



CONTROLLING CANADA'S ARCTIC WATERS: ROLE OF THE CANADIAN COAST GUARD

Report of the Standing Senate
Committee on Fisheries and Oceans

The Honourable Bill Rompkey, P.C., Chair
The Honourable Ethel M. Cochrane, Deputy Chair

December 2009

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(Committee Business — Senate — Reports)
40th Parliament — 2nd Session

MEMBERSHIP

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and

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ORDER OF REFERENCE

Extract from the *Journals of the Senate*, Thursday, March 12, 2009:

With leave of the Senate,

The Honourable Senator Comeau moved, seconded by the Honourable Senator Cowan:

That the Standing Senate Committee on Fisheries and Oceans be authorized to examine and to report on issues relating to the federal government's current and evolving policy framework for managing Canada's fisheries and oceans;

That the papers and evidence received and taken and work accomplished by the committee on this subject since the beginning of the First Session of the Thirty-ninth Parliament be referred to the committee;

That the committee report from time to time to the Senate but no later than June 30, 2010, and that the Committee retain all powers necessary to publicize its findings until December 31, 2010.

The question being put on the motion, it was adopted.

Paul C. Bélisle

Clerk of the Senate

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ROLE OF THE CANADIAN COAST GUARD**

**THE STANDING SENATE COMMITTEE
ON FISHERIES AND OCEANS**

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ACRONYMS

AMSA – Arctic Marine Shipping Assessment

AOPS – Arctic/Offshore Patrol Ship

ASWG – Arctic Security Working Group

AWPPA – Arctic Waters Pollution Prevention Act

CBSA – Canada Border Services Agency

CCG – Canadian Coast Guard

CCGA – Canadian Coast Guard Auxiliary

CCGS – Canadian Coast Guard Ship

CF – Canadian Forces

CRPG – Canadian Ranger Patrol Group

DFAIT – Department of Foreign Affairs and International Trade

DFO – Department of Fisheries and Oceans

ECAREG – Eastern Canada Vessel Traffic Services Zone

EEZ – Exclusive Economic Zone

EU – European Union

ICC – Inuit Circumpolar Council

IMO – International Maritime Organization

JCP – Canada-United States Joint Marine Pollution Contingency Plan

JRCC – Joint Rescue Coordination Centre

JTFN – Joint Task Force (North)

LOS – Law of the Sea

LRIT – Long Range Identification and Tracking

MCTS – Marine Communications and Traffic Services

MGP – Mackenzie Gas Project

MSOC – Marine Security Operations Centres

NORDREG – Arctic Canada Traffic System

NSF – (US) National Science Foundation

NTCL – Northern Transportation Company Limited

SAR – Search and Rescue

SCOFO – Senate Committee on Fisheries and Oceans

SOLAS – Safety of Life at Sea

USCG – US Coast Guard

VTS OFFSHORE – Western Canada Vessel Traffic Services Zones

LIST OF RECOMMENDATIONS

Recommendation 1:

The Committee recommends that all foreign vessels that enter Canada's Arctic waters be required to report to NORDREG, regardless of vessel size or tonnage.

Recommendation 2:

The Committee recommends that, as a precautionary measure at least in the interim period before the new naval Arctic/Offshore Patrol Ships (AOPS) are built and deployed, the Government of Canada:

- a) arm Canada's Coast Guard icebreakers with deck weaponry capable of giving firm notice, if necessary, to unauthorized foreign vessels for use in the Northwest Passage; and**
- b) provide on-board personnel from appropriate government agencies that have the authority to enforce Canadian domestic laws with small arms.**

Recommendation 3:

The Committee recommends that the Government of Canada proactively engage the United States in bilateral discussions to resolve their dispute over the Northwest Passage.

Recommendation 4:

The Committee recommends that a Cabinet committee on Arctic affairs, chaired by the Prime Minister and comprising the Ministers of Indian and Northern Affairs, Fisheries and Oceans, National Defence, Environment Canada, Natural Resources, Foreign Affairs and International Trade, and Transport Canada, be created to further develop national Arctic policy, in cooperation with the three territorial governments, and to ensure that attention to northern issues and Arctic policy is maintained.

Recommendation 5:

The Committee recommends that until the CP-140 Auroras are replaced by new patrol aircraft in 2020, the Government of Canada consider expanding maritime air surveillance in Canada's North either by increasing Canadian Forces capability or contracting specially equipped aircraft from the private sector.

Recommendation 6:

The Committee recommends that the “Arctic Vision” include the notion of the Coast Guard, along with the Canadian Forces, having a year-round northern operation administered in the North to demonstrate that Canada is serious about protecting Canadian interests and the interests of Canada’s northern residents.

Recommendation 7:

The Committee recommends that Canada develop a long-term plan and provide the funding necessary for the acquisition of a suitable number of new multi-purpose polar icebreakers capable of operating year-round in its Arctic Archipelago and on the continental shelf.

Recommendation 8:

The Committee recommends that the Canadian Coast Guard identify areas in the Arctic at high risk of a major cargo or oil spill, assess current response capabilities, and communicate the results of the assessment to Canada’s northern communities. The Government of Canada should provide funding to train northern residents in the use of oil spill containment equipment for oil spills close to shore.

Recommendation 9:

The Committee recommends that additional federal funding be provided to the Canadian Coast Guard Auxiliary for the purchase of tangible assets directly related to the provision of search and rescue services.

PREFACE

THE VOYAGE OF THE *BERSERK II*

Excerpt from: *Proceedings of the Standing Senate Committee on Fisheries and Oceans*,
5 November 2009

The Berserk II had pulled into Halifax Harbour on June 22, 2007, after spending some time in New York City. At that time, one Norwegian crew member was determined to be inadmissible to Canada based on his membership in a criminal organization. Another Norwegian crew member withdrew his application to enter Canada after it was determined that he would not be permitted to enter based on his previous convictions outside Canada for drug smuggling and assaulting a police officer.

The ship left Halifax for Newfoundland where it took on a Norwegian crew member before continuing to Greenland. Once in Hvalsey, Greenland, the Berserk II took on two new crew members, one being an American citizen. It was later determined that he had an extensive criminal history and that he was inadmissible to Canada. The second crew member that boarded in Greenland was the Norwegian national with the criminal conviction who had been permitted previously at Halifax to withdraw his application to enter Canada. Although he had returned to Norway on June 28, 2007, he later flew to Hvalsey, Greenland, to re-board the vessel. The Berserk II left Greenland and proceeded to enter Canadian waters.

The Berserk II landed at Gjoa Haven, Nunavut on August 22 and failed to contact the Canada Border Services Agency or the RCMP. The RCMP has the delegated authority to enforce the Immigration and Refugee Protection Act as well as the Customs Act in the North where there is no Canada Border Services Agency presence. The captain of the Berserk II told the Gjoa Haven RCMP detachment that he thought it was unnecessary to report to the Canada Border Services Agency or the RCMP claiming that he had not left Canadian waters.

The Berserk II left Gjoa Haven for Cambridge Bay before information relating to the criminality of the crewmembers was known. It was, therefore, before the Royal Canadian Mounted Police was able to take action. The Gjoa Haven RCMP alerted the Cambridge Bay RCMP detachment to meet the Berserk II when it arrived there.

Prior to docking in Cambridge Bay, the captain gave the two crewmembers firearms and put them ashore outside of town. This was considered an attempt by the captain of the Berserk II to shield their presence on the vessel from Canadian law enforcement, having full knowledge that their criminality would make them inadmissible to Canada.

On August 24, Cambridge Bay RCMP took the remaining crewmembers into custody while docking. On August 29, after five days at large, the two armed crew members were arrested and detained by Cambridge Bay RCMP.

Ultimately, all five were removed from Canada three of the crew under deportation order relating to their criminality, and two under exclusion orders for failing to report to the CBSA under the Immigration and Refugee Protection Act. Charges for failing to report to the Canada Border Services Agency upon entry to Canada under the Immigration and Refugee Protection Act were withdrawn in return for their immediate departure to their countries of origin.

Source: Philip Whitehorne, Chief of Operations, Inland Enforcement Section, Intelligence and Enforcement Division, Northern Ontario Region, Canada Border Services Agency, *Proceedings of the Standing Senate Committee on Fisheries and Oceans*, 5 November 2009.

FOREWORD

The preface to this report tells how a foreign vessel, previously banished from Canada and with criminals among the crew, sailed undisturbed into the heart of Canada's Northwest Passage. Authorities noticed her only after she landed in Inuit communities. The *Berserk II* was a small vessel, but it raises a large question: how well does Canada control its Arctic waters?

No one contests our sovereignty over the Arctic lands, and an orderly scientific process under the Law of the Sea will establish the extent of our continental shelf. But what about marine sovereignty and the control of shipping?

The Arctic is growing in strategic and economic importance. It holds vast, untapped natural resources. Economic development will bring more shipping. So will the gradual thawing create shorter northern routes between Asia, Europe, and North America.

Meanwhile, all other Arctic states have moved to improve their presence and military capabilities in the region. Russia has been particularly assertive. And a number of non-Arctic countries are showing increasing interest in the circumpolar region.

Canada's position is that the Northwest Passage is internal waters and that sovereignty applies there as on land. We maintain that we can unilaterally pass laws and regulations to protect Canadian interests and benefit northern residents – the Inuit in particular. For countless generations, these first inhabitants have lived and worked on the land, the water, and the ice. Indeed, they are the primary proof that our Arctic waters are Canadian. Canada needs to retain full control over its Arctic waters to protect the exceptionally fragile coastal and marine environment for those who live from it.

Some nations contest our sovereignty over the Northwest Passage. We need to demonstrate our capability to monitor and our strength to enforce. We need a strong overall system of administration working with and for Arctic residents.

The government in recent years has paid increasing attention to the Arctic in thought and substance. Initiatives include a new polar icebreaker for the Canadian Coast Guard (CCG), additional funds for important research, and increasing the presence of the Canadian Forces in the North.

But major gaps remain, as this report – based on expert testimony and first-hand visits to the Arctic – will show. Canada’s presence in the Arctic needs to be enhanced in terms of ships, personnel, administration offices, surveillance, shipping regulations, search and rescue, and oil spill remediation.

Such enhancement requires strengthening the Canadian Coast Guard, our main marine presence in the North. As a special operating agency under the Department of Fisheries and Oceans, the CCG provides marine safety and environmental protection services as well as essential at-sea support to other federal government departments and agencies. It should, in future, serve as a major component of our Arctic security system.

The Coast Guard already gives Canada most of its northern “marine domain awareness” – that is, the big picture of what’s on the water. But, as the voyage of the *Berserk II* suggests, our big picture is far too small. We need to know what ships are in our waters, force them to report to Canadian authorities, and track their passage.

Air surveillance of the marine domain remains severely limited. Besides CCG shipboard helicopters during the navigation season, bits of information come from the National Aerial Surveillance Program using Dash 7s from the south during the shipping season. There are also Twin Otters in Yellowknife, Aurora over-flights from time to time, and sporadic Transport flights. RADARSAT-2 may be useful in future, but at the moment satellites are dedicated to ice reconnaissance rather than shipping. Looking at Arctic waters from the satellite was described to the Committee as looking through the end of a straw.

Overall, the marine picture is poor. The East Coast and West Coasts of Canada have dedicated fisheries surveillance aircraft, provided through a contract with a private company. The Arctic coast has no such dedicated surveillance aircraft. Who’s there? We don’t really know. Who is transiting the Northwest Passage? We’re not sure. We need better marine monitoring, with the Coast Guard in the lead.

Of course, if there were adequate surveillance capabilities in the Arctic, there still would not be control. On the East Coast of Canada we know what ships are in our waters and we track them. On the West Coast of Canada we know what ships are in our waters and we track them. At present, vessel reporting on Canada’s Arctic Coast, however, is voluntary and not mandatory. Government officials have also confirmed that foreign vessels can transit the Northwest Passage – so long as they don’t land – with no obligation to report to any Canadian authority.

Canada does have a voluntary vessel-traffic system in the Arctic, known as NORDREG and run by the Canadian Coast Guard, which takes reports from foreign vessels and gives them information on ice routes and other matters. As recommended in our previous report, the government *intends to make* NORDREG compulsory *in 2010*.

As well, Canada passed legislation earlier this year to extend the geographic application of the *Arctic Waters Pollution Prevention Act* from 100 to 200 nautical miles. This will help combat the danger of marine pollution as commercial shipping expands.

But there are gaps in NORDREG's current reporting requirements, which the new regulations for 2010 will not address. Only large vessels will be required to report. Smaller ones (like the *Berserk II*) transiting without landing will not be required to do so. They will still be able to cross the Northwest Passage without requesting permission from or reporting to any Canadian authority, unless Canada changes the rules.

And what of enforcement? Arctic Offshore Patrol Vessels have been promised for the Navy, but the project has yet to be lifted off the drawing board. The earliest ships will appear only six years from now. Even then, these ships will only be ice-strengthened, not icebreakers. To work in heavy ice, they would need Coast Guard ships breaking a path for them. The patrol vessels will be unable to work a full Arctic season, and will lack adequate military combat capability.

For the next several years, and probably even after that, the Coast Guard should be the sharp end of our control of Arctic waters. They have the experience and the knowledge to add enforcement to their icebreaking, aids to navigation, hydrographic, and other duties that already require them to be in the Arctic. Clearly they would need to partner with the Royal Canadian Mounted Police, Customs and Border Services, and above all the Canadian Forces; these are all organizations that they have worked with successfully in the past. But the main platform for Canadian operations in the Arctic should be CCG ships armed as necessary.

Security in the Arctic comes not only from strength but from services. The Coast Guard's many roles include leadership against marine pollution. While the agency maintains caches of remediation equipment scattered throughout the Arctic, there are too few trained personnel to use it. Current measures are oriented to smaller spills; the Coast Guard's capacity to deal with major oil spills in the region is thus far untested.

Increased resource development, shipping, and tourism will also increase the risk of search and rescue (SAR) incidents. The Coast Guard leads marine SAR, and in this activity as in others, needs additional resources.

