the Canadian Coast Guard.

(69) Dr. Michael Byers, *Committee Proceedings*, 6 March 2008.

(70) Dr. Donat Pharand, *Committee Proceedings*, 6 May 2008.

1. Renewing Canada's Aging Icebreaking Fleet

Canada's icebreaking fleet will not be adequate once shipping increases. Somewhat paradoxically, as sea ice recedes and navigation increases, greater icebreaking capability will be required. First-year ice will continue to form in winter and, as the polar cap breaks up, what multi-year ice is left in the Arctic Ocean will continue to shift toward the western channels of the Canadian Arctic Archipelago.⁽⁷¹⁾

Each year, Coast Guard icebreakers are deployed to the Arctic in June and, because they are incapable of operating there in winter, are re-deployed south by early November. Although these vessels are maintained in excellent condition, Dr. Louis Fortier, ArcticNet's Scientific Director, pointed out that they were originally built to operate in the St. Lawrence Seaway, not the Arctic Ocean. According to former CCG Deputy Commissioner Michael Turner, Canada's vessels are less powerful than the three icebreakers operated by the US Coast Guard. Dr. Scott Borgerson of the (US) Council on Foreign Relations stated that the United States is ill-equipped to exert a significant presence in the Arctic because of the advancing age of its icebreakers.⁽⁷²⁾ At our meetings, other countries were said to operate at least one heavy research icebreaker, including Germany, Sweden, China and, soon, South Korea.

With its fleet of nuclear and conventional fuel-powered heavy icebreakers, Russia is by far the best-equipped icebreaking nation in the world. For instance, *NS Yamal*, launched in October 1992, is 10 times larger than the *CCGS Amundsen*, Canada's research icebreaker. Russia, the Committee learned, has had the capacity to keep the Northern Sea Route (along the Siberian coast) open for domestic navigation since the Soviet era, and we were advised that Russia's icebreaking capability is what empowers it to make a claim for a large part of the Arctic Ocean.⁽⁷³⁾

At present, the Coast Guard has a limited capacity to navigate in Canada's Arctic. In future, Canada will need heavy icebreakers capable of operating year-round in the Archipelago and on the extended continental shelf.

In February 2007, the Auditor General of Canada reported that the estimated useful life of an icebreaker was 30 years and that Canada's icebreakers would be between 40 and

(71) Dr. Louis Fortier, *Committee Proceedings*, 13 May 2008.

(72) Not surprisingly, the February 2008 "Model Negotiation on Northern Waters" agreed to recommend that Canada and the United States "accelerate the acquisition of new icebreakers" (Recommendation 6).

(73) Dr. Louis Fortier, *Committee Proceedings*, 13 May 2008. Operating on close to 100,000 horsepower, Russia's nuclear powered icebreakers are able to cruise at about 11 knots in three metres of ice.

48 years old when they reach their currently scheduled replacement date.⁽⁷⁴⁾ The February 2008 budget announced \$720 million in funding to replace the 40-year-old flagship *CCGS Louis S. St-Laurent* with a new polar icebreaker with greater capabilities. Participants in our study welcomed the announcement, but also wondered if there would be sufficient political follow-through on the project. We were frequently reminded that, had *Polar 8* been built, that vessel would be performing superbly today.⁽⁷⁵⁾ The Committee was informed that the new icebreaker will have the capacity to operate in the Arctic for nine months of the year.

Built in 1969, the *Louis S. St-Laurent*, the Coast Guard's most capable icebreaker, is scheduled to be decommissioned in 2017. Former CCG Deputy Commission Michael Turner indicated that the ship is at the point where replacement is essential if Canada's presence in the Arctic is to be taken seriously.

Witnesses pointed out that the rest of the fleet is also aging, and that Canada should therefore be planning for the replacement of the remaining vessels as well (see Table 1). Canada's newest icebreaker, *CCGS Henry Larsen*, is now over 20 years old. *CCGS Terry Fox*, built in 1983 and the only icebreaker other than the *Louis S. St-Laurent* with true Arctic capability, was said to be fast approaching the end of its operational life, necessitating its replacement within the next 10 to 15 years. According to CCG Commissioner Da Pont, it takes considerable lead time to replace an icebreaker: from eight to 10 years from decision to replacement. They are complex, unique ships.

Table 1 – Heavy and Medium CCG Icebreakers

| Icebreaker | Year Built |
|-----------------------------------|-------------------|
| <i>CCGS Louis S. St-Laurent</i> * | 1969 |
| <i>CCGS Terry Fox</i> * | 1983 |
| <i>CCGS Henry Larsen</i> | 1987 |
| <i>CCGS Pierre Radisson</i> | 1978 |
| <i>CCGS Des Groseilliers</i> | 1982 |
| <i>CCGS Amundsen</i> ** | 1979 |

* Heavy icebreaker.

** Dedicated to science in the summer.

Source: DFO, Canadian Coast Guard, Icebreaking Fleet, http://www.ccg-gcc.gc.ca/eng/CCG/Ice_Fleet.

(74) Auditor General of Canada, *2007 February Status Report*, Chapter 4 – Managing the Coast Guard Fleet and Marine Navigational Services – Fisheries and Oceans Canada, paragraph 4.78.

(75) In response to the crossing of the Northwest Passage of the US icebreaker *Polar Sea* in 1985, Canada announced a number of measures to exercise more control over its Arctic waters, including *Polar 8*, an all-season polar icebreaker. The project was however cancelled four years later in the name of deficit control.

According to Dr. Fortier, although a new polar-class icebreaker is long overdue, two polar-class icebreakers are needed “for a circum-annual presence over the entire Canadian archipelago and the deep Arctic basin.” A number of participants at our meetings said that Canada needed more than one new icebreaker.

In July 2007, the federal government announced that six to eight new armed, ice-strengthened offshore patrol vessels would be added to the Navy fleet (“Polar Class 5 Arctic/Offshore Patrol Ships”).⁽⁷⁶⁾ The vessels have an estimated acquisition cost of \$3.1 billion, and another \$4.3 billion will be required for operations and maintenance over their 25-year lifespan. Michael Turner, who served many years in the Coast Guard, including several years as Deputy Commissioner and Acting Commissioner, advised the Committee that, although ice-strengthened, the naval patrol ships:

- will be capable of sailing through first-year ice only and will have far less capability than even the lightest of the CCG icebreakers now operating in the Arctic;
- are unlikely to operate in any but the lightest and safest ice conditions, given that Canada’s entire complement of marine officers skilled in operations is within the Canadian Coast Guard and a small number of companies;⁽⁷⁷⁾
- are not expected to have any role in the Arctic outside the navigation season and will end up being used on Canada’s southern coasts for most of the year as offshore patrol vessels; and
- of necessity, will be of hybrid design with limited capability in open water.

Also announced, in August 2007, were plans to establish an Arctic training centre for the Canadian Forces at Resolute Bay (Nunavut) and the allocation of \$100 million for the development of a new naval base (Canada’s first deep-water Arctic seaport) at the existing port of Nanisivik (Nunavut). Nanisivik, on the northern tip of Baffin Island, is expected to be key to future navigation and is strategically located for possible maritime interdictions in the Northwest Passage.

Canada relies on Coast Guard icebreakers as the primary means of projecting its sovereignty in the Arctic. Understandably, some witnesses were concerned that government may

(76) Three new armed heavy naval icebreakers were promised in 2005 as part of the Conservative Party’s “Canada First Defence Policy”.

(77) The Canadian Navy has not operated a fully ice-capable vessel built for operation in the Arctic since 1957.

be reluctant to replace its aging fleet of icebreakers with new vessels, given the significant public expenditure made on the acquisition and operation of the new offshore patrol ships for the Navy.

Witnesses pointed out that even though it does not have an enforcement mandate,⁽⁷⁸⁾ the Coast Guard supports Canada's security community by assisting other government departments that do have a direct role. Coast Guard vessels conduct security surveillance and carry officers from Customs, Immigration, the RCMP, Fisheries and Transport Canada on possible interdiction missions.⁽⁷⁹⁾ Many participants in our study favoured the use of multi-use icebreakers as platforms to support the full range of federal government programs in the Arctic, including support for the Canadian Forces. Although he does not advocate the use of force to the degree where military confrontation would result, Dr. Donat Pharand believed that Coast Guard vessels should be equipped with small armaments capable of giving firm and serious notice to unauthorized foreign vessels if necessary.

According to Michael Turner, the replacement of the rest of Canada's aging fleet with an appropriate number of Arctic class, multi-mission icebreakers operated by the Coast Guard would be a cost-effective response to Canada's surveillance and sovereignty patrol needs in the Arctic. National Defence personnel, for example, could form a detachment to be carried on-board at certain times. Vessels could be armed, but the weaponry would be under the control and management of National Defence. Other countries were said to have found effective ways of combining the two responsibilities.⁽⁸⁰⁾

Mr. Turner noted that, elsewhere in Canada, the Coast Guard appeared to be returning to the fuller, multi-mission, "all-of-government" support role for which it was originally intended. For instance, funding had been approved to provide new vessels as platform support for the RCMP in the area of maritime security on the Great Lakes, and the Coast Guard will be one of the departments supporting the National Defence-managed Marine Security Operations Centres on the East and West Coasts. As well, the agency already provides considerable platform support for scientific research in the Arctic.

(78) Unlike its counterpart in the United States, Canada's Coast Guard is a civilian organization and does not have a legislated mandate for enforcement related to maritime security. The enforcement of Canada's maritime sovereignty is the responsibility of the Canadian Navy (the Canadian Forces Maritime Command); the Royal Canadian Mounted Police is responsible for the enforcement of laws in Canada's territorial sea; and DFO Fishery Officers are responsible for fisheries enforcement in saltwater.

(79) See DFO, Canadian Coast Guard, *Fleet Annual Report 2006-2007*, 4.1.4 Maritime Security Services, http://www.ccg-gcc.gc.ca/eng/CCG/Careers_Our_Service#a4_1_4.

(80) Michael Turner, *Committee Proceedings*, 28 February 2008.

According to Dr. Louis Fortier, the consensus among industry, researchers and northern communities is that all new icebreakers should be multi-tasked ships. In Dr. Rob Huebert's view, the Coast Guard needs the capability to provide "a pan-Canadian response" in the Arctic, and both icebreakers and offshore naval patrol vessels are absolutely needed, for two reasons. First, ice conditions are expected to vary considerably in the Canadian Arctic from year to year. In some years, the ice cover will be substantial. Second, the involvement of both the Coast Guard and the Canadian Forces in the Arctic will bring northern issues and policy to the greater attention of Cabinet.

[If] we are serious about Arctic sovereignty, control of our Arctic regions, we have to ensure that our instruments and those who are maintaining them are properly funded. We have not been serious on that. ... [W]e are facing an Arctic situation for which we no longer have the luxury of allowing [the Coast Guard] to proceed on a shoe-string budget. ... There are changes of such magnitude that even if we did not want to spend the required money, the Arctic would find us and we would need to spend the money reactively.⁽⁸¹⁾

2. NORDREG

The further diminishment of ice is expected to make the Arctic's resources more accessible to industry, leading to more shipping. The environmental risks associated with increased vessel traffic include the introduction of invasive species from the emptying of ballast tanks and oil spills. Climate change and new technologies, such as double-bowed oil tankers, increase the likelihood that one day oil and gas will be shipped by tankers in the region.

Oil spills are especially worrisome in the Arctic where the ecosystems upon which Inuit depend for their livelihoods, traditional diets and survival are exceptionally sensitive and fragile. Paul Kaludjak, president of Nunavut Tunngavik Incorporated, called in his testimony for "full and complete" Canadian sovereignty over the Northwest Passage to ensure that rigorous shipping standards and procedures are applied. Participants at our meetings frequently mentioned the *Exxon Valdez* disaster off Alaska in 1989 as a reminder of what could happen in the absence of such standards.

Transport Canada oversees the marine-pollution prevention, preparedness and response regime as a whole.⁽⁸²⁾ The Department is responsible for a number of Acts dealing with

(81) Dr. Rob Huebert, *Committee Proceedings*, 13 March 2008.

(82) Since December 2003, the policy functions related to pollution prevention and response, as well as navigable waters, pleasure craft, marine navigation services, have been with Transport Canada.