Although our Committee's report deals chiefly with the Coast Guard, I will take the liberty of mentioning the Department of National Defence (DND) from whom we had briefings in Yellowknife, Esquimalt and Ottawa. DND provides overall co-ordination of SAR, and plays a vital role in marine safety. Who responds to a sinking ship in the Arctic if there is no Coast Guard vessel or helicopter nearby? At present, helicopter support would have to come from private aircraft or from helicopters stationed in Trenton, Ontario, or Gander, Newfoundland and Labrador. The East Coast of Canada has dedicated helicopters and SAR technicians (SARTECHS). The West Coast has dedicated helicopters and SARTECHS. The Arctic Coast, Canada's third and longest coast, should have dedicated Canadian Forces helicopters and SARTECHS and an administrative centre. For surely, as traffic increases, there will be more incidents in the Arctic.

Search and rescue is a task the Inuit are well equipped by experience to handle. They know the sea, the ice and the land intimately. If the Rangers were provided with marine capabilities, as recommended in our previous report, and if they were given the proper gear and equipment and trained in its use, SAR could be enhanced immeasurably.

Our report views the Canadian Coast Guard as key to Arctic marine security. CCG ships that break ice, escort shipping, re-supply communities, provide aids to navigation, chart the channels, survey the continental shelf, carry fisheries and environmental researchers, and fight oil spills, are also the most visible and effective element of Canada's projection of sovereignty in the North. As challenges increase, Canada needs to provide the Coast Guard with adequate funding to do the job, whether in sovereignty or in services.

The evidence heard by the Committee suggests that the icebreaking fleet will be inadequate once shipping increases. Meanwhile, the vessels are rusting out. Only one replacement, the *John G. Diefenbaker*, has been promised; in reality, virtually all large CCG vessels will soon be past their best – before date. We need to start now.

Moreover, there should be dedicated administration offices in the Arctic. The CCG stations in Iqaluit and Inuvik report to Sarnia, Ontario. There are senior CCG administration offices on the west coast of Canada and on the East coast but none in the Arctic. Surely the administration of Arctic affairs for the Coast Guard should shift to the North.

Our Committee looked at US Coast Guard operations in Alaska, and were frequently reminded of the excellent co-operation between that agency and the Canadian Coast Guard. It is true that the two countries have different positions on the Alaska/Yukon maritime boundary and on the legal status of the Northwest Passage, which is Canada's internal waters. Yet the hallmark of our relationship, as in the economy, as in NORAD, as in NATO, as in various fishery-management commissions, is co-operation. The two countries know that working together on and off the continent we share is not an option but a necessity. And that understanding lies behind the Committee's recommendation that we pursue bilateral discussions on the Northwest Passage.

But for productive discussions, Canada will need to show that it has a presence, a robust presence, in the Arctic. We will need to show that we have taken action in a revitalized Coast Guard with adequate ships enforcing tight regulations, that we have taken action to provide adequate search and rescue, that we have taken action on hydrography and oil spill remediation and the whole array of marine services.

And we need to craft our Arctic policy with the Aboriginal peoples of the Arctic as full partners. Too often, good intentions from the rest of Canada have fallen short. As in Nunavut last year, our Committee heard this year in the western Arctic that programs and policies needed to get down to the level of the people – and for that, the people need to help shape the programs and policies in the first place. For the Coast Guard and for the government in general, we urge a renewed commitment to that goal – not just through official structures like the Cabinet committee recommended in this report, but through determination and attitudes of the heart.

The Committee's interest in the Coast Guard is not new. In June 2008, the Committee tabled *The Coast Guard in Canada's Arctic*, an interim report based on evidence gathered in Ottawa. The Committee also tabled *Rising to the Arctic Challenge* in May 2009, a report based on evidence gathered in Ottawa and in Nunavut in June 2008. The western Arctic perspective on northern issues still needed to be fully heard and considered, however.

Beginning in March 2009, in keeping with its order of reference, the Committee held public hearings in Ottawa to better understand the issues at hand. In September, the Committee held public hearings in Yellowknife and Inuvik and undertook fact-finding work in Winnipeg, Manitoba, Rankin Inlet and Cambridge Bay, Nunavut, in Hay River and Inuvik, Northwest Territories, in Juneau and Sitka, Alaska and in Victoria, British Columbia.

The Committee appreciates the great hospitality we were shown in Winnipeg, Nunavut, the Northwest Territories, Alaska, and in Victoria. Meeting with northerners provided the Committee with a unique opportunity to hear a variety of perspectives and concerns about the Arctic. The Committee would like to thank everyone who so generously made time available to participate in our study.

Bill Rompkey, P.C., Chair

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BACKDROP

A. Receding Ice, Increased Vessel Activity

The Arctic is on the cusp of unprecedented change.¹ The ice cover is becoming thinner and is covering progressively less of the circumpolar Arctic than before. Judging from what this Committee heard, it is no longer a matter of if, but when, the Arctic Ocean and the Canadian Arctic Archipelago will become open to regular shipping.

By the end of the melt season in 2005, the extent of the ice cover had been the lowest on record. In September 2007, new record-low levels of ice were observed, exceeding experts' worse-case predictions.² Significantly for Canada, the legendary Northwest Passage opened up, became fully navigable for the first time in recorded history.

In September 2008, the Northwest Passage once again became ice-free. The extent of circumpolar ice had decreased to the second-lowest minimum ever, and a more diffuse ice cover and a thinner ice pack suggested a record-low ice volume (ice area multiplied by thickness). Sea ice in the circumpolar region 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.³

This year, in September, the Northwest Passage opened up again,⁴ and although more ice cover remained than in the previous record-setting years of 2007 and 2008, the sea ice

¹ The terms "Arctic" and "northern" can be defined in various ways. In this report, "Arctic," "North" and "northern" are used interchangeably.

² See *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.

³ US National Snow and Ice Data Center (NSIDC), "2008 Year-in-Review," 7 January 2009, <http://nsidc.org/arcticseaicenews/2009/010709.html>.

⁴ Brigadier-General Dave Millar, Commander of the Joint Task Force (North), National Defence Canada, *Proceedings of the Standing Senate Committee on Fisheries and Oceans* (hereafter, *Committee Proceedings*), 21 September 2009.

did not recover to previous levels. The ice cover remained thin, making it vulnerable to melting in the coming summers.⁵

The Arctic Ocean is now expected to become ice-free in summer much earlier than previously estimated,⁶ perhaps even by 2015, according to scientific information presented by David Barber, one of Canada's leading Arctic experts, at the Arctic Change 2008 International Conference held in Quebec City in December 2008.⁷

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 – a cycle known as the ice-albedo feedback loop. Reaching the tipping point at which the sea ice begins to melt at an exponential rate will result in a new climatic equilibrium. This prospect has huge implications.

Hard, thick, multi-year ice – perennial ice that has survived at least one summer – presents a serious hazard to shipping, whereas softer, thinner, first-year ice can be broken by ice-strengthened vessels. Earth is losing its capital of sea ice in the Arctic, and as multi-year ice disappears completely, conditions will become similar to those in the St. Lawrence Seaway in winter.⁸

Navigation shortcuts are expected over Eurasia along the Siberian coast (the Northern Sea Route, once called the Northeast Passage) 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 savings in time and cost; the distance from Shanghai to New Jersey, for instance, would be 7,000 kilometres shorter than a similar voyage through the Panama Canal. If the circumpolar sea ice recedes sufficiently, a marine route could even be created directly over the North Pole.

The 90-kilometre-long Bering Strait, which connects the Bering Sea (part of the North Pacific Ocean) and the Chukchi Sea (part of the Arctic Ocean), could soon become a key bottleneck in international shipping. At a briefing in Juneau, Alaska, in September 2009, Rear

⁵ NSIDC, "Arctic sea ice extent remains low; 2009 sees third-lowest mark," 6 October 2009, http://nsidc.org/news/press/20091005_minimumpr.html.

⁶ See US NSIDC, "Arctic Sea Ice Shatters All Previous Record Lows," 1 October 2007, http://nsidc.org/news/press/2007_seaiceminimum/20071001_pressrelease.html.

⁷ Rhéal Séguin, "Scientists predict seasonal ice-free Arctic by 2015," *The Globe and Mail*, 12 December 2008, p. A7.

⁸ See Standing Senate Committee on Fisheries and Oceans, *Rising to the Arctic Challenge: Report on the Canadian Coast Guard*, April 2009 (hereafter, SCFO [2009]), p. 2.

Admiral Christopher C. Colvin, Commander of District 17 of the US Coast Guard, made a point of noting that thousands of ships already navigate the Pacific Great Circle Route, the shortest distance between northwestern North America and Asia. On average, 300 ships per month use the traditional route south of the Aleutian Islands, and a similar number now travel the northern route through Unimak Pass, a strait through the Islands.

Witnesses mentioned the Arctic Marine Shipping Assessment (AMSA),⁹ the first comprehensive review of its kind on circumpolar shipping. This four-year study, presented at the Arctic Council Ministerial meeting in April 2009, contains a number of recommendations on how to prepare for the next 20 years in three broad areas: enhancing Arctic marine safety, protecting Arctic people and the environment, and building Arctic marine infrastructure.¹⁰

Because ocean currents in the north polar region result in a heavier concentration of multi-year ice in Canadian waters than in Russian waters, the Northern Sea Route is expected to open sooner to international shipping than the Northwest Passage, which is not expected to become a major international trans-Arctic route in the short term.¹¹

Although unique geographic and climatic conditions make Canada's Arctic challenging for maritime navigation, last year a Danish cable-laying ship (*MV Peter Faber*) sailed from Asia through the Northwest Passage to a project in the North Atlantic. In September 2008, Desgagnés Transarctik Inc. of Montreal became the first company to ship cargo through the Northwest Passage to the communities of Cambridge Bay, Kugluktuk, Gjoa Haven and Taloyoak in western Nunavut. The eastern-based Nunavut Eastern Arctic Shipping Inc. added western Nunavut to its shipping service in 2009, and the western-based Northern Transportation Company Limited introduced a new barge service from Richmond, BC, to coastal communities in the western Arctic.

In 2007, a ship loaded with fertilizer from northwestern Russia arrived in Churchill, Manitoba; this was the first time that the port had received goods from Russia by

⁹ Arctic Council, *Arctic Marine Shipping Assessment 2009 Report*, 2009, http://pame.arcticportal.org/images/stories/PDF_Files/AMSA_2009_Report_2nd_print.pdf.

¹⁰ The AMSA was conducted by the Protection of the Arctic Marine Environment Working Group on behalf of the Arctic Council, an intergovernmental forum established in 1996. Member states of the council are Canada, Denmark/Greenland/Faroe Islands, Finland, Iceland, Norway, the Russian Federation, Sweden, and the United States. Six indigenous groups also sit as permanent participants. See Arctic Council, <http://arctic-council.org/article/about>.

¹¹ AMSA (2009), p. 112.

sea.¹² The development of a shipping link, referred to as “the Arctic Bridge,” between the Russian port of Murmansk (the northernmost ice-free port in the world) and Churchill (Canada’s only northern deep-sea port) could become an alternative to shipping through the St. Lawrence Seaway.

Arctic cruises have also become increasingly popular. Polar tourism is expected to grow in the coming years as awareness of the effects of climate change draws worldwide attention to the Arctic. Last year, there were more than one million cruise passengers in Alaska.¹³ This year, the German-registered, ice-strengthened *Hanseatic* and the sister ship *Bremen* both transited the Northwest Passage, and the number of private yachts and motorboats making the voyage, although small, is growing.

The further diminishment of ice and a longer navigable season are expected to benefit the energy and mining sectors, leading to economic development and more vessel traffic. Ice-capable ships are being constructed, and new technologies, such as double-bowed oil tankers, are making it possible to ship oil and gas by tanker.

In the western Arctic, previously ice-covered areas are also becoming more attractive to the fishing industry. There are currently no commercial marine fisheries in the Beaufort Sea, but the environment for commercial development is changing. In the eastern Arctic, off eastern Baffin Island, where large-scale offshore turbot and shrimp fisheries have been established, boats are able to operate in more northerly areas. Fishing now begins earlier in the year than previously and takes place over a longer period.¹⁴

The Arctic will become much busier. Inuit will be most directly affected by increased marine activity, and this will likely have far-reaching consequences for their culture, well-being and traditional way of life. The prospect of the Northwest Passage opening up for navigation by oil tankers and other commercial vessels is a major concern, given the dependence of Inuit on the Arctic’s exceptionally sensitive and fragile ecosystems.

Adverse effects of shipping activity include the potential discharge of pollutants into the marine environment and the potential disruption of wildlife migratory patterns. Beluga

¹² Grain is shipped to international markets from Churchill, which is connected to the Canadian National Railway system by way of the Hudson Bay Railway.

¹³ Government of Canada, “Canada’s Impact on Alaska: Shared Commerce, Investment, and Partnerships,” Consular brochure, July 2009, p. 4.

¹⁴ SCOFO (2009), p. 7.

whales, a traditional food harvested by Inuit living in the Inuvialuit Settlement Region,¹⁵ for instance, traverse during their seasonal migration several areas where vessel traffic may be present. The movements of species such as caribou might be disrupted by ice-strengthened or icebreaking ships. Regular traffic by such vessels might break sea ice that hunters cross to reach game.

B. Geopolitical Developments

With its vast and largely untapped natural resources, the Arctic is growing in strategic and economic importance. Climate change and the retreat of the sea ice are making the circumpolar region more accessible to commercial shipping and resource exploration and development.

Enormous hydrocarbon resources are suspected to exist below the Arctic Ocean's surface. In July 2008, the US Geological Survey estimated that the area north of the Arctic Circle accounts for about 13% of the world's undiscovered oil, 30% of its undiscovered natural gas, and 20% of undiscovered natural gas liquids. Approximately 84% of these estimated resources are thought to lie in offshore areas, and natural gas is expected to be three times more abundant than oil.¹⁶

Much is at stake for Canada in terms of future economic opportunities.