Arctic navigation issues,⁽⁸³⁾ but the main ones related to marine safety are the *Canada Shipping Act* (which establishes requirements for construction, equipment and operations of ships in Canadian waters) and the *Arctic Waters Pollution Prevention Act* (or AWPPA, which supplements the *Canada Shipping Act* in Arctic waters). Coast Guard services assist in safe navigation, and ship owners are responsible for having qualified crews and the necessary experience to operate safely in ice-covered waters.⁽⁸⁴⁾

As the following excerpt from the AWPPA's preamble makes clear, the Act was passed in 1970 to protect the marine environment and preserve the traditional way of life of Inuit:

Whereas Parliament recognizes that recent developments in relation to the exploitation of the natural resources of arctic areas, including the natural resources of the Canadian arctic, and the transportation of those resources to the markets of the world are of potentially great significance to international trade and commerce and to the economy of Canada in particular;

And whereas Parliament at the same time recognizes and is determined to fulfil its obligation to see that the natural resources of the Canadian arctic are developed and exploited and the arctic waters adjacent to the mainland and islands of the Canadian arctic are navigated only in a manner that takes cognizance of Canada's responsibility for the welfare of the Inuit and other inhabitants of the Canadian arctic and the preservation of the peculiar ecological balance that now exists in the water, ice and land areas of the Canadian arctic [...]

The AWPPA applies in waters up to 100 nautical miles from shore,⁽⁸⁵⁾ a distance that Transport Canada officials said takes in most shipping activity north of 60 degrees. The AWPPA was described to the Committee as a zero tolerance Act (no person or ship shall deposit or permit the deposit of waste of any type in Arctic waters, except where explicitly authorized). The AWPPA regime includes two key sets of regulations.⁽⁸⁶⁾

(83) Transport Canada is responsible for six major Acts when dealing with Arctic navigation issues: the *Canada Shipping Act*, the *Navigable Waters Protection Act*, the *Marine Transportation Security Act*, the *Marine Liability Act*, the *Coasting Trade Act*, and the *Arctic Waters Pollution Prevention Act*.

(84) William J. Nash, Director General, Marine Safety, Transport Canada, *Committee Proceedings*, 15 May 2008.

(85) Article 234 of the 1982 LOS Convention allows coastal states to adopt and enforce non-discriminatory, science-based regulations concerning the prevention and control of marine pollution from vessels, where climatic conditions are severe and ice coverage hazardous, within their entire 200-mile Exclusive Economic Zones.

(86) William Nash, *Committee Proceedings*, 15 May 2008.

First, there are the Arctic Waters Pollution Prevention Regulations, which govern such matters as the deposit of domestic and industrial waste, certificates of insurance that ship owners or operators must provide, and the limits of liability for ships with insurance. Second are the Arctic Shipping Pollution Prevention Regulations, which deal with such matters as the construction standards for ships in 16 different Shipping Safety Control Zones (each zone having an entry and exit date for various ship types and classes), bunkering stations, special certificates that owners or operators must obtain before sailing through certain Arctic waters, the use and qualifications of ice navigators, supplies of fuel and water, and authorizations and standards for sewage from ships.⁽⁸⁷⁾

Within the Shipping Safety Control Zones, the Coast Guard has operated the Arctic Canada Traffic System known as “NORDREG” since 1977. The objectives of the system are: (1) the enhancement of safety and movement of traffic; (2) the strengthening of Canadian sovereignty in Arctic waters; and (3) the prevention of pollution of Arctic waters by establishing a method of screening vessels in Arctic waters.⁽⁸⁸⁾

All vessels over 300 tonnes, Canadian and otherwise, within 100 miles of the nearest Canadian land (in waters where the AWPPA applies) are requested to report to Coast Guard Marine Communications and Traffic Services (MCTS) centres 24 hours before entering the NORDREG system. When vessels report to MCTS, they are asked about their compliance with the Arctic Shipping Pollution Prevention Regulations. This information is then passed on to Transport Canada to determine whether they may be allowed to enter. If a vessel uses the ice regime system, it must report before entering and after exiting the Shipping Safety Control Zones.⁽⁸⁹⁾

That said, unlike the mandatory systems used in Canada’s traffic zones on the Atlantic and Pacific coasts, NORDREG is a voluntary vessel traffic and reporting system. In the Arctic, “mariners are encouraged to participate fully to receive the maximum benefit”⁽⁹⁰⁾ of services – ice information, ice routing, icebreaker assistance, and search and rescue.

(87) Ibid. Because the zone/date system makes little allowance for actual ice conditions, Transport Canada introduced the Arctic Ice Regime System in 1996, which takes into account ice conditions and a vessel’s ice capabilities when determining where it may be permitted to navigate. This was said to allow for more flexibility.

(88) DFO, Canadian Coast Guard, Vessel Traffic Reporting Arctic Canada Traffic Zone (NORDREG), http://www.ccg-gcc.gc.ca/eng/MCTS/Vtr_Arctic_Canada.

(89) For the Arctic, there are two Coast Guard MCTS centres, one in Iqaluit (Nunavut) and the other in Inuvik (Northwest Territories), which operate from May/June to October/November, depending on weather and traffic conditions, and which are transferred south to other centres in winter. The AWPPA excludes Hudson Bay and Ungava Bay south of 60° N latitude, while NORDREG includes the two bays.

(90) DFO, Canadian Coast Guard, Vessel Traffic Reporting Arctic Canada Traffic Zone (NORDREG).

When Dr. Donat Pharand appeared before the Committee, he said he could “only guess that Canada is not making the NORDREG system compulsory because it is not in a position to enforce the system if it were compulsory.” When Transport Canada and Coast Guard officials were questioned on the voluntary nature of NORDREG, they said that historical data suggest that 98% of all ships notify Canada of their presence.⁽⁹¹⁾ This high level of compliance was attributed to the services vessels can receive from the Canadian Coast Guard if their positions are made known to Canada.⁽⁹²⁾ However, when asked about the remaining 2% of vessels that do not comply, they said they knew nothing about them (e.g., who they were). When asked if anything was being done about these ships, the answer was: “that becomes an enforcement and compliance issue. The system is voluntary.”⁽⁹³⁾

How does Canada know if foreign vessels are in Canadian waters? Under Canada’s *Marine Transportation Security Act* and its Regulations, foreign ships greater than 100 gross tonnes are required to report detailed information to Canadian authorities at least 96 hours before arriving in Canadian territorial waters.⁽⁹⁴⁾

A number of participants at our meetings were in favour of making NORDREG compulsory to ensure safety and also to solidify Canadian sovereignty. According to Transport Canada officials, this could be done entirely through the regulatory process (without having to amend legislation). The *Canada Shipping Act* already empowers Transport Canada to regulate Vessel Traffic Services in all Canadian waters. Officials informed the Committee that departmental work had in fact already started on making NORDREG mandatory, and that all stakeholders in Canada support making the system compulsory. We were also advised that there could be some opposition or comments from foreign states, particularly the United States, if Canada were to proceed.⁽⁹⁵⁾

(91) Steven Troy, Director, Safety and Environmental Response Systems, Canadian Coast Guard, *Committee Proceedings*, 15 May 2008.