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 by the United Nations Convention on the Law of the Sea (the LOS Convention). Their 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. Under the LOS Convention, a coastal state can claim control over seabed activities, such as oil and gas and mineral development, if it can prove that the ocean floor is a geological extension of its continental shelf.

At a special meeting held in Ilulissat, Greenland, in May 2008, the five Arctic coastal countries reaffirmed their commitment to cooperation and existing international legal

¹⁵ Signed in June 1984, the Inuvialuit Final Agreement established the Inuvialuit Settlement Region covering approximately 435,000 square kilometres in the Mackenzie Delta, Beaufort Sea and Amundsen Gulf area of the Northwest Territories.

¹⁶ US Geological Survey, "90 Billion Barrels of Oil and 1,670 Trillion Cubic Feet of Natural Gas Assessed in the Arctic," News release, 23 July 2008, <http://www.usgs.gov/newsroom/article.asp?ID=1980>.

frameworks, such as the LOS Convention, and to “the orderly settlement of any possible overlapping claims.” They saw no need to develop a new comprehensive international legal regime to govern the Arctic Ocean.¹⁷ Indigenous peoples and some members of the Arctic Council (Iceland, Finland and Sweden) were not invited to the conference.

In April 2009, the Inuit Circumpolar Council (ICC)¹⁸ adopted a document entitled *A Circumpolar Inuit Declaration on Sovereignty in the Arctic*, which states, among other things, that “the rights, roles and responsibilities of Inuit must be fully recognized and accommodated” in discussions on matters linked to Arctic sovereignty, including climate change and resource development.¹⁹

The United States, which has neither signed nor ratified the LOS Convention, is nonetheless conducting scientific work in the Arctic to collect evidence for a possible future claim.²⁰ According to Dr. Betsy Baker, associate professor at Vermont Law School, whom the Committee invited to provide a non-governmental American perspective on Arctic marine issues, support for the LOS treaty is widespread across oil and other oceans-related industry groups, environmental organizations, and all branches of the armed services. In her testimony, Dr. Baker noted that the US Department of State had listed the LOS Convention as a priority for passage in Congress.²¹

Along the coast of Siberia, where sea ice is melting faster and ice conditions are more favourable, Russia has been developing the offshore sector and investing in Arctic ports to develop its very considerable hydrocarbon resources.

Driven by oil and gas markets, South Korean shipyards are constructing new ice-strengthened and “double-bowed” oil tankers that can operate efficiently both in open water and in ice cover up to one metre thick. When travelling through open water, the vessels proceed forward as they normally would; when in ice, they operate stern-first (the propellers can be

¹⁷The May 2008 Ilulissat Declaration can be accessed at: http://www.oceanlaw.org/downloads/arctic/Ilulissat_Declaration.pdf.

¹⁸ The ICC is an international non-governmental organization representing approximately 150,000 Inuit living in Alaska, Canada, Greenland and Russia. The ICC is a Permanent Participant in the Arctic Council, an intergovernmental forum established in 1996.

¹⁹ ICC, *A Circumpolar Inuit Declaration on Sovereignty in the Arctic*, <http://inuitcircumpolar.com/files/uploads/icc-files/PR-2009-04-28-Signed-Inuit-Sovereignty-Declaration-11x17.pdf>.

²⁰ Since the 1990s, a minority of US Senators have opposed ratification.

²¹ *Committee Proceedings*, 16 June 2009. Dr. Baker is a member of the science crew aboard the US Coast Guard Cutter *Healy*, which is employed in mapping the US extended continental shelf.

turned around) and act as icebreakers. The Russians are purchasing these state-of-the-art dual-purpose vessels, which will eliminate the need for pipeline systems.²²

Russia has the capacity and the infrastructure – including nuclear-powered icebreakers – to control future navigation and has fully prepared itself for international navigation of the Northern Sea Route as a means to collect foreign currency.²³ In September 2009, two German-owned freighters (*MV Beluga Fraternity* and *MV Beluga Foresight*) became the first non-Russian commercial ships to successfully transit the Route when they travelled from Vladivostok to Rotterdam.²⁴

Encouraged by revenues from oil and gas exports, Russia has also become more assertive in the Arctic, embarking on an icebreaker program, rebuilding its submarine fleet, announcing that a special forces unit for the Arctic would be created, and sending long-range bombers to the airspace boundaries of several Arctic countries, including Canada. According to Dr. Rob Huebert, a renowned authority on Arctic matters, all Arctic states have in fact moved to improve their northern presence and military capabilities.²⁵

Non-Arctic countries have shown unprecedented interest in the region. China, for instance, despite its lack of Arctic waters, operates the icebreaker *Xue Long* (or *Snow Dragon*), an icebreaker employed primarily to support China's research station in the Antarctic, but which is also used in the Arctic. Non-Arctic countries have applied to join the Arctic Council as Observers; these include South Korea, China and the European Union (EU).²⁶

In November 2008, the European Commission adopted a *Communication on The European Union and the Arctic Region*, which sets out “EU interests and policy objectives” in the region and “proposes a systematic and coordinated response to rapidly emerging

²² SCOFO (2009), p. 12.

²³ Gary Sidock, Director General, Fleet Directorate, CCG, *Committee Proceedings*, 5 November 2009.

²⁴ Beluga Group, “Successfully mastered Northeast-Passage is followed by planning start for 2010,” News article, 18 September 2009, http://www.beluga-group.com/en/news/v/article/successfully-mastered-northeast-passage-is-followed-by-planning-start-for-2010/?tx_ttnews%5BbackPid%5D=13&cHash=cf5868ad54.

²⁵ Rob Huebert, Briefing to the Committee, Yellowknife, 20 September 2009. See also Rob Huebert, “Canadian Arctic Sovereignty and Security in a Transforming Circumpolar World,” Canadian International Council, <http://www.canadianinternationalcouncil.org/research/foreignpol/canadianar>.

²⁶ There are eight countries with land above the Arctic Circle: Canada, the United States, Denmark (through Greenland), Norway, Russia, Iceland, Finland, and Sweden. Observer status in the Arctic Council is open to non-Arctic states, global and regional intergovernmental and interparliamentary organizations, and non-governmental organizations. Six non-Arctic countries currently have observer status: France, Germany, Poland, Spain, the Netherlands, and the United Kingdom.

challenges.”²⁷ Noting that “there are different interpretations of the conditions for passage of ships in some Arctic waters, especially in the Northwest Passage,” the European Commission recommended that EU “Member States and the Community should defend the principle of freedom of navigation and the right of innocent passage in the newly opened routes and areas.”²⁸

Significantly for Canada, the United States articulated its own objectives in the Arctic in a National Security Presidential Directive signed on 9 January 2009 – the first such document since 1994. The six policy objectives listed in the directive are to:

1. Meet national security and homeland security needs relevant to the Arctic region;
2. Protect the Arctic environment and conserve its biological resources;
3. Ensure that natural resource management and economic development in the region are environmentally sustainable;
4. Strengthen institutions for cooperation among the eight Arctic nations (the United States, Canada, Denmark, Finland, Iceland, Norway, the Russian Federation, and Sweden);
5. Involve the Arctic’s indigenous communities in decisions that affect them; and
6. Enhance scientific monitoring and research into local, regional, and global environmental issues.²⁹

The 10-page directive states that the United States “has broad and fundamental national security interests in the Arctic region and is prepared to operate either independently or in conjunction with other states to safeguard these interests.” These interests include “such matters as missile defense and early warning; deployment of sea and air systems for strategic sealift, strategic deterrence, maritime presence, and maritime security operations; and ensuring freedom of navigation and overflight.” “A more active and influential national presence” will therefore be asserted “to protect [US] Arctic interests and to project sea power throughout the region.” The policy framework focuses on Alaska as the core of US interests in the region, highlights the boundary dispute between the United States and Canada in the Beaufort Sea, identifies “freedom of the seas [as] a top national priority,” and explicitly states that the

²⁷ European Commission, “The Arctic merits the European Union’s attention – first step towards an EU Arctic Policy,” News release, 20 November 2008, http://ec.europa.eu/maritimeaffairs/press/press_rel201108_en.html.

²⁸ European Commission, “Communication on ‘The European Union and the Arctic Region,’” November 2008, http://ec.europa.eu/maritimeaffairs/press/press_rel201108_en.html.

²⁹ President George W. Bush, The White House, “National Security Presidential Directive (NSPD – 66) and Homeland Security Presidential Directive (HSPD – 25),” <http://georgewbush-whitehouse.archives.gov/news/releases/2009/01/20090112-3.html>.

Northwest Passage “is a strait used for international navigation” where a “regime of transit passage applies.”

As for Canada, the goal of Arctic foreign policy is to create an international environment conducive to the successful implementation of the Northern Strategy by engaging international partners and advancing Canadian priorities bilaterally, multilaterally and through the Arctic Council.³⁰

C. Canada’s Northern Strategy

The federal government’s vision for “a new North,” announced by the Prime Minister in August 2007 as “Canada’s Northern Strategy,” was reaffirmed on 26 July 2009 with the publication of the policy paper entitled *Canada’s Northern Strategy: Our North, Our Heritage, Our Future*.³¹

Led by Indian and Northern Affairs Canada, the Northern Strategy focuses on four priorities: exercising Canada’s sovereignty in the Arctic, promoting economic and social development, improving and devolving northern governance, and protecting Canada’s environmental heritage. A number of commitments have been made in support of the strategy (see Appendix 1).

Funding announced in the February 2008 Budget included a commitment of \$720 million for a new Canadian Coast Guard (CCG) icebreaker with greater icebreaking capabilities than *CCGS Louis S. St-Laurent*, which is scheduled to be decommissioned in 2017. The Prime Minister also announced, in August 2008, as part of the Northern Strategy, that the Government of Canada would be extending the reach of its environmental laws and shipping regulations in the Canadian Arctic.

National Defence contributes to the Northern Strategy by meeting the expectations of the *Canada First* Defence Strategy (CFDS), which has the Arctic as its central focus. Unveiled in May 2008, the CFDS consolidated a number of previously announced

³⁰ See DFAIT, “Canada’s Arctic Foreign Policy,” http://www.international.gc.ca/ministers-ministres/Cannon-Arctic_Foreign_Policy-Politique-etrangere-arctique.aspx?lang=eng.

³¹ Government of Canada, *Canada’s Northern Strategy: Our North, Our Heritage, Our Future*, October 2009, <http://www.northernstrategy.ca/cns/cns-eng.asp>.

defence-related initiatives, and states that the Canadian Forces (CF) will play an increasingly important role in the Arctic in the coming years.³²

The responsibilities of the CF in Canada's North include conducting sovereignty and aerial surveillance patrols of Canada's northern territory and its approaches, providing transportation in support of other government departments, and assisting with ground search and rescue operations.

A number of investments and commitments have been made to increase the presence of the Canadian Forces in the North, including: building six to eight armed "Polar Class 5 Arctic/Offshore Patrol Ships"; the establishment of a multi-purpose Arctic training centre in Resolute Bay, Nunavut; the creation of a berthing and refuelling facility at the existing deepwater port of Nanisivik, in Nunavut, to serve as a staging area for naval vessels in the High Arctic and for use by CCG vessels as well; the establishment of a permanent army reserve unit based in Yellowknife; plans to enhance the ability of the CF to conduct surveillance through the modernization and replacement of the Aurora patrol aircraft; the Polar Epsilon Project, which will provide space-based surveillance using information from Canada's RADARSAT-2 satellite to produce imagery for military commanders during the conduct of operations; the use of unmanned aerial vehicle technology; and expanding the size and capabilities of the Canadian Rangers and of the Junior Canadian Rangers Program.

Inuit and First Nations have a critical role to play in reinforcing Canada's sovereignty in the Arctic and demonstrating Canada's presence and exercise of jurisdiction in the region. Last year, the testimony of witnesses in Nunavut underlined the need for territorial, community and Inuit involvement in developing the Northern Strategy.³³ This year, in the western Arctic, the evidence heard by the Committee similarly indicates a need to better integrate the views of northerners and Aboriginal people in priority-setting, policy-making, and decision-making.

In our report entitled *Rising to the Arctic Challenge: Report on the Canadian Coast Guard*, dated April 2009 (tabled in the Senate on 4 May 2009), the Committee proposed that an Arctic Strategy Advisory Committee be created, composed of representatives from the federal government departments and agencies with a mandate in the Arctic, with particular

³² Department of National Defence, "Canada First Defence Strategy," <http://www.forces.gc.ca/site/focus/first-premier/index-eng.asp>.

³³ SCOFO (2009), p. 31-2.

emphasis on the Coast Guard, and the various Aboriginal/Inuit groups in the region and the three territorial governments, to monitor and to advise in the development and implementation of an effective and integrated strategy for the North (recommendation 8).

The Government of Canada's response to the proposal, as well as to the Committee's other recommendations, is appended to this report (see Appendix 2).

D. Integrated Approaches

Participants at our meetings in the western Arctic and in Ottawa frequently mentioned the need for a "whole-of-government" approach to the exercise of jurisdiction in the Arctic.

Several federal departments and agencies share responsibility for managing and protecting the remote Arctic coastline. Transport Canada, for instance, administers the Marine Transportation Security Regulations, while the Canadian Coast Guard is the lead federal agency when a marine pollution incident occurs north of 60 degrees north latitude (hereafter "north of 60"). National Defence is responsible for Canada's National search and rescue (SAR) program, while the Coast Guard is responsible for its marine component.

The Committee heard time and time again that success in the North depends on maintaining close relationships between departments, avoiding duplication, making the best use of all available national assets in Canada's vast northern region, and building on existing strengths. Each department was said to bring specific and complementary mandates, supported by particular capabilities.³⁴ Because of the vast area that is Canada's northern region, cooperation and collaboration was said to be especially important when responding to emergencies, such as in SAR activities.