(92) William Nash, *Committee Proceedings*, 15 May 2008.

(93) Steven Troy, *Committee Proceedings*, 15 May 2008.

(94) William Nash, *Committee Proceedings*, 15 May 2008. The Marine Transportation Security Regulations pertain to security issues, not safety and environmental protection. In addition to MCTS, aerial surveillance in the Arctic is conducted by Transport Canada and National Defence. Satellite imagery can also assist.

(95) Victor M. Santos-Pedro, Director, Design, Equipment and Boating Safety, Transport Canada, *Committee Proceedings*, 15 May 2008.

3. Environmental Response

As discussed in the previous section, Transport Canada oversees the marine pollution prevention, preparedness and response regime in the Arctic.⁽⁹⁶⁾ When a marine pollution incident occurs, the Canadian Coast Guard is the lead federal agency for responding to marine spills north of 60 degrees. The agency provides a federal monitoring officer or on-scene commander role, coordinates interdepartmental activities in support of ship-source or mystery spills, has cleanup responsibilities in the Arctic, and maintains a level of preparedness capacity.⁽⁹⁷⁾

So far, the Coast Guard's capacity to deal with spills in the Arctic has been largely untested: the agency is aware of 28 spills in the last six years, which range from a few to roughly a thousand litres.⁽⁹⁸⁾ With respect to infrastructure, we learned that there are 14 environmental response locations situated across the Arctic, ten of which are community depots where equipment (e.g., booms, skimmers) is stockpiled. More equipment was said to be stored in three large depots located in Tuktoyaktuk, Iqaluit and Churchill (which is south of 60 degrees), and significantly more at an environmental response base in Hay River (NT).⁽⁹⁹⁾

In the case of a major pollution incident, the cleanup effort would obviously be more difficult in the Arctic. When Commissioner Da Pont, the Coast Guard's chief executive officer, appeared before the Committee, he said he was personally worried about Canada's preparedness in responding to a major incident because of the limited number of Coast Guard vessels capable of operating in ice-covered waters. Steven Troy, Director of the Canadian Coast Guard Safety and Environmental Response Systems, similarly noted that response time would depend on the ability to move the equipment in time.⁽¹⁰⁰⁾

According to Dr. Louis Fortier, Canada has "virtually no capacity for rapid, efficient intervention" in extreme ice conditions: if a catastrophe such as the *Exxon Valdez* were to happen near Resolute Bay, for example, nothing could be done to mop up the disaster.⁽¹⁰¹⁾ With respect to Coast Guard funding, former CCG Deputy Commissioner Michael Turner believed that more attention should be paid to its capacity to react to a major fuel or cargo

(96) William Nash, *Committee Proceedings*, 15 May 2008.

(97) George Da Pont, *Committee Proceedings*, 5 February 2008.

(98) Steven Troy, *Committee Proceedings*, 15 May 2008.

(99) George Da Pont, *Committee Proceedings*, 5 February 2008.

(100) Steven Troy, *Committee Proceedings*, 15 May 2008.

(101) Dr. Louis Fortier, *Committee Proceedings*, 13 May 2008.

spill.⁽¹⁰²⁾ He also suggested that the Coast Guard and the DFO, in concert with Transport Canada and Environment Canada, needed to assess current capabilities and levels of risk.

Duane Smith, president of ICC Canada, asked that Inuit be trained in oil spill containment and decontamination, as had been suggested by a working group of the Arctic Council in guidelines dating back to 1996. Mr. Smith also recounted the *Exxon Valdez* tanker spill off the coast of Alaska in 1989 which affected approximately 28,000 square kilometres of ocean.

The spill occurred in an isolated area and there was no capacity to respond immediately. As well, techniques that were attempted, like skimming, burning, the use of chemical dispersants and hot water treatments were ineffective or had damaging side effects. Eventually the spill was cleaned using booms, absorbent pads and cold water spray. However, evidence of this oil spill remains today.⁽¹⁰³⁾

The Committee heard that the Coast Guard had been working collaboratively on issues with counterparts who face similar operational challenges in other North. According to Commissioner Da Pont, participants at the 2007 inaugural meeting of the coast guards of the North Atlantic region agreed to set up a working group chaired by Canada to deal with environmental issues.

The matter of Canada's preparedness and capacity in dealing with pollution and oil spills in the Arctic is of considerable interest to Committee members. On 15 May 2008, officials of Transport Canada and the Canadian Coast Guard undertook to provide the Committee with additional information.

4. Search and Rescue

Obviously, more shipping and navigation, resource development activity and tourism will increase the risk of Search and Rescue (SAR) incidents. Witnesses considered the ability to provide SAR to be an important means for Canada to demonstrate its commitment to sovereignty in the vast and sparsely populated region that is the Canadian Arctic.

(102) In southern Canada, oil companies fund pollution response equipment depots through a system of levies and train people to operate them. This is not the case in the Arctic.

(103) Duane Smith, *Committee Proceedings*, 1 April 2008.

SAR “comprises the search for, and the provision of aid to, persons, ships or other craft which are, or are feared to be, in distress or imminent danger.”⁽¹⁰⁴⁾ Although the lead minister responsible for Canada’s National SAR Program (NSP) is the Minister of National Defence, the Canadian Coast Guard is responsible for the marine component of the NSP. The agency performs a number of SAR-related tasks, including the detection of maritime incidents, the conduct of prevention programs, and the oversight of activities of the Canadian Coast Guard Auxiliary, a volunteer organization that has units in Hay River, Yellowknife, Cambridge Bay, Rankin Inlet, Iqaluit, Inuvik, Port Resolution, and Chipewyan, as well as a new unit in Aklavik for the 2008 boating season.⁽¹⁰⁵⁾

Joint Rescue Coordination Centres manage the National Defence and the Coast Guard response to air and maritime SAR incidents. The Canadian Forces provide fixed and rotary wing SAR aircraft from CFB Trenton and CFS Yellowknife, while the Coast Guard relies primarily on its helicopters and icebreakers (which do not operate year-round in the region).⁽¹⁰⁶⁾

The growth in polar tourism was frequently mentioned at our meetings, the concern being that vessels may not necessarily be suited for navigation in Arctic waters. Dr. Rob Huebert indicated that there had been 150 tourist cruises off Greenland in 2007. Fewer excursions were reported in Canadian waters (15 to 25), but the number of tours was said to be increasing each year.⁽¹⁰⁷⁾ The Committee also heard that Scandinavian families in sailboats have been appearing in Canadian waters, and that three of them had actually crossed the Northwest Passage in 2007. Participants at our meetings wondered if Canada would be able to respond to an incident similar to the sinking of the cruise liner *M/V Explorer* in the Antarctic in November 2007.

5. Political Support and Funding

Witnesses described the Coast Guard as having been “an orphan” within the federal bureaucracy – inadequately supported and funded over successive administrations. Indeed, only recently has it been recognized that its fleet needs to be rebuilt.⁽¹⁰⁸⁾ Judging from

(104) DFO, Canadian Coast Guard, Maritime Search and Rescue (SAR) in Canada, National Search and Rescue Program (NSP), http://www.ccg-gcc.gc.ca/eng/CCG/SAR_Maritime_Sar.

(105) George Da Pont, *Committee Proceedings*, 5 February 2008.

(106) *Ibid.*

(107) Dr. Rob Huebert, *Committee Proceedings*, 13 March 2008.

(108) Budget 2003 allocated \$94.6 million over two years for major repairs to the Coast Guard fleet and shore-based infrastructure and for capital replacement purchases. Between February 2006 and March

what the Committee heard, Canada will in future need to ensure that the agency has the capacity, the tools and equipment to do the job for which it is mandated.⁽¹⁰⁹⁾

The history of what is now known as the Canadian Coast Guard dates back to the Department of Marine and Fisheries in 1867.⁽¹¹⁰⁾ It later moved to the Department of Transport when it was formed in 1936, and then to the DFO in 1995. In December 2003, the policy functions related to pleasure craft, marine navigation services, pollution prevention and response, and navigable waters were shifted back to Transport Canada. In April 2005, the Coast Guard became a Special Operating Agency within the DFO to affirm its role as a national institution, to provide more autonomy and operational flexibility, and to ensure that the fleet provides services to its government clients, which include National Defence, Environment Canada, the RCMP, DFAIT, Transport Canada, Natural Resources Canada, and the Natural Sciences and Engineering Research Council of Canada.⁽¹¹¹⁾

The Committee heard that staffing issues will present a challenge in the coming years. CCG Commissioner George Da Pont indicated that little recruitment had taken place since the merger with the DFO in 1995, and that attracting new people was difficult because of domestic and world-wide competition for well-trained mariners. With nearly a quarter of experienced marine personnel expected to retire in the next five to seven years, the Commissioner said there could eventually be a shortage of qualified people to operate Coast Guard vessels.

In his testimony, Former Deputy CCG Commissioner Michael Turner talked about the difficulties encountered in trying to amalgamate the Coast Guard with the DFO, two organizations that had very different structures and corporate cultures. DFO and Coast Guard management tended to take a narrow view the Coast Guard's role over the decade that followed. The focus was on cost reduction and efficiency; a consequent lack of funding resulted in fleet tie-ups for increasing lengths of time and even permanently. The larger concept of a Coast Guard with multi-mission capacity, he said, had been seriously eroded during this period.

2007, more than \$750 million in funding was announced for the purchase and maintenance of four new offshore vessels and 12 new midshore patrol vessels. The February 2008 Budget announced \$720 million in funding to acquire a new polar icebreaker.

(109) The mandate of the Canadian Coast Guard is stated in the *Oceans Act* and the *Canada Shipping Act*. See DFO, Canadian Coast Guard, Mission, Vision and Mandate, <http://www.ccg-gcc.gc.ca/eng/CCG/Mission>.

(110) DFO, Canadian Coast Guard, History, <http://www.ccg-gcc.gc.ca/eng/CCG/History>.

(111) Canadian Coast Guard, *Safety First, Service Always*, Business Plan 2007 – 2010, 1 June 2007, p. 42, http://www.ccg-gcc.gc.ca/folios/00018/docs/Business_Plan_v19-eng.pdf.

At one point, the Committee heard that the federal government had considered moving the Coast Guard to National Defence. In 2006, the Standing Senate Committee on National Security and Defence recommended that the agency be transferred to the Department of Public Security and Emergency Preparedness Canada.⁽¹¹²⁾

In Dr. Rob Huebert's opinion, the issue is not about where to place the Coast Guard; rather, it concerns political support and funding. The agency, he said, is so good that it always figures out a way of doing more with less and, in some ways, its professionalism is its own worst enemy. He pointed out that the Coast Guard has no outside champions or a community of interests to defend its role in safeguarding Canadian values and interests in the Arctic. On defence issues, for example, the federal government established the Security and Defence Forum in 1967. The Forum links National Defence and the Canadian Forces with the academic community, helping to establish a body of Canadian expertise and independent capability in analyzing defence-related issues. There is no counterpart to the Canadian Coast Guard. Another example given was DFAIT, which he said, had been effective in fostering communities of interest in the areas of human security and peacekeeping.

Dr. Huebert believed Canada to be unprepared for the crises he saw looming in the Arctic. As the expert agency on the maritime situation facing Canada, the Coast Guard needs to formulate a long-term strategic vision to guide it into the future, a vision that should come from the agency itself, not the DFO. The Canadian Navy, he said, provided a good example of such visioning when in 2001 it produced *Leadmark: The Navy's Strategy For 2020* under the authority of the Chief of the Maritime Staff and Commander of Maritime Command. *Leadmark* considered "Canada's geo-strategic location, interests and history, as well as the dramatic shifts within the international system in the recent past and the uncertainty of the decades to come."⁽¹¹³⁾ The Committee was also made aware that long-term visions and strategies had also been articulated by the Air Force and Army.⁽¹¹⁴⁾

[The Coast Guard] understands full well what it needs to do from a tactical perspective and it executes that outstandingly. However, if you ask the Coast Guard, "What is your strategic vision for Arctic

(112) Standing Senate Committee on National Security and Defence, *Managing Turmoil: The Need to Upgrade Canadian Foreign Aid and Military Strength to Deal with Massive Change*, October 2006, recommendation 40.