In September 2009, the Committee visited the Victoria Joint Rescue Coordination Centre (JRCC) located in HMC Dockyard at CFB Esquimalt (BC) – one of three JRCCs in Canada (the others being in Halifax and Trenton), which provides SAR coverage for most of Canada's North. Staffed jointly by Air Force and Coast Guard personnel 24 hours a day, the JRCCs are responsible for coordinating SAR responses to air incidents throughout Canada, and

³⁴ Brig.-Gen. S. Kummel, Director General – Plans, Strategic Joint Staff, National Defence, *Committee Proceedings*, 5 November 2009.

marine incidents in tidal waters and the Great Lakes. The centres also respond to other disasters or humanitarian crises if they are requested to do so.³⁵

The Committee was also made aware that inter-agency/departmental coordination is achieved through committee structures in the federal bureaucracy. An ad hoc committee of deputy ministers of key federal departments in the Arctic oversees the Northern Strategy's implementation and monitors progress. Supporting the ad hoc committee is a coordinating committee of assistant deputy ministers, through which more detailed work is performed, and an ADM committee focused on science. Working groups are also established, as required, on specific issues.³⁶

On security-related matters, the Arctic Security Working Group (ASWG), the main forum for security issues, was said to promote cooperation and interaction among levels of government and government departments, including the Canadian Coast Guard, Transport Canada, National Defence, Public Safety, Citizenship and Immigration, the Canada Revenue Agency, the RCMP, and Indian and Northern Affairs Canada. The Committee learned that, as part of the ASWG, National Defence is developing a threat assessment to identify gaps and vulnerabilities, and that the entire marine security community is involved in the discussions.³⁷

Each year, under the command of Joint Task Force (North) (JTFN),³⁸ three major joint exercises are conducted by the Canadian Forces to enhance inter-agency coordination and communication in the Arctic: Operation NUNALIVUT in the High Arctic (enhanced Ranger sovereignty patrols); Operation NUNAKPUT in the western Arctic (JTFN operations in cooperation with the Coast Guard and the RCMP); and Operation NANOOK in the eastern

³⁵ The Victoria SAR Region includes British Columbia, Yukon, and a portion of the northeastern Pacific Ocean. The primary SAR air resource is 442 Transport and Rescue Squadron located at 19 Wing Comox on Vancouver Island. The squadron is equipped with five Cormorant CH-149 helicopters and six DeHavilland CC-115 Buffalo fixed-wing aircraft. Tens of thousands of radio and telephone calls produce on average 4,000 SAR cases annually. Most are marine related.

³⁶ Patrick Borbey, Assistant Deputy Minister, Indian and Northern Affairs Canada, *Committee Proceedings*, 26 March 2009.

³⁷ Joe Oliver, Chief Superintendent, Director General, Border Integrity, RCMP, *Committee Proceedings*, 5 November 2009.

³⁸ Headquartered in Yellowknife (Northwest Territories), Joint Task Force (North), a part of Canada Command, coordinates and supports CF activities in the North. JTFN maintains detachments in Whitehorse (Yukon) and Iqaluit (Nunavut). The area of responsibility encompasses approximately 40% of Canada's landmass (four million square kilometres). Among the assets the CF maintains in the North are four CC-138 Twin Otter aircraft (440 [Transport] Squadron), the North Warning System (a series of radar stations along the northern edge of North America), four forward-operating locations capable of supporting aircraft operations, and Canadian Forces Station Alert (a signals intelligence-gathering station located on the northeast tip of Ellesmere Island), the world's northernmost permanently inhabited settlement.

Arctic (joint inter-agency sovereignty operations focused on interoperability, command and control and cooperation).

The three exercises differ but share the same overall purpose: the advancement of Canadian Forces capabilities in the Arctic, inter-agency coordination and improved coordination in responding to crises and emergencies. The Committee was informed that Operation NANOOK would be expanding its scope in 2010 by involving the American and Danish military forces in the area of Resolute Bay.³⁹

³⁹ Brig.-Gen. Dave Millar, *Committee Proceedings*, 21 September 2009.

SOVEREIGNTY-RELATED MATTERS

The term “sovereignty” is often used in connection with the Arctic. Last year, Dr. Donat Pharand, an eminent authority on international and maritime law, made a point of mentioning in his presentation to the Committee the immense confusion surrounding this term. As generally defined in international law, sovereignty is “the totality of the various forms of exclusive jurisdiction which a state may exercise within its boundaries.”⁴⁰

With respect to the continental shelf beyond the 200-nautical-mile Exclusive Economic Zone (EEZ), coastal states do not have “sovereignty” in the full sense of the word. Article 77 of the 1982 UN Convention on the Law of the Sea (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). The extent to which Arctic coastal countries will lay national claims to the seabed is a matter to be determined in accordance with specific rules laid down in the LOS Convention.⁴¹ However, as the Committee reported in May 2009, disputes concerning overlapping claims could arise.⁴²

Closer to shore (within the EEZ), Canada has longstanding maritime border delimitation problems with its circumpolar neighbours, including a disagreement with the United States over the maritime border between Yukon and Alaska.⁴³

With the exception of the Hans Island dispute between Canada and Denmark in the eastern Arctic, however, there is broad international recognition that all of the islands in the Arctic Archipelago are exclusively under Canadian jurisdiction. But the same cannot be said with respect to their surrounding waters. There, a potentially serious challenge to Canadian sovereignty concerns the right to control shipping in the Northwest Passage – the water routes that connect the Davis Strait in the east to the Beaufort Sea in the west.

⁴⁰ Donat Pharand, quoted in SCOFO (2009), p. 15.

⁴¹ Because of the 10-year deadline for submissions and the large number of ratifications in the mid to late 1990s, the Committee learned that the UN Commission on the Limits of the Continental Shelf, a body of 21 experts from state parties to the LOS Convention, is currently faced with a massive backlog of submissions. Rob Huebert, Briefing to the Committee, Yellowknife, 20 September 2009.

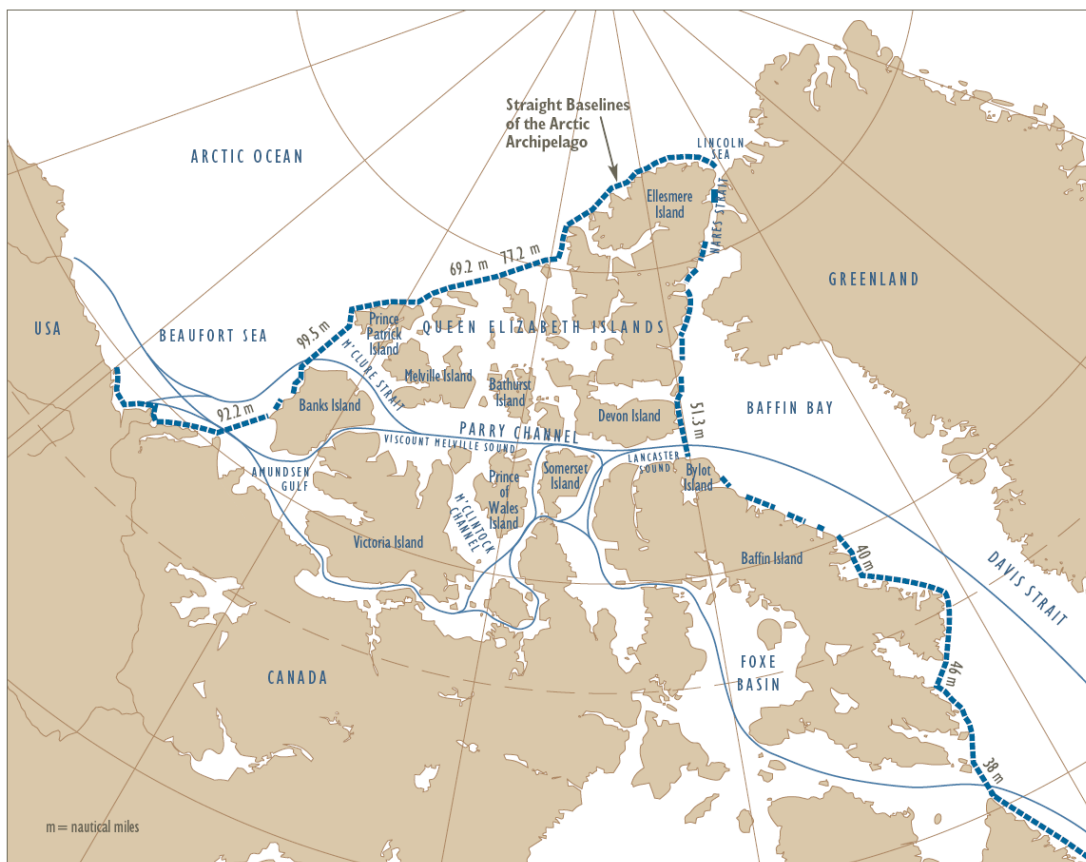
⁴² SCOFO (2009), p. 17–20.

⁴³ *Ibid.*, p. 16–17. Since the Committee reported in May 2009, the US Secretary of Commerce approved in August 2009 an Arctic Fishery Management Plan (AFMP). Based on the US understanding of the Yukon–Alaska maritime border, the AFMP prohibits commercial fishing in waters north of Alaska (where no commercial fishing is currently taking place) until scientists are able to gather sufficient information about stocks and the Arctic marine environment.

A. The Northwest Passage

The Northwest Passage – the long-sought shortcut linking the Atlantic and Pacific oceans – consists of several possible water routes that run through Canada’s Arctic islands (the world’s largest archipelago) (Map 1).⁴⁴ Canada’s position is that all waters within the Canadian Arctic Archipelago, including the Passage, are part of its historic internal waters, over which it enjoys full sovereignty.⁴⁵ This includes the right to unilaterally pass laws and regulations, as it would with regard to land territory, to protect Canadian interests – including those of its northern residents, particularly the Inuit.

Map 1 – Main Routes for the Northwest Passage



Source: Donat Pharand, “Canada’s Arctic Sovereignty and the Northwest Passage,” *Meridian*, Canadian Polar Commission, Spring/Summer 2009, <http://www.polarcom.gc.ca/media.php?mid=3508>.

⁴⁴ The northern route through the Parry Channel offers a potentially shorter path through deeper waters, but the ice cover is usually thicker and lasts longer into summer. Southern routes have less ice in summer, but are longer and their waters are shallower, presenting challenges for shipping.

⁴⁵ In international law, sovereignty applies to land and certain waters or sea areas known as “internal waters.” Dr. Donat Pharand, quoted in SCOFO (2009), p. 15.

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, such as those set by the International Maritime Organization, which flag states are responsible for enforcing.

Not all countries agree with Canada's position that the Northwest Passage is part of our internal waters and thus require Canada's consent for foreign use.

In November 2009, the European Commission issued a *Communication on The European Union and the Arctic Region* urging "Member States and the Community [to] defend the principle of freedom of navigation and the right of innocent passage in the newly opened routes and areas."⁴⁶

The United States considers the waterway 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 that the Northwest Passage is a national – not international – sea route threatens to create an unwanted legal precedent elsewhere in the world (e.g., the Strait of Malacca, Hormuz, Gibraltar, and other strategic straits).

Regarding the US position, Dr. Pharand, a Canadian legal authority on Canada's Arctic waters and a specialist on the Northwest Passage, indicated to 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, he said that two criteria had 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.⁴⁷

If the Northwest Passage were an international strait (as the United States claims it to be), there would be very few restrictions on navigation. The US position means that foreign

⁴⁶ European Commission, "Communication on 'The European Union and the Arctic Region,'" November 2008, p. 8.

⁴⁷ SCOFO (2009), p. 26.

ships, including warships, would have virtually the same right of passage as they have on the high seas. 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 Northwest Passage. The waterway could potentially be used for criminal activities, such as drug smuggling, illegal immigration or even the transportation or importation of weapons of mass destruction. Ironically, US security interests would be better protected if the United States recognized Canada's sovereignty and control.

In 1969, following the discovery of a very large oil field in northern Alaska the previous year, the American supertanker *Manhattan* sailed into the Northwest Passage without seeking Canada's permission.⁴⁸ In response, the Canadian government granted permission (even though it was not sought), provided icebreaker assistance and was able to arrange to have a Canadian government representative on board. Canada also passed, in 1970, the *Arctic Waters Pollution Prevention Act (AWPPA)*, which applied to shipping up to a distance of 100 nautical miles from the nearest Canadian land north of 60.

The *AWPPA*, which the United States denounced, was later given international validation in 1982 when Article 234, known as the "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."

In response to the crossing of the US icebreaker *Polar Sea* through the Northwest Passage without Canada's permission in 1985,⁴⁹ Canada established, under customary law, "straight baselines"⁵⁰ around the outer perimeter of the Canadian Arctic Archipelago, which took

⁴⁸ 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 was deemed impractical and too expensive at the time, and industry opted for an Alaskan pipeline to the port of Valdez instead.

⁴⁹ The US Coast Guard icebreaker *Polar Sea* transited the Northwest Passage on its return voyage to homeport in Seattle from a resupply mission to the US military base in Thule, Greenland. Prior to the voyage, an interim agreement had been reached to allow *Polar Sea* to take this most expeditious route, which the Canadian government cancelled to counter criticism that the US was flaunting Canadian sovereignty. Rob Huebert, Briefing to the Committee, Yellowknife, 20 September 2009.

⁵⁰ 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. SCOF0 (2009), p. 22.

effect on 1 January 1986.⁵¹ At the time, the United States and the European Union sent notes of protest objecting to Canada's historical claim over these waters and to the validity of the baselines.

Significantly for Canada, despite the disagreement between Canada and the United States over the legal status of the Northwest Passage, the two countries signed, in 1988, the Agreement on Arctic Cooperation (see Appendix 3). The United States undertook to request Canada's consent for "all navigation by US icebreakers within waters claimed by Canada to be internal." The evidence heard by the Committee suggests that the agreement, which states that either country's legal position vis-à-vis Arctic waters is unaffected, has worked well for both countries.