(113) National Defence, *Leadmark: The Navy's Strategy For 2020*, 2001, http://www.navy.dnd.ca/leadmark/pdf/ENG_LEADMARK_FULL_72DPI.PDF.

(114) *Strategic Vectors*, one of several Air Force planning documents, established a long-term vision and strategy to guide its development. The Army, for its part, produced *Advancing with Purpose*, which sets out the broad guidelines for the *Army of Tomorrow*.

sovereignty?,” they would say, “We do not have a vision. We simply enforce and do what we are told.” The Coast Guard must be asking, “What is our mission statement above and beyond being the best we can be?”⁽¹¹⁵⁾

According to Dr. Louis Fortier, the Coast Guard will need infrastructure, including icebreakers, to carry out what will become an expanding role in the Arctic. The region is changing rapidly, he said, and “the fleet is aging as quickly as things are changing.” Dr. Fortier envisioned a major role for the agency in controlling development in the Arctic. He felt that northern communities need to be actively engaged in defining its future role, and that Inuit need to be recruited into the Coast Guard.⁽¹¹⁶⁾

B. Concluding Observations and Recommendations

An essential aspect of the Canadian identity, the Arctic is first and foremost the homeland of Inuit who have been using the region and its resources for thousands of years.

The Canadian Coast Guard provides a number of critical services in the Arctic. The agency supplies isolated northern communities, breaks ice for northern commercial shipping, maintains navigation aids in northern seaways, and provides for marine pollution response. Vessels and commerce depend on it for marine communications and traffic management. Everyone relies on the Coast Guard for marine search and rescue. It supports other government departments and agencies by providing ships, aircraft and other services. Research on fisheries, oceanography, seabed mapping, and marine climate depends on its vessels. In relation to commercial marine activities, the Coast Guard is an important element of Canada’s projection of sovereignty in the Arctic, and its most visible federal marine presence.

The Coast Guard’s vital role in the Arctic, a region of tremendous potential, will become ever more critical in the coming years. Climate change will open the Northwest Passage, oil and gas, mining and other activities in the region will expand, and countries will continue to pursue their own interests. Canada will need to build up its Coast Guard with added capabilities and equipment to do the job for which it is mandated. The agency will have to be provided with adequate funding.

(115) Dr. Rob Huebert, *Committee Proceedings*, 13 March 2008.

(116) There would appear to be no formal process to train and recruit Inuit for the Coast Guard. Efforts are however made to employ individuals from the communities whenever permanent or part-time employment opportunities arise. Steven Troy, *Committee Proceedings*, 15 May 2008.

The effects of climate change will open up Arctic waters to maritime traffic. No one knows exactly when this will happen, but the Government of Canada needs to plan and prepare for the eventuality.

Canada faces a potential challenge to its sovereign right to control shipping activity in the Northwest Passage. With the exception of Hans Island, there is broad international recognition that the islands of the Arctic Archipelago are exclusively under Canada's jurisdiction, but this is not the case with respect to their surrounding waters. Some countries disagree with Canada's position that the Northwest Passage constitutes Canadian internal waters. The United States, in particular, considers the waterway to be an international strait subject to the right of transit passage, a right nearly as extensive as on the high seas under international law.

Canada should take any opportunity to negotiate acceptance of Canada's position with other countries, in particular the United States. Canada must, however, retain full control over shipping in order to adequately protect the exceptionally fragile marine environment and Canadian security interests.

1. The Committee recommends that Canada uphold its position that the waters of the Northwest Passage are its internal waters and should be prepared to defend any legal challenge.

If adequate preventive measures are not taken with respect to unauthorized shipping activity, the waterway could become progressively "internationalized" and subject to the right of transit passage, with potentially serious environmental and security consequences. The United States might be more inclined to recognize Canada's legal claim if Canada had the tools to monitor and enforce its laws and regulations.

2. The Committee recommends that Canada develop a much stronger year-round, national presence and enforcement capability to show the world that Canada is serious about controlling the Northwest Passage, protecting Canadian interests and its people, and making the waterway a safe and efficient shipping route.

3. The Committee recommends that there be a uniform, common code relating to the construction, manning and equipment of all vessels operating in the Arctic.

4. The Committee recommends that Inuit, with their unique knowledge of the region, be recruited for the Coast Guard wherever possible.

5. The Committee recommends that the Coast Guard formulate a long-term strategic vision to guide it into the future. With nearly a quarter of experienced marine personnel expected to retire in the next five to seven years, staffing issues will present a challenge.

Canada needs a much stronger, year-round capability in the Arctic to:

- (a) Enforce a mandatory vessel traffic system in Canada's Arctic waters.
- (b) Map Canada's continental shelf, exercise jurisdiction and ensure that exploration or development within and outside its 200-mile Exclusive Economic Zone are conducted in accordance with Canadian rules and standards. Once the limits of its extended continental shelf (an area said to be the size of the Prairie Provinces) are determined, Canada may need to initiate negotiations with its Arctic neighbours, given that boundary disputes already exist with respect to the delimitation of adjoining Exclusive Economic Zones in the east (Lincoln Sea) and west (Beaufort Sea).
- (c) Provide year-round Search and Rescue capability, given expected increases in sea traffic, and development activity, including new commercial fisheries and the growth of tourist cruises in Arctic waters.
- (d) Accommodate an expected increase in the demand for vessels in support of scientific research.
- (e) Provide adequate rapid, efficient intervention in response to major environmental accidents. Increased maritime activity will bring greater environmental risks. Because of record-high world energy prices, oil and gas development is now regarded as a year-round activity. Receding ice and new technologies, such as double-bowed tankers, increase the likelihood that one day oil and liquefied natural gas will be transported through the Northwest Passage by ship. The further diminishment of ice will benefit the energy and mining sectors, leading to even more shipping.
- (f) Exercise effective control of the Northwest Passage, and develop it into a safe and efficient shipping route.

6. The Committee recommends that NORDREG, Canada's current voluntary vessel traffic system in the Arctic, be made compulsory.

At present, foreign vessels entering Canada's Arctic waters are not required to report under NORDREG with respect to their location, planned route, and ability to comply with the *Arctic Waters Pollution Prevention Act*. By not making NORDREG mandatory, Canada is sending the message internationally that it is not committed to its claim that the Northwest Passage is part of its internal waters.

7. The Committee recommends that Canada develop a long-term plan for the acquisition of new multi-purpose heavy icebreakers made in Canada and capable of operating year-round in its Arctic Archipelago and on the continental shelf.

The February 2008 Budget announced \$720 million in funding to replace the 40-year-old flagship *CCGS Louis S. St-Laurent* with a new polar icebreaker with greater

capabilities, but the rest of Canada's icebreaking fleet is also aging and will need to be replaced. In particular, *CCGS Terry Fox* (built in 1983 and the only other icebreaker besides the *Louis S. St-Laurent* with true Arctic capability) is fast approaching the end of its operational life and will need to be replaced within the next 10 to 15 years. Canada's newest icebreaker, *CCGS Henry Larsen*, is over 20 years old. The lead time to put a new vessel out to sea is 8 to 10 years from decision to replacement, because icebreakers are complex, unique ships.

8. The Committee recommends the deployment of multi-mission polar icebreakers operated by the Coast Guard as a cost-effective solution to Canada's surveillance and sovereignty patrol needs in the Arctic.

Such vessels could serve as platforms in support of all at-sea Government of Canada programs and missions in the Arctic (e.g., security and enforcement, search and rescue, environmental, icebreaking, re-supply), including platform support for the RCMP and Canadian Forces.

9. The Committee recommends that the Government of Canada move forward to implement, in collaboration with the Government of Nunavut, a comprehensive harbour development plan, as recommended by the DFO–Nunavut Harbours Working Committee in its 2005 *Nunavut Small Craft Harbours Report*.

The development of sea and land-based services and infrastructure will be needed to ensure safe navigation in the Northwest Passage and to buttress Canada's sovereignty. Improved Arctic marine charts and aids to navigation, Arctic port infrastructure and better monitoring of marine traffic will be required.

This interim report was written before the Committee conducted public hearings and fact-finding in Nunavut during the first week of June. Our findings will be conveyed more fully in a final report.

APPENDIX 1

The Proposed Sale of RADARSAT-2

Dr. Michael Byers of the University of British Columbia spoke at length about RADARSAT-2.⁽¹⁾

The satellite was developed through a public-private partnership between the Canadian Space Agency and MacDonald, Dettwiler & Associates Ltd., or MDA (a Canadian company). In early January 2008, within weeks after its launch into orbit in December 2007, Alliant Techsystems Inc. (a US company) announced its intention to acquire MDA's space program, including RADARSAT-2. The federal government provided most of the satellite project's funding by purchasing \$445 million worth of imagery in advance, or about 85% of the total costs. In return, it was promised imaging-on-demand and priority access in case of emergencies.

Considered to be the world's most advanced remote sensing satellite and developed specifically to increase Canada's ability to exercise its sovereignty in the North,⁽²⁾ RADARSAT-2 can provide high-definition imagery even through clouds and fog and at night, an important capability given that the Arctic is near-total darkness for a number of months every year. The Committee was advised that the satellite can also pinpoint oil spills, track ocean-going vessels and map the presence and thickness sea ice from space. The satellite was said to be an essential tool in fisheries monitoring and enforcement, given Canada's limited capability in the vast Arctic. In this connection, some witnesses mentioned possible incursions by foreign fishing vessels in Davis Strait where there is a growing fishery for shrimp and turbot (also known as Greenland halibut).

Referred to as Canada's "eye in the sky," RADARSAT-2 allows for the efficient monitoring of Canada's immense territory and is entirely consistent with the federal government's sovereignty initiative in the Arctic. Its ability to monitor ships makes it an obvious complement to the Arctic naval patrol vessels announced by the federal government in July 2007, and the new \$720 million polar icebreaker announced in the February 2008 federal budget.

(1) Dr. Michael Byers, *Committee Proceedings*, 6 March 2008.

(2) See DFAIT, "Government of Canada Issues Operating Licence for RADARSAT-2," News release, 16 November 2007, <http://news.gc.ca/web/view/en/index.jsp?articleid=36196>. RADARSAT-1, the less powerful predecessor, was built by the Canadian Space Agency and launched in 1995. RADARSAT-1 is owned by the CSA and remains in orbit.

Canada is the satellite's licensing authority under the *Remote Sensing Space Systems Act* of 2005 (section 16). At our meetings in February and March it was unclear whether the United States would replace Canada as the licensing authority if the sale were approved, and whether Canada would lose "shutter control" (the ability to restrict the types of images being generated for reasons of national interest) and "priority access" (the ability to commandeer the satellite in emergencies).

The proposed sale (worth \$1.325 billion) appeared to catch everyone by surprise, including the Government of Canada. Dr. Rob Huebert of the University of Calgary wondered how Canada could even contemplate allowing such a sale. Dr. Byers described RADARSAT-2 as a "necessary public good," a "sovereignty assertion device" "produced for Canadians with the expenditure of Canadian taxpayer money," and that was "exactly what a great Arctic country like Canada would want to do." He drew a strong parallel with the new \$720 million icebreaker announced in the February 2008 federal budget and asked: "Would we allow that icebreaker to be sold to a foreign company after it was built?"

In a decision made under the *Investment Canada Act*, federal Minister of Industry Jim Prentice announced on 10 April 2008 that the sale of the aerospace assets of MacDonald, Dettwiler & Associates Ltd., including RADARSAT-2, to Alliant Techsystems Inc. would not be allowed.

APPENDIX 2

Recommendations of the February 2008 Canada–US Model Negotiation

Model negotiation on Northern Waters

On February 18 and 19, 2008, two teams of non-governmental experts met to discuss issues, identify possible solutions, and make recommendations concerning navigation in Northern waters to the governments of the United States and Canada. The following agreed statement is the result of those deliberations.