Earlier this year, however, on 9 January 2009, the Bush Administration released Presidential Directive 66.76, which expresses in very direct terms the US position on the legal status of the Northwest Passage:

Freedom of the seas is a top national priority. The Northwest Passage is a strait used for international navigation, and the Northern Sea Route includes straits used for international navigation; the regime of transit passage applies to passage through those straits. Preserving the rights and duties relating to navigation and overflight in the Arctic region supports our ability to exercise these rights throughout the world, including through strategic straits.⁵²

No country has yet taken Canada to court over the matter. But, in theory, as the Committee reported in May 2009, in defending its sovereignty claim against other nations in regard to shipping in the Northwest Passage, Canada could invoke the long, unbroken history of Inuit usage of the lands and waters.⁵³ Indeed, ice platforms continue to be used by Inuit for travel, fishing, and hunting.⁵⁴

B. Vessel Reporting Requirements

Climate change and receding ice is expected to make the Arctic's resources much more accessible to industry, leading to more shipping. More vessel activity will increase the risk

⁵¹ Canada also announced in September 1985 that *Polar 8*, an all-season polar icebreaker, would be built. The project was cancelled four years later, however, in the name of deficit control.

⁵² President George W. Bush, The White House, National Security Presidential Directive (NSPD – 66) and Homeland Security Presidential Directive (HSPD – 25).

⁵³ See SCOFO (2009), p. 37–42.

⁵⁴ Duane Smith, Vice Chair, Inuvialuit Regional Corporation, *Committee Proceedings*, 23 September 2009.

of environmental incidents. As northern waters increasingly open up, incidents such as that involving the *Berserk II* (outlined in this report's Preface) could become more common.

Vessel reporting is important to ensure compliance with Canadian laws, to detect and respond to incidents, and to demonstrate sovereignty. But there are gaps in current vessel reporting requirements.

Under Canada's Marine Transportation Security Regulations, non-SOLAS vessels over 100 gross registered tons or carrying more than 12 passengers, and SOLAS vessels over 500 gross registered tons, are required to submit a pre-arrival information report 96 hours before entering Canadian waters, including Arctic waters.⁵⁵ The *Marine Transportation Security Act* specifically exempts vessels such as pleasure craft, fishing vessels, and government vessels from reporting (see Appendix 4). There is no requirement under the Act and its regulations for transiting vessels of any kind to report.

While in Canadian Arctic waters (within 200 miles of the nearest Canadian land, in waters where the *Arctic Waters Pollution Prevention Act [AWPPA]* applies), large vessels, Canadian and otherwise, report their status and position information on a voluntary basis to Canada's northern vessel traffic system, NORDREG (the Arctic Canada Traffic System). Reporting to NORDREG is voluntary, unlike in the traffic zones on the Pacific coast (VTS OFFSHORE) and the Atlantic coast (ECAREG), where reporting is mandatory.

Managed by the Coast Guard's Marine Communications and Traffic Services,⁵⁶ the objectives of NORDREG are the enhancement of safety and movement of traffic, the strengthening of Canadian sovereignty in Arctic waters, and the prevention of pollution of Arctic waters by establishing a method of screening vessels entering Arctic waters with respect to their fitness.⁵⁷

In the Arctic, mariners regularly notify NORDREG of their presence and positions in order to receive the benefit of services from the Coast Guard (e.g., ice information, ice routing, icebreaker assistance, and search and rescue). Foreign government vessels over 300 gross tons, including warships, are not automatically exempt from the requirement to comply

⁵⁵ Government of Canada, Response to SCOFO (2009), recommendation 2. SOLAS vessels are governed by the Safety of Life at Sea (SOLAS) convention. Ships subject to the SOLAS are cargo ships 300 gross tons or greater and all passenger vessels on international voyages. In Alaska, the Committee learned that the United States has a similar a 96-hour notice-of-arrival requirement for ships arriving at a US port.

⁵⁶ See CCG, "Vessel Traffic Reporting Arctic Canada Traffic Zone (NORDREG)," http://www.ccg-gcc.gc.ca/eng/MCTS/Vtr_Arctic_Canada.

⁵⁷ See SCOFO, p. 56.

with certain Canadian standards, such as vessel construction. Under *AWPPA*, an order in council may exempt such vessels from the application of any regulation.⁵⁸

In August 2008, the Prime Minister announced that new regulations would be established under the *Canada Shipping Act, 2001*, requiring mandatory ship reporting for vessels destined for Canada's Arctic waters (which the Committee recommended in its June 2008 interim report). Participants in our study were very much in favour of making reporting under *NORDREG* mandatory to demonstrate Canadian sovereignty and to ensure safe navigation. The Committee was advised that mandatory reporting requirements are expected for the 2010 shipping season.⁵⁹

NORDREG currently applies to (1) vessels of 300 gross tons or more; (2) vessels engaged in towing or pushing a vessel if the combined gross tonnage of the vessel and the vessel being towed or pushed is 500 gross tons or more; and (3) vessels carrying as cargo a pollutant or dangerous goods, or engaged in towing or pushing a vessel carrying as cargo a pollutant or dangerous goods.

As such, *NORDREG* is directed only at larger ships that pose the greatest risk to the marine environment. Although smaller vessels (i.e., under 300 gross tons) were considered for inclusion in the new regulations, there are no plans to expand *NORDREG*'s application to include them.⁶⁰ For vessels under 300 tons, the only reporting requirement occurs if they touch land or if crew come ashore, at which point they would fall under the purview of the Canada Border Services Agency (CBSA).⁶¹ Under the *Canada Shipping Act, 2001*, vessels belonging to a foreign military force are exempt from reporting. For persons on vessels passing through Canadian waters and who are not seeking to enter Canada, there is no requirement under the *Customs Act* to report to the CBSA.

In sum, at present, there is no regulation of any kind requiring a vessel transiting the Northwest Passage to notify anyone in Canada at any time, provided that the vessel in question does not land. Starting in spring 2010, once the anticipated new regulations are in place, only large ships over 300 gross tons, including foreign government vessels, will be required to

⁵⁸ In this case, foreign governments are directed by Transport Canada to contact DFAIT. Norman A. Villegas, Parliamentary Affairs Officer, Parliamentary Affairs Division, Corporate Secretariat, DFAIT, Answers to Questions, email to the chair, 9 November 2009.

⁵⁹ This can be done entirely through the regulatory process without having to amend the *Canada Shipping Act, 2001*.

⁶⁰ Government of Canada, Response to SCFO (2009), recommendation 11.

⁶¹ Philip Whitehorne, Chief of Operations, Inland Enforcement Section, Intelligence and Enforcement Division, Northern Ontario Region, Canada Border Services Agency, *Committee Proceedings*, 5 November 2009.

report to NORDREG. Other vessels, like *Berserk II*, will not be required to do so. Moreover, Canada will still be unable to do anything about them unless they land.⁶² Vessels belonging to a foreign military force would not be required to report.

C. Monitoring and Control

The effects of the warming Arctic climate and receding polar ice are expected to open up Arctic waters and the Northwest Passage to regular maritime traffic. No one knows exactly when this will happen, but the Government of Canada has been preparing and planning for the eventuality.

Increased marine activity underscores the need for Canada to conduct monitoring and surveillance of activities, and to locate and track vessels in its vast Arctic territory, particularly the waters of the Northwest Passage. Participants at our meetings emphasized that “maritime domain awareness” – situational awareness – is not an easy task in the Arctic; there is little infrastructure, and the coastline exceeds 162,000 kilometres, or twice as much coast as the Atlantic and Pacific coasts combined.⁶³

One consequence of increasingly ice-free Arctic waters will be a potentially greater risk of environmental incidents and criminal activity, such as illegal entry of people and goods. The Committee heard evidence that the route from Greenland to Canada’s North, in particular, may become a viable option for individuals who are not admissible to enter Canada (such as the crew of *Berserk II* mentioned in the Preface) and who may be engaged in (other) illicit activities.⁶⁴

At present, a number of vessels venture into Canada’s Arctic waters in summer, but only a few so far – pleasure craft among them – have completed transits of the Northwest Passage. In future, vessels of other nations may want to use the Passage to save time and reduce fuel costs, without asking for Canada’s permission.⁶⁵

⁶² Donald Roussel, Director General, Marine Safety, Transport Canada, *Committee Proceedings*, 5 November 2009.

⁶³ DFO, “National Centre for Arctic Aquatic Research Excellence N-CAARE,” <http://www.dfo-mpo.gc.ca/science/coe/ncaare-cneraa/index-eng.htm>.

⁶⁴ Philip Whitehorne, *Committee Proceedings*, 5 November 2009.

⁶⁵ By the end of the 2009 navigation season, there were 133 (known) transits of the Northwest Passage. In total, there were 59 transits from 2000 to 2009, compared with 36 from 1990 to 2000. Eight foreign pleasure craft made the crossing in 2009. *Berserk II*, which completed its voyage east to west (with a different crew on board) in 2007, became the 110th known vessel to successfully make the transit since Roald Amundsen in 1903–1906. Information provided by Rob Huebert, email to the Committee Clerk, 16 October 2009.

In Dr. Donat Pharand's view, if foreign navigation takes place in the Northwest Passage without Canada having taken adequate control measures, the Passage could at some point become "internationalized" and subject to the right of transit passage. The waterway, Dr. Pharand advised, 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.⁶⁶

With the world's largest merchant fleet, the European Union is interested in the potential use of the Arctic as a shipping route. The US position vis-à-vis the Passage is similarly based on its potential rather than actual use.

What follows are the main elements supporting and informing what is referred to as the "recognized Maritime picture of the Arctic."

1. The RCMP

The Royal Canadian Mounted Police is responsible for deterring activities that threaten border integrity and for policing inland waterways. In the western Arctic, annual patrols are conducted along the Mackenzie River using a vessel based on Great Slave Lake. Marine patrol capabilities were recently augmented with the acquisition of a quick-response vessel for the areas of the Mackenzie Delta, on the coastal waters of the Beaufort Sea, and in the area of Herschel Island, the choke point for vessels transiting the Northwest Passage.⁶⁷

Frequently mentioned in our study is the fact that, when something happens in the North, people call the RCMP, which provides police services in the three territories and maintains some 60 detachments and offices throughout the North.⁶⁸ It was also impressed on the Committee that there is no better source of information and tips than local people, and that strong relationships have developed over the years between the RCMP and people who reside in Canada's northern communities. Because of its presence (the only federal presence in some

⁶⁶ SCOFO (2009), p. 26. See also Dr. Donat Pharand, "The Arctic Waters and the Northwest Passage: A Final Revisit," *Ocean Development & International Law*, Vol. 38, Issue 1 & 2, January 2007, pp. 3–69.

⁶⁷ Grant M.E. St. Germaine, Superintendent, Criminal Operations, "G" Division, Royal Canadian Mounted Police, *Committee Proceedings*, 21 September 2009; Joe Oliver, Chief Superintendent, Director General, Border Integrity, RCMP, *Committee Proceedings*, 5 November 2009. In support of its policing operations in the North, the RCMP has three aircraft based in Whitehorse, Yellowknife and Iqaluit.

⁶⁸ Joe Oliver, *Committee Proceedings*, 5 November 2009.

isolated areas), the RCMP often acts as the first responder for incidents of a non-criminal nature that fall under other federal jurisdictions, such as search and rescue.

The RCMP provides enforcement and administrative assistance to the Department of Citizenship and Immigration and the Canada Border Services Agency.⁶⁹ In the case of *Berserk II*, for instance, local RCMP coordinated the initial customs check, arrests and border investigation until CBSA officials arrived at the scene.⁷⁰

Government departments and agencies also provide the RCMP with intelligence. For example, in the case of *Berserk II*, the vessel left Gjoa Haven before information on the crew members' criminality became known and before the RCMP could take action. It was information relayed by the Coast Guard to the RCMP that started the chain of events that led the RCMP to intervene in Cambridge Bay.

It is my understanding that when they left Gjoa Haven, there was another ship in the location. The people on the *Berserk II* stated to the other ship that they had been deported and were arriving into Canada. The Canadian Coast Guard received that information and then contacted the RCMP. The RCMP then contacted the CBSA's intelligence officer. We worked together and before the ship arrived at Cambridge Bay, we knew the full circumstances of the people on the boat and took enforcement action.⁷¹

2. The Canadian Rangers

The Canadian Rangers, reservists under the command of Joint Task Force (North), conduct coastal and inland water surveillance and sovereignty patrols, report unusual activities or sightings, collect local data of significance to the Canadian Forces (CF), protect the North Warning System, and help with SAR missions. Often described as “the eyes and ears” of the CF in Canada's sparsely populated northern regions, Canadian Ranger patrols provide a “boots-on-the-ground” Canadian presence in the North. They are unique in the circumpolar Arctic and the envy of the other Arctic countries. Being highly skilled in the ways of the region, the Canadian Rangers make a substantial contribution to the effectiveness of the CF by sharing

⁶⁹ Ibid.

⁷⁰ Ibid.

⁷¹ Philip Whitehorne, *Committee Proceedings*, 5 November 2009.

their in-depth knowledge of the land and environment, providing training in Arctic survival skills.⁷²

Canadian Rangers are recruited from 56 communities across the North and number approximately 1,600.⁷³ To enhance the capability of the Canadian Rangers, the Committee learned that the CF is in the process of expanding the Canadian Ranger program by increasing the number of Canadian Rangers in existing patrols by 460 over the next four years, and by expanding the number of community patrols (from 56 to 61).⁷⁴ However, as the Committee pointed out in its May 2009 report, the Canadian Rangers lack marine capabilities.

3. Overflights

The Air Force conducts Northern Patrols using CP-140 Aurora maritime patrol aircraft, currently the Canadian Forces' only long-range patrol aircraft, which the CF have operated since the early 1980s. Ten out of the fleet's 18 Auroras are being modernized to keep them flying until 2020, at which point they are to be replaced by 10 to 12 new patrol aircraft as part of a surveillance system that will include satellite, radar and unmanned aerial vehicles.⁷⁵

Transport Canada provides Dash 7 surveillance in the Arctic during the shipping season (188 hours last summer⁷⁶) under its National Aerial Surveillance Program. The aircraft was recently modernized with marine pollution surveillance equipment to detect, classify and track targets of potential interest as well as marine oil spills.⁷⁷

4. New Technology

National Defence expects to improve its surveillance capabilities through Polar Epsilon, a \$60 million space-based initiative that will use imagery and information from the

⁷² Brig.-Gen. Dave Millar, *Committee Proceedings*, 21 September 2009.

⁷³ Nationally, the Canadian Rangers are grouped into five Canadian Ranger Patrol Groups (CRPGs). "1 CRPG" is responsible for the territorial North. In addition, there are 1,370 Junior Canadian Rangers in 37 communities.

⁷⁴ Brig.-Gen. Dave Millar, *Committee Proceedings*, 21 September 2009.

⁷⁵ Department of National Defence, "Canada First Defence Strategy," <http://www.dnd.ca/site/focus/first-premier/defstra/rebuild-rebatir-eng.asp>.

⁷⁶ Donald Roussel, *Committee Proceedings*, 5 November 2009. See Transport Canada, "Government of Canada Takes Action to Protect Canadian Waters From Ship-Source Pollution," News release, 22 August 2009, <http://www.tc.gc.ca/mediaroom/releases/nat/2009/09-h120e.htm>.

⁷⁷ Transport Canada, "Spill Prevention: National Aerial Surveillance Program," <http://www.tc.gc.ca/marinesafety/oep/ers/nasp.htm>.

Canadian designed and built RADARSAT-2 satellite – Canada’s “eye in the sky.”⁷⁸ The technology will enable Canada to monitor surface vessels in the Arctic. The imagery provided by RADARSAT-2, we were informed, is currently used to monitor ice conditions.⁷⁹

The Northern Watch Technology Demonstration Project was also mentioned at our meeting.⁸⁰ Led by Defence Research and Development Canada, Northern Watch is a series of trials to develop combinations of assorted surface, underwater and space-based sensors and systems at critical choke points in the Northwest Passage, which may at some point provide additional monitoring capability in the Canadian Arctic.⁸¹

5. Planned Arctic/Offshore Patrol Ships

Six to eight armed, multi-purpose and ice-capable Arctic/Offshore Patrol Ships (AOPS) were announced by the federal government in July 2007 to enable the Navy to patrol Canada’s northern waters, including in the Northwest Passage, but also Canada’s EEZ off the Pacific and Atlantic coasts throughout the year.⁸² The AOPS are expected to enhance the Navy’s ability to support other government departments and agencies in responding to illegal fishing, search and rescue, illegal immigration, environmental protection, disaster response, criminal activities and drug smuggling – non-military threats.

As envisioned, these “Class 5” ice-strengthened ships will be able to operate in up to one metre of first-year ice (with old ice inclusions) during the navigable season when shipping activity is likely to take place. The AOPS will be armed with 25-mm cannons and equipped with landing pads for Cyclone helicopters, have a range of 6,000 nautical miles, be able to sustain operations in northern waters for up to four months, and have an ice capability exclusively for

⁷⁸ DND, “Polar Epsilon Project,” <http://www.admpa.forces.gc.ca/news-nouvelles/news-nouvelles-eng.asp?cat=00&id=2931>.

⁷⁹ René Grenier, Deputy Commissioner, CCG, *Committee Proceedings*, 21 September 2009.

⁸⁰ Brig.-Gen. Dave Millar, *Committee Proceedings*, 21 September 2009.

⁸¹ Defence Research and Development Canada, “Northern Watch TD,” http://www.ottawa.drdc-rddc.gc.ca/html/nw_2009-eng.html.

⁸² The vessels have an estimated acquisition cost of \$3.1 billion, and another \$4.3 billion will be required for operation and maintenance over their 25-year lifespan. In August 2007, the federal government announced \$100 million in funding to develop a berthing and refuelling facility at the deepwater port of Nanisivik, in Nunavut. Located in Strathcona Sound inside the eastern entrance to the Northwest Passage, the base, which is expected to be fully operational by 2015, will serve as a staging area for the AOPS, enabling them to resupply, refuel, embark equipment and supplies, and transfer personnel. The facility will also support other government departments, including the Canadian Coast Guard.

their own mobility (i.e., they will not be providing icebreaking services to others). Being hybrid design of necessity, their speed in open water will be less than a frigate or a destroyer.⁸³

The AOPS project is currently in the definition stage, so that the first ship is not expected to be delivered until 2014.⁸⁴ Captain (Navy) E.G. Bramwell, project manager of the AOPS, advised the Committee that because of cost constraints six ships rather than eight are more likely to be constructed.⁸⁵

6. Coast Guard Icebreakers and Marine Communications and Traffic Services

By virtue of its presence in the North, the Canadian Coast Guard – the most visible federal marine presence in northern waters – is Canada’s “eyes on the water.” Each year, from late June to early November, seven icebreakers are deployed for the summer season from the southern regions of the country to the Arctic, where they perform a broad range of important tasks, such as icebreaking, search and rescue, the placing of navigational aids, and vessel support to other government departments.

For the North, the Coast Guard also operates two seasonal Marine Communications and Traffic Services (MCTS) centres, one in Iqaluit and the other in Inuvik. MCTS screen vessels before they enter the NORDREG system and gather foreign-flag vessels’ pre-arrival information reports 96 hours before they enter Canadian waters. The Coast Guard is provided with information from vessels using the Automated Information System,⁸⁶ a shipboard broadcast transponder system capable of sending ship information (e.g., such as identification, position, heading, and ship length).

The Committee was informed that the Coast Guard is implementing a system of Long Range Identification and Tracking (LRIT) of ships.⁸⁷ LRIT is a satellite-based vessel

⁸³ Commodore J.E.T.P. Ellis, Director General Maritime Force Development, DND, *Committee Proceedings*, 27 October 2009.

⁸⁴ The procurement strategy for AOPS is subject to the Canadian Shipbuilding Policy Framework, which states that the federal government will procure, repair and refit vessels in Canada.

⁸⁵ Captain (Navy) E.G. Bramwell, Project Manager – Arctic Offshore Patrol Ship, DND, *Committee Proceedings*, 27 October 2009.

⁸⁶ Gary Sidock, *Committee Proceedings*, 5 November 2009.

⁸⁷ René Grenier, *Committee Proceedings*, 21 September 2009. The International Maritime Organization to which Canada belongs introduced provisions for contracting governments to undertake the LRIT of SOLAS-class passenger vessels and cargo vessels of 300 gross tonnage or more on international trips. Contracting governments are entitled to receive LRIT information about ships required to be LRIT compliant, including foreign-flag vessels that have indicated their intention to enter a port facility and foreign-flag vessels navigating within 1,000 nautical miles of the coast.

monitoring tool designed to track SOLAS-class vessels; 500 ships a day are being tracked by this method. That number is expected to increase to 1,000 a day when the system is fully operational in March 2010.⁸⁸

Put simply, it is the Canadian Coast Guard that provides Canada with most of the maritime awareness information in the Arctic.⁸⁹

7. Marine Security Operations Centres

There are two Maritime Command Marine Security Operations Centres (MSOCs) led by National Defence. One is located in Halifax, Nova Scotia; the other, in Esquimalt, BC, was visited by Committee on 26 September 2009. For the Arctic, the two MSOCs divide their areas of responsibility longitudinally at 95 degrees west.

Staffed jointly by the Canadian Border Service Agency, National Defence, DFO (including the Canadian Coast Guard), the RCMP, and Transport Canada, the MSOCs represent a “whole-of-government” policy on marine security-related matters. Their purpose is to monitor Canada’s ocean approaches and enable the various federal departments and agencies that have an interest in marine security to work collaboratively in collecting, exchanging and analyzing information about marine traffic. The objective is to proactively identify threats and to assist the lead department/agency in coordinating a response.⁹⁰

D. Conclusion and Recommendations

Canada claims that the waters of the Archipelago, including those of the Northwest Passage, are internal waters over which it enjoys full sovereignty. That sovereignty entails the right to pass laws and regulations to protect Canadian interests, including those of Canada’s northern populations.

A primary concern for Canada is that ships transiting the Northwest Passage recognize Canadian sovereignty and comply fully with the Canadian regulations. The evidence previously heard by the Committee (last year) suggested that, without Canada taking adequate control measures with respect to unauthorized shipping activity, the Passage risks becoming progressively “internationalized” and subject to right-of-transit passage.

⁸⁸ Gary Sidock, *Committee Proceedings*, 5 November 2009.

⁸⁹ René Grenier, *Committee Proceedings*, 21 September 2009.

⁹⁰ Joe Oliver, *Committee Proceedings*, 5 November 2009.

Not all countries agree with Canada's position that the Northwest Passage is a national sea route requiring Canada's consent for foreign use. Canada faces a potential challenge to its sovereign right to control shipping activity in the waterway. No country has taken Canada to court over the matter, but Canada should nonetheless take any opportunity to negotiate acceptance of our position with other countries, in particular the United States.

Last year, witnesses at our hearings believed 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. Their testimony suggested that an agreement could be negotiated for the joint management of the Northwest Passage, as was achieved by the International Joint Commission for managing the St. Lawrence Seaway. Since then, however, US policy in the Arctic (the US Presidential Directive of 9 January 2009) has made it very clear that the United States views "freedom of the seas" as a "top national priority" and the Northwest Passage as "a strait used for international navigation" where a "regime of transit passage applies" – making the issue with the Americans more difficult to resolve.

Canada should nevertheless proactively engage the United States to settle the dispute. The disagreement was partly set aside in 1988, when Canada and the US signed the Arctic Water Cooperation Agreement by which both countries sought to cooperate in order to facilitate navigation by their icebreakers in their respective Arctic waters.⁹¹ The United States undertook to request Canada's "consent" for "all navigation by US icebreakers within waters claimed by Canada to be internal," without prejudice to either country's legal position vis-à-vis Arctic waters. A practical solution was reached, and one that did not set (from the US standpoint) an unwanted legal precedent elsewhere in the world.

There may be opportunities for further cooperation between Canada and the United States. Although the two countries disagree over the legal status of the Northwest Passage and the maritime boundary between Alaska and Yukon, both share a number of common values and interests, including environmental protection, security and safety, and effective search and rescue services. We both have a strong tradition of working cooperatively, such as through the

⁹¹ Rob Huebert, Briefing to the Committee, Victoria, 26 September 2009. The agreement resulted from *Polar Sea's* transit of the Northwest Passage in 1985.

NORAD Command, which had its responsibilities expanded in May 2006 to include warning of potential maritime threats.⁹²

Climate change, receding sea ice and increased marine activity underscore the need for more monitoring and control. Since August 2009, the *Arctic Waters Pollution Prevention Act* applies in waters up to 200 nautical miles from shore. The Committee strongly supports the new regulations expected for the 2010 shipping season to make NORDREG a mandatory vessel reporting system.

By making NORDREG compulsory, Canada will improve safety and help ensure that its shipping standards are applied. Coast Guard Marine Communications and Traffic Services centres need to be informed about the movements of ships, given the limited number of Coast Guard icebreakers available to respond to incidents. Mandatory reporting will enhance Canada's maritime domain awareness in the Arctic. By requiring ships to report to NORDREG, Canada will be sending the message internationally that it is committed to its claim that the Northwest Passage is part of its internal waters.

There are gaps in Canada's current vessels reporting requirements, however. Vessels under 300 gross tons are currently exempt from reporting to NORDREG, and this is not expected to change as a result of the anticipated new regulations.⁹³ Pleasure craft, fishing vessels and government vessels are exempt from submitting a pre-arrival information report 96 hours before entering Canadian waters, including Arctic waters, under the *Marine Transportation Security Act*. Under the *Customs Act*, persons on vessels passing through Canada's northern waters (i.e., in transit) are not required to report to the Canada Border Services Agency unless they come ashore.⁹⁴ At present, there is no regulation of any kind requiring a vessel transiting the Northwest Passage to notify anyone in Canada at any time, provided that the vessel in question does not land.

Thus, Canada would not necessarily know if a vessel the size of *Berserk II* was in our northern waters, unless the vessel voluntarily reported or was detected. Even if the whereabouts of such a vessel were known, Canada would be unable to do anything about it if the vessel did not land.

⁹² The assignment of forces to respond to such threats, however, remains the responsibility of respective national authorities.

⁹³ Government of Canada, Response to SCOFO (2009), recommendation 11.

⁹⁴ Philip Whitehorne, *Committee Proceedings*, 5 November 2009.

Flights over Canada's North are "limited."⁹⁵ National Defence CP-140 Aurora surveillance fleet is being modernized, with some aircraft being removed from service. The overall fleet size will in future be smaller, which could be problematic if more flights over the Northwest Passage are required.

An important issue raised in testimony was the ability of Canada's maritime forces to operate in the North. Although the Navy was said to have the capability to assert Canadian sovereignty in the Atlantic and Pacific oceans, according to National Defence, Canada does not have "the tools to do the fundamental job in the Arctic."⁹⁶ In this regard, the planned acquisition of the Arctic/Offshore Patrol Ships (AOPS), which are to become operational between 2015 and 2020, are expected to make up for the deficiency.

Obviously, maintaining the status quo is not a viable long-term option for Canada. Indeed, the Government of Canada sees an enforcement need in the Arctic. The Canadian Forces are not mandated to enforce Canadian domestic laws. The naval AOPS are expected to provide support to other government departments/agencies when responding to constabulary matters, and the first AOPS will not be operational until 2015. What does Canada do in the meantime?

Only the Canadian Coast Guard is capable of providing on-water platform support to other government departments/agencies in ice conditions, and only the Coast Guard has the requisite experience and expertise in northern waters, which present some of the harshest conditions for navigation in the world.⁹⁷ Although the Coast Guard does not have a direct enforcement role either (unlike its counterpart in the United States) and there are no plans to provide the agency with such a role,⁹⁸ on the East Coast some CCG vessels do carry guns.

⁹⁵ Gary Sidock, *Committee Proceedings*, 5 November 2009.

⁹⁶ Commodore J.E.T.P. Ellis, *Committee Proceedings*, 27 October 2009.

⁹⁷ The Canadian Navy has not operated a fully ice-capable vessel built for the Arctic since 1957. In May 2009, the Committee recommended the deployment of multi-mission Coast Guard icebreakers as a cost-effective alternative to Canada's surveillance and sovereignty patrol needs in the Arctic (recommendation 14).

⁹⁸ George Da Pont, Commissioner, CCG, *Committee Proceedings*, 2 April 2009. The mandate of the Canadian Coast Guard is stated in the *Oceans Act* and the *Canada Shipping Act, 2001*. See CCG, "Mission, Vision and Mandate," <http://www.ccg-gcc.gc.ca/eng/CCG/Mission>.

Recommendation 1:

The Committee recommends that all foreign vessels that enter Canada's Arctic waters be required to report to NORDREG, regardless of vessel size or tonnage.

Recommendation 2:

The Committee recommends that, as a precautionary measure at least in the interim period before the new naval Arctic/Offshore Patrol Ships (AOPS) are built and deployed, the Government of Canada:

- a) arm Canada's Coast Guard icebreakers with deck weaponry capable of giving firm notice, if necessary, to unauthorized foreign vessels for use in the Northwest Passage; and
- b) provide on-board personnel from appropriate government agencies that have the authority to enforce Canadian domestic laws with small arms.

Recommendation 3:

The Committee recommends that the Government of Canada proactively engage the United States in bilateral discussions to resolve their dispute over the Northwest Passage.

Recommendation 4:

The Committee recommends that a Cabinet committee on Arctic affairs, chaired by the Prime Minister and comprising the Ministers of Indian and Northern Affairs, Fisheries and Oceans, National Defence, Environment Canada, Natural Resources, Foreign Affairs and International Trade, and Transport Canada, be created to further develop national Arctic policy, in cooperation with the three territorial governments, and to ensure that attention to northern issues and Arctic policy is maintained.

Recommendation 5:

The Committee recommends that until the CP-140 Auroras are replaced by new patrol aircraft in 2020, the Government of Canada consider expanding maritime air surveillance in Canada's North either by increasing Canadian Forces capability or contracting specially equipped aircraft from the private sector.

OPERATIONAL/DOMESTIC MATTERS

A. Current Role and Operations

Future challenges faced by Canada in the maritime Arctic will involve more than conducting surveillance, monitoring and enforcement activities. Initiatives to increase the presence and capacity of the Canadian Forces in the Arctic, although important, are only part of the solution.

Of the Canadian Coast Guard's five administrative regions, the Central and Arctic Region, with regional headquarters in Sarnia, Ontario, is by far the largest geographically (Map 2). The region covers not only the entire Canadian Arctic Archipelago north of 60, toward the North Pole and those waters of Ungava Bay, Hudson Bay, and James Bay south of 60, but also the Great Lakes and the St. Lawrence Seaway.⁹⁹

Map 2 – CCG Fleet Regional Operations Centres



Source: CCG, *2007–2008 Fleet Annual Report*, p. 6.

⁹⁹ CCG, "Icebreaking," http://www.ccg-gcc.gc.ca/eng/Central_Arctic/Icebreaking

In Canada's Arctic region, the Canadian Coast Guard plays a unique role. CCG vessels provide a wide range of essential northern shipping services. In performing considerable and critical work in the Arctic, the Coast Guard's red-and-white icebreakers and helicopters are Canada's most visible federal marine presence and a strong symbol of Canada's sovereignty.

Each year, from late June to early November, the Coast Guard deploys from southern Canada two heavy icebreakers, four medium icebreakers and one light icebreaker to the Arctic, including the western Arctic,¹⁰⁰ to perform a broad range of important tasks in support of economic and commercial development – escorting ships through the ice-covered waters,¹⁰¹ keeping navigation channels open, breaking ice for commercial shipping, clearing ice in harbours, and maintaining navigation aids. The vessels deliver supplies to remote settlements such as Kugaaruk, where commercial ships do not go, and provide annual icebreaking support to the US Military Sealift Command at Thule, Greenland.¹⁰²

In the western Arctic, three Coast Guard vessels (not ice-capable) operate on the Mackenzie River and in the Beaufort Sea. Two of the vessels support aids to navigation along the Mackenzie River, while the other supports scientific research.¹⁰³

The Canadian Coast Guard provides considerable platform support for scientific endeavours in the Arctic. In this respect, DFO depends heavily on its fleet. Examples of important DFO-specific scientific work supported by the agency include bathymetry in support of Canada's submission to the United Nations Commission on the Limits of the Continental Shelf and hydrographic surveys for the production of navigational products and services in support of an anticipated increase in shipping.

Canadian and other scientists also make use of Coast Guard vessels as platforms for a wide variety of scientific missions pertaining to climate change and the northern environment. For instance, *CCGS Amundsen*, Canada's first dedicated Arctic science icebreaker (formerly known as *CCGS Franklin*), is used to facilitate major federal scientific initiatives, such as the ongoing work of ArcticNet.

If requested, CCG icebreakers provide logistical and platform support to the RCMP and the Canadian Forces and conduct joint exercises with National Defence (Operation

¹⁰⁰ The seven vessels are in various parts of the Arctic, depending on the year and the operation.

¹⁰¹ The CCG escorted 29 ships in the Arctic between June and November 2008. CCG, *Business Plan 2009–2012*, 2009, p. 36, <http://www.ccg-gcc.gc.ca/folios/00029/docs/ccg-bp09-eng.pdf>.

¹⁰² In return, the United States provides icebreaker support for Canadian missions in the western Arctic.

¹⁰³ George Da Pont, *Committee Proceedings*, 12 May 2009.

NANOOK). The Coast Guard's experience and expertise are recognized worldwide, and most of its commanding officers have over 20 years' experience in the Arctic. Experienced ice captains were said to be one of the agency's most valuable assets. In addition to the officers and crew that operate the icebreakers, close to 70 other CCG employees are assigned to onshore operations on a seasonal basis.¹⁰⁴

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 during the Arctic navigational season, including monitoring international marine radio distress frequencies, broadcasting ice and marine weather information (supplied by Environment Canada) and navigational warnings, and screening ships entering Arctic waters;¹⁰⁵
- Aids to Navigation (e.g., buoys and beacons) to help ensure vessels' safety by reducing the risks of grounding and collision. The Coast Guard places and maintains over 1,500 visual and aural aids 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;¹⁰⁶
- Search and Rescue (SAR), typically involving pleasure craft or local community vessels;
- Environmental Response, given that the Coast Guard has the primary response lead for pollution incidents or environmental accidents north of 60 and
- Waterways Management, which, in the western Arctic, includes forecasting water levels during the summer navigation season on the Mackenzie, Liard and Peel rivers.¹⁰⁷

In June 2008, the Minister of Fisheries and Oceans implemented a three-year moratorium on Arctic marine service fees in order to reduce the cost of transportation for northern residents who rely on marine resupply.¹⁰⁸

¹⁰⁴ CCG, *Business Plan 2009–2012*, 2009, p. 14.

¹⁰⁵ In 2007, the IMO confirmed Canada in its role as international coordinator and issuing service for navigational warnings for two of five new Navigational Areas (NAVAREAs) in the Arctic. A NAVAREA is a geographical sea area designated to coordinate the transmission of marine safety information. The Coast Guard plans to begin delivering this service in 2010.

¹⁰⁶ Navigation safety information is also provided through the publication of monthly Notices to Mariners, lists of lights and buoys, and an annual edition of *Notice to Mariners*.

¹⁰⁷ SCOFO (2009), p. 48–9. The Coast Guard also provides cargo management and coordination for Iqaluit, Nunavut.

¹⁰⁸ Previously, marine navigation service fees applied to Canadian commercial ships transiting to and from waters north of 60, but no fees were charged when voyages took place entirely north of 60. Each year, CCG icebreakers

B. Vessel Activity in the Western Arctic

Although the Canadian maritime Arctic is ice-covered most of the year, more favourable sea ice conditions for navigation are expected in summer. With the expansion of resource development and growing demand for seasonal resupply by growing communities, regional shipping is expected to increase in the Canadian Arctic.¹⁰⁹

Shipping is an economical means to move goods to, from and within the region. There are few roads in the North, and air services are infrequent and costly. Several communities in the Northwest Territories, and all Nunavut communities, are located on or have access to tide water, and depend on community resupply (also known as the sealift or coastal Arctic shipping) for goods from the south.¹¹⁰ This activity is serviced by southern points of origin, both east and west. Many types of vessels are used, including tankers, general cargo vessels, and combinations of shallow draft tugs and barges. Tugs and barges typically handle cargo in the shallow waters of the western Canadian Arctic, while conventional ocean-going ships are used in the eastern Arctic.

Situated on the south shore of Great Slave Lake and known as “the hub of the North,” Hay River is the location of the Canadian Coast Guard’s only base in the western region. This is where Canada’s northernmost railway ends and the Mackenzie “river road” to the Beaufort Sea begins. Vessel traffic along the Mackenzie, Canada’s longest river, was said to have increased in recent years. The waterway is navigable for approximately five months of the year, and sections of the waterway are used as an ice road in winter.

Northern Transportation Company Limited (NTCL),¹¹¹ a 100% Inuit-owned company, is the primary carrier in the region. NTCL operates tugs and vessels used in sealift operations and a large number of barges that carry bulk container modules and oil cargo. In summer, cargo is transported from NTCL’s freight-handling terminal at Hay River across Great Slave Lake down the Mackenzie River to Tuktoyaktuk, NTCL’s main staging and transshipment point. From Tuktoyaktuk, tugs travel to points as far west as Barrow (Alaska) and as far east as

escort an average of 12 foreign-flag ships, which do not pay for the service. René Grenier, *Committee Proceedings*, 21 September 2009.

¹⁰⁹ AMSA (2009), p. 38; Patrick Borbey, *Committee Proceedings*, 26 March 2009.

¹¹⁰ The exception is northern Yukon, where there are no communities on the Beaufort Sea coast.

¹¹¹ NTCL is a member of the NorTerra Inc. group of companies. NorTerra is owned by the Inuvialuit Development Corporation of the Western Arctic and Nunasi Corporation, on behalf of the Inuit of Nunavut. This year (2009) marked the 75th anniversary of NTCL. See NTCL, http://www.ntcl.com/about_us/index.html.

Taloyoak in the Kitikmeot region of Nunavut. From Halifax, cargo is also transported to Churchill, Manitoba, where it is transferred onto NTCL barges for shipment to communities in the Kivalliq region (the central region of Nunavut) on the west Coast of Hudson Bay.

At a briefing at NTCL's head office in Hay River, the Committee learned that the company had introduced a new service this year in the Kitikmeot region (the western region of Nunavut). Cargo can be loaded onto barges in Richmond, BC, and towed by a large-capacity tug north along the coast of British Columbia, around Point Barrow (Alaska), and then east for delivery to communities along the Arctic coast.

Renewed interest in oil and gas exploration and development in the western Arctic is expected to result in more vessel and barge traffic. The region is poised to become a hub of considerable economic activity once the proposed Mackenzie Gas Project (MGP) gets underway.¹¹² More vessel traffic is expected to result from the MGP during its construction phase, which would entail dredging the river.¹¹³ The MGP would also enhance the commercial potential of offshore hydrocarbon activity.¹¹⁴ At the time of writing this report, the project was still under review by regulatory authorities.

In June 2008, the federal government received record-breaking bids for offshore oil and gas exploration leases in the Beaufort Sea, including a \$1.2 billion bid for the rights to explore an offshore area of 611,000 hectares.¹¹⁵ If the MGP does not go ahead, offshore gas/oil would likely eventually be shipped to market by tanker vessel. However, there are no deepwater ports in the western Canadian Archipelago (or on Alaska's North Slope, for that matter). Tuktoyaktuk was said to have a port, but situated as it is in the delta of the Mackenzie River, the high degree of silting was viewed as a significant impediment to the development of the region's hydrocarbon resources.¹¹⁶

¹¹² The MGP is a joint proposal by Imperial Oil Resources Ventures Limited, Shell Canada Limited, ConocoPhillips Canada (North) Limited, ExxonMobil, and the Aboriginal Pipeline Group, representing Aboriginal interests. Approximately 1,300 kilometres in length, the project would include natural gas development in the Mackenzie River Delta, gathering lines, processing facilities, and a pipeline to transport gas south through the Mackenzie Valley to northern Alberta.

¹¹³ Mardy Semmler, Lands Manager, Gwich'in Tribal Council, *Committee Proceedings*, 23 September 2009.

¹¹⁴ Current activities associated with offshore licences in the Beaufort Sea are at the stage of preliminary exploration. Exploratory drilling is not expected before 2013 at the earliest. Michael Wernick, Deputy Minister, Indian and Northern Affairs Canada, 30 October 2009.

¹¹⁵ In 2008, an offshore lease sale conducted by the US Minerals Management Service for the US Arctic totalled nearly \$US 2.7 billion.

¹¹⁶ Duane Smith, *Committee Proceedings*, 23 September 2009.

There are currently no operating mines in the Northwest Territories that involve Arctic shipping, but mining activity in western Nunavut is expected once a number of projects get underway. In Nunavut, new bulk exports are expected to include magnetite from Roche Bay (shipped from a port near Igloolik in the Foxe Basin), lead/zinc/copper concentrate from Izok Lake (shipped out from Gray's Bay or Bathurst Inlet), and iron ore from Mary River (shipped out from a port at Steensby Inlet in the Foxe Basin). In Nunavik (northern Quebec), the Raglan Mine delivers, via cargo ship, nickel ore concentrates from Deception Bay to Quebec City.

C. Icebreaking

Climate change and economic development have led to demands for extended periods of navigation through ice both in the south and in the Arctic. The evidence suggests that demand for icebreaking services could soon outstrip the agency's ability to deliver such services.

According to Assistant CCG Commissioner Wade Spurrell (Central and Arctic Region), because of the increase in navigable waters that has resulted from climate change, "people are looking for more Coast Guard services, both on the east and west coast and on the Great Lakes and in the North," and the agency is "hard pressed to meet the anticipated demand in all areas at the same time."¹¹⁷

Oil and gas exploration and production in the western Arctic, as well as mining projects in western Nunavut, will require Coast Guard icebreaking support and other services, such as the provision of navigation aids.¹¹⁸ Up-to-date charts, an essential tool for safe navigation, especially in the harsh conditions of the North, will be needed. Aboard *CCGS Sir Wilfrid Laurier*, the Committee was advised that hydrography was a large part of the ship's mission because so much of Canada's northern waters are currently uncharted, and that more vessels with multi-beam echo sounders are needed.¹¹⁹ Without additional resources and ships, we were told, the job of surveying Canada's Arctic waters could take another 30 years to complete.

As envisioned, the planned naval Arctic/Offshore Patrol Ship will require Coast Guard icebreaking support to extend their geographical reach and the length of their operating season.¹²⁰

¹¹⁷ *Committee Proceedings*, 21 September 2009.

¹¹⁸ Approximately 10% of Arctic waters are charted to modern hydrographic standards. CBC, "Canada to boost efforts to chart Arctic waters," 4 May 2009, <http://www.cbc.ca/technology/story/2009/05/04/arctic-marine-charts.html>

¹¹⁹ Echo sounders provide an accurate picture of the seabed over wide swaths underneath the ships.

¹²⁰ Government of Canada, Response to the Committee's May 2009 report (recommendation 14).

Ironically, as sea ice recedes and navigation increases, more icebreaking will be needed. Icebreakers are needed because ice conditions are expected to vary considerably in the Canadian Arctic from year to year. 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, moved by winds and currents known as the Beaufort gyre, which will tend to maintain, or even increase, the hazard to shipping in the Northwest Passage as long as there is a supply of ice from the Arctic Ocean.¹²¹

At present, the Coast Guard has two heavy icebreakers and four medium icebreakers, one of which is dedicated to science.¹²² Each year, the ships are deployed to the Arctic in June. Because these vessels are incapable of operating there in winter, they are redeployed south by early November. Although these vessels are maintained in excellent condition, they were originally built to operate in the St. Lawrence Seaway, not the Arctic Ocean.¹²³

As for the United States, the US Coast Guard (USCG) has three icebreakers, of which two – *Polar Star* and *Polar Sea* – have exceeded their intended 30-year service lives. *Polar Star* is not operational and has been in dry dock since 1 July 2006.¹²⁴ The third polar icebreaker, *Healy*, is used primarily for scientific purposes. Built in 2000, *Healy* is the newest ship and was visited by the Committee in September 2009.

At a briefing in Juneau, Alaska, in September 2009, Rear Admiral Christopher C. Colvin, Commander of USCG District 17, indicated that the USCG's ice operations consist mainly of helping to move goods and personnel in support of scientific and national security activity. The (US) National Science Foundation (NSF) funds the costs of operating and maintaining the ships because such a large portion of icebreaking operations are conducted in support of NSF research. Projections from the NSF forecast a continued demand for this service, but given the implications of climate change and increased shipping, USCG icebreakers will likely be involved in ice operations similar to those in the Great Lakes within the next decade.¹²⁵

¹²¹ Natural Resources Canada, *From Impacts to Adaptation: Canada in a Changing Climate 2007*, 2008, Chapter 3, Northern Canada, sections 4.5 "Transportation," and 4.5.1 "Marine Traffic."

¹²² Other ice-capable vessels can also be assigned seasonally to the Arctic. See CCG, "The Icebreaking Fleet," http://www.ccg-gcc.gc.ca/eng/CCG/Ice_Fleet.

¹²³ SCOFO (2009), p. 49.

¹²⁴ Dr. Betsy Baker, Brief Submitted to the Committee, 16 June 2009.

¹²⁵ In 2007, the US National Academy of Sciences found that the United States needed to construct at least two new polar icebreakers to maintain polar icebreaking capacity. See (US) National Academy of Sciences, "Two New Polar

Unlike Russia, neither Canada nor the United States has a polar-class icebreaker capable of operating in the Arctic year-round. With its fleet of nuclear and conventional fuel-powered heavy icebreakers, Russia is by far the largest and the best-equipped icebreaking nation in the world.

As for Canada's most capable icebreaker, the 40-year-old flagship *CCGS Louis S. St-Laurent*, the February 2008 Budget announced \$720 million in funding to replace the ship with a new polar icebreaker (to be named after the Right Honourable John G. Diefenbaker) with greater capabilities and able to operate in the Arctic for nine months of the year. Built in 1969, *CCGS Louis S. St-Laurent* is scheduled to be decommissioned in 2017. With the exception of the *Louis*, however, there are no plans to replace the existing icebreaker fleet until 2020.¹²⁶

The rest of the fleet is also aging (Table 1). Canada's newest icebreaker, *CCGS Henry Larsen*, is over 20 years old. *CCGS Terry Fox*, built in 1983 and the only icebreaker other than *CCGS Louis S. St-Laurent* with true Arctic capability, is fast approaching the end of its operational life and will need to be replaced two years or so after the *Louis*.¹²⁷

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

Appearing before the Committee on 21 April 2009, Auditor General Sheila Fraser pointed out that the estimated useful life of an icebreaker was around 30 years and that Canada's icebreakers would be between 40 and 50 years old when they reach their currently scheduled

Icebreakers Needed to Project U.S. Presence and Protect Interests in Arctic and Antarctic," News release, 26 September 2006, <http://www8.nationalacademies.org/onpinews/newsitem.aspx?RecordID=11753>.

¹²⁶ Government of Canada, Response to SCOFO (2009), recommendation 13.

¹²⁷ George Da Pont, *Committee Proceedings*, 2 April 2009.

replacement date.¹²⁸ The Auditor General's 2007 Status Report noted that the replacement schedule for the icebreaking fleet was becoming outdated and unrealistic, and that it provided for replacing many vessels long after they have passed their estimated useful lives.

D. Environmental Response

Regional shipping is expected to increase in the Canadian Arctic,¹²⁹ and more resource development activity and more navigation will increase the risk of environmental accidents. North of 60, the Canadian Coast Guard is the lead federal agency responsible for responding to ship-source pollution incidents.¹³⁰

According to the Coast Guard, the risk of oil pollution in the Arctic is greatest when communities are resupplied. Community resupply involves the transfer of fuel oil from ships to shore using floating hoses. It was explained to the Committee that ship owners are required to report any spills and initiate a response, which is monitored by the Coast Guard. The Coast Guard may assist in responding to a spill, or may assume control if the polluter is unable to respond adequately, is unwilling to take action or is unknown (in the case of a mystery spill).

Crew aboard commercial oil tankers and CCG icebreakers carry marine oil-spill response equipment and are trained in its use, and so are Coast Guard personnel on shore. In addition, an inventory of response equipment, such as booms and skimmers, is maintained at ten community depots strategically located throughout the North.¹³¹

The Coast Guard's environmental response system incorporates what was described to the Committee as a "cascaded approach." If a marine spill exceeds the capability of a community to respond (or that of an available icebreaker), air-transportable equipment would be deployed from an environmental response base at Hay River, NWT, where a larger inventory of equipment is stored. The Committee visited the Hay River response base in September 2009. More equipment is cached in Churchill, Iqaluit and Tuktoyaktuk. During our fact-finding, we

¹²⁸ The 2007 Status Report examined whether any progress had been made in addressing recommendations made in audits tabled in 2000 (on "Fleet Management") and in 2002 (on "Contributing to Safe and Efficient Marine Navigation"). Auditor General of Canada, Chapter 4: Managing the Coast Guard Fleet and Marine Navigational Services – Fisheries and Oceans Canada, 2007 February Status Report, http://www.oag-bvg.gc.ca/internet/English/parl_oag_200702_04_e_17470.html.

¹²⁹ AMSA (2009), p. 38.

¹³⁰ See CCG, "Environmental Response," http://www.ccg-gcc.gc.ca/eng/Ccg/wm_Los_Page5.

Transport Canada oversees the marine pollution response regime.

¹³¹ Gary Sidock, *Committee Proceedings*, 5 November 2009. The Coast Guard also has a large barge in the Arctic to store the contaminants.

learned that first-response capabilities were being augmented at the ten community depots and were being expanded to include seven additional communities.¹³²

Regarding pollution close to shore, Duane Smith, vice chair of Inuvialuit Regional Corporation,¹³³ asked that local volunteers be trained in oil spill containment, at least for the initial phase of a response until the Coast Guard is able to intervene. Training was said to be focused on crew aboard the commercial oil tankers. Other participants at our meetings noted that community-level training had ceased in recent years because of a lack of funds.

Jody Snortland Pellissey of the Sahtu Renewable Resources Board¹³⁴ mentioned in her testimony in Inuvik that a barge had run aground near the community of Wrigley, NWT, in 2008, causing a fuel spill. Communities downstream had not been informed, she said, and it took several weeks to clean up. The territorial government's Department of Environment and Natural Resources had been the first to respond and inform the board and the communities. Ms. Pellissey asked that in future the Coast Guard immediately inform communities when spills occur, hoped to see a quicker response on the part of the Coast Guard, and also asked that a fuel barge used on Great Slave Lake for the annual supply of a fishing lodge be inspected.¹³⁵

Throughout the North a major worry was the level of preparedness in responding to a major oil spill. In Nunavut, for instance, the mayor of Cambridge Bay and the hamlet's councillors asked to see the response plan.

Billy Storr of the Inuvialuit Game Council,¹³⁶ in his presentation to the Committee in Inuvik, questioned Canada's ability to respond to an offshore oil spill in the Beaufort Sea. He noted the absence of an industry response organization (RO) in the North¹³⁷ and said that offshore-capable equipment and trained personnel are lacking. Mr. Duane Smith likewise emphasized in his presentation the apparent lack of local emergency response and

¹³² Budget 2007 provided the Coast Guard with \$2.2 million in funding (over three years) to enhance Canada's capacity to respond to marine oil spills in the Arctic. The Coast Guard will complete the distribution of environmental response equipment packages in the North in 2009–10. DFO, *Canadian Coast Guard Business Plan 2009–2012*, <http://www.ccg-gcc.gc.ca/folios/00029/docs/ccg-bp09-eng.pdf>, p. 14.

¹³³ The Inuvialuit Regional Corporation has overall responsibility for managing the affairs of the Inuvialuit Settlement Region.

¹³⁴ The board is a regional co-management board in the Sahtu Settlement Area established through the Sahtu Dene and Metis Comprehensive Land Claim Agreement.

¹³⁵ Jody Snortland Pellissey, Executive Director, Sahtu Renewable Resources Board, *Committee Proceedings*, 23 September 2009.

¹³⁶ Under the Inuvialuit Final Agreement, the council represents the collective Inuvialuit interest in all matters pertaining to the management of wildlife and wildlife habitat in the Inuvialuit Settlement Region.

¹³⁷ In southern Canada, certified ROs provide marine oil-spill response services. They are industry-managed and funded by fees charged to users.

management capabilities to deal with ocean-related incidents such as oil spills. People need to be reassured that the equipment is up to date, he said, because the status and quality of the equipment is uncertain.¹³⁸ Canada should be preparing for an accident the size of the *Exxon Valdez* disaster, according to Vic Gillman, chair of the Inuvialuit Fisheries Joint Management Committee,¹³⁹ not for fuelling spills from small ships.¹⁴⁰

E. Search and Rescue

Increased marine activity, resource development activity and tourism will increase the risk of search and rescue (SAR) incidents. The ability to provide SAR services, an important means for Canada to demonstrate its commitment to sovereignty, presents unique challenges in the vast, sparsely populated region that is the Canadian Arctic.

The lead minister responsible for Canada's National SAR Program is the Minister of National Defence, but the Canadian Coast Guard, which falls under the Department of Fisheries and Oceans, is responsible for the marine component of the Program. The Coast Guard defines SAR as "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."¹⁴¹

Joint Rescue Coordination Centres (JRCCs) manage the National Defence and the Coast Guard response to air and maritime SAR incidents. The JRCCs are staffed by SAR coordinators who operate 24/7, year round, and who send the most effective resources to deal with a particular incident. For most of Canada's Arctic, the Canadian Forces provide fixed- and rotary-wing SAR aircraft from CFB Trenton¹⁴² (Map 3), while the Coast Guard relies primarily on its helicopters and icebreakers, which do not operate year-round in the region.

¹³⁸Duane Smith, *Committee Proceedings*, 23 September 2009.

¹³⁹ The Fisheries Joint Management Committee is a co-management body that provides advice to DFO and the Inuvialuit Game Council.

¹⁴⁰ Vic Gillman, Chair, Fisheries Joint Management Committee, *Committee Proceedings*, 6 October 2009. This year (2009) marks the 20th anniversary of the Exxon Valdez disaster. The oil tanker, owned by the former Exxon Shipping Company, ran aground in March 1989, spilling more than 41 million litres of crude oil into Prince William Sound, Alaska.

¹⁴¹CCG, Maritime Search and Rescue (SAR) in Canada, "National Search and Rescue Program (NSP)," http://www.ccg-gcc.gc.ca/eng/CCG/SAR_Maritime_Sar.

¹⁴² National Defence, "General Information," <http://www.airforce.forces.ca/8w-8e/sqns-escs/page-eng.asp?id=664>. National Defence also coordinates the activities of the Civil Air Search and Rescue Association (CASARA), a volunteer SAR organization.

Map 3 – National Defence Search and Rescue Regions



Source: Transport Canada, <http://www.tc.gc.ca/CivilAviation/publications/tp14371/SAR/1-0.htm>.

The Coast Guard performs a number of other SAR-related tasks, including the detection of maritime incidents and the conduct of prevention. The agency also oversees the activities of the Canadian Coast Guard Auxiliary (CCGA), a non-profit organization of dedicated volunteers – commercial fishers and pleasure boaters who donate their time and vessels, or volunteers from local communities who enroll to crew community-based response vessels. In Canada’s North, the CCGA provides critical marine SAR in many isolated coastal areas.¹⁴³

¹⁴³ There