Agreed recommendations

Recognizing the rapid and dramatic loss of Arctic sea-ice;

Recognizing that this will increase the maritime accessibility of the Arctic;

Recognizing that increased shipping will bring many benefits, and that the development of economically efficient, environmentally responsible, safe and secure navigation in Northern waters is in the interests of all countries;

Recognizing obligations under land claims agreements with indigenous peoples;

Concerned that increased shipping will bring heightened security risks, especially in the context of terrorism, nuclear proliferation, illegal immigration and drug smuggling;

Concerned that increased shipping will bring heightened environmental risks, especially in the form of oil spills and disruption of indigenous peoples and marine life;

Acknowledging the long history of U.S.-Canada cooperation, including within NATO, NORAD, the 1988 Arctic Cooperation Agreement, and the Arctic Council;

Acknowledging that the United States and Canada have previously cooperated to promote shipping through waters under national jurisdiction, namely the St. Lawrence Seaway, Great Lakes and Juan de Fuca Region, and that this has brought great benefits to both countries;

We respectfully recommend:

1. That the two countries collaborate in the development of parallel rules and standards and cooperative enforcement mechanisms with respect to notification and interdiction zones in the northern waters of Alaska and Canada;
2. The implementation of the 2006 expansion of the NORAD agreement, which includes the sharing of all maritime surveillance in the area covered by that agreement, and that the two countries cooperate in the development of further surveillance capabilities;
3. Building from the Arctic Waters Pollution Prevention Act, that the two countries develop common navigation, safety and ship operation and construction standards;
4. That the two countries cooperate on the establishment of shipping lanes, traffic management schemes and oil spill response in the northern waters of Alaska and Canada;

5. That the two countries cooperate with respect to immigration and search and rescue concerns related to cruise ships;
6. That the two countries accelerate the acquisition of new icebreakers. The two countries should maximize burden sharing opportunities, following the models of the U.S.-Canada icebreaker agreement on the Great Lakes and the agreement on the resupply of Thule Air Base;
7. That the two countries step up their efforts to develop safety infrastructure, including search and rescue, in support of increased shipping in the northern waters of Alaska and Canada;
8. That, the two countries make maximum use of their existing port state and flag state authority to promote safe, secure and environmentally responsible shipping;

We further recommend:

9. That the two countries consider establishing a U.S.-Canada Arctic Navigation Commission to address their common interests in navigation, environmental protection, security, safety, and sustainable economic development. This Commission should include representation from indigenous groups directly affected by navigation. This Commission would follow the model of the International Joint Commission by acting as a recommendatory body. This Commission should operate within the framework of the already legislated bi-national research body, the Arctic Institute of North America;

We reaffirm that the 1988 Arctic Cooperation Agreement has been very effective in managing the legal disagreement concerning the Northwest Passage, while *recognizing* the challenges presented by rapidly changing ice conditions.

Additionally, the Canadian team of experts presented strong arguments as to why the United States should recognize Canada's legal position that it controls the Northwest Passage. The changing Arctic environment raises new security concerns. In this context, the Canadian team argued that recognizing Canadian control of the Northwest Passage could substantially enhance North American security, without compromising U.S. interests elsewhere in the world. The U.S. team also pointed out that the U.S. position has strong arguments in its favour.

The two teams together *respectfully request*, without prejudice, that the US. and Canadian governments examine all of these arguments.

Finally, the two teams emphasize that time is of the essence and that the recommendations listed in points 1 to 8 be addressed expeditiously.

U.S. team:

Paul Cellucci, U.S. Ambassador to Canada, 2001-2005

Scott G. Borgerson, Council on Foreign Relations

Professor Elizabeth Elliot-Meisel, Department of History, Creighton University

Professor Christopher Joyner, Department of Government, Georgetown University

Professor Eric Posner, University of Chicago School of Law

Coalter Lathrop, J.D., President, Sovereign Geographic Inc.

Canadian team:

Professor Michael Byers, Department of Political Science, University of British Columbia

Colonel (retired) Pierre Leblanc, Former Commander, Canadian Forces Northern Area

Aaju Peter, Inuit law student, Iqaluit

Professor Rob Huebert, Department of Political Science and Centre for Military and Strategic Studies, University of Calgary

Professor Ted McDorman, Faculty of Law, University of Victoria

Professor Suzanne Lalonde, Faculty of Law, University of Montreal

Professor Armand de Mestral, C.M., Faculty of Law, McGill University

Secretariat:

Justin Nankivell, PhD student, University of British Columbia

Joël Plouffe, PhD student, University of Quebec at Montreal (UQAM)

Funding and logistical support:

The U.S. and Canadian teams wish to thank ArcticNet for funding the exercise and the International Joint Commission (Canadian Section) for providing meeting space. The recommendations above represent the opinions of the team members only.

APPENDIX 3

WITNESS LIST

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| Thursday, May 15, 2008 | |
| Canadian Coast Guard | Steven Troy, Director, Safety and Environmental Response Systems |
| Transport Canada | William (Bill) J Nash, Director General, Marine Safety Victor M. Santos-Pedro, Director, Design, Equipment & Boating Safety. Richard Day, Director, Operations and Environmental Programs |
| Tuesday, May 13, 2008 | |
| ArcticNet | Louis Fortier, Scientific Director |
| Tuesday, May 6, 2008 | |
| As an individual | Donat Pharand, Professor emeritus, Faculty of Law, University of Ottawa |
| Thursday, May 1, 2008 | |
| Fisheries and Oceans Canada | Michelle Wheatley, Regional Director, Science, Central & Arctic Region K. Burt Hunt, Regional Director, Fisheries and Aquaculture Management, Central and Arctic Region |
| Tuesday, April 15, 2008 | |
| Inuit Tapiriit Kanatami | John Merritt, Senior Policy Advisor |
| Nunavut Tunngavik Incorporated | Paul Kaludjak, President Gabe Nirlungayuk, Director of Wildlife |
| Tuesday, April 8, 2008 | |
| Council on Foreign Relations | Scott G. Borgerson, PH. D., International Affairs Fellow |
| Tuesday, April 1, 2008 | |
| Inuit Circumpolar Council (Canada) | Duane Smith, President Chester Reimer, Strategic and Policy Advisor |
| Thursday, March 13, 2008 | |
| University of Calgary | Rob Huebert, Associate director of the Centre for Military and Strategic Studies, Associate Professor, Department of Political Science |
| Thursday, March 6, 2008 | |
| University of British Columbia | Michael Byers, Professor, Canadian Research Chair in International Law and Politics |
| Thursday, February 28, 2008 | |
| As an individual | Michael Turner |

Tuesday, February 12, 2008

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| Foreign Affairs and International Trade Canada | Alan H. Kessel, The Legal Adviser John Hannaford, Deputy Legal Adviser and Director General, Legal Affairs Bureau Wendell Sanford, Director, Oceans and Environmental Law Division |
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Tuesday, February 5, 2008

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| Fisheries and Oceans Canada | George Da Pont, Commissioner, Canadian Coast Guard Charles Gadula, Acting Deputy Commissioner Gary Sidock, Director General, Fleet Directorate |
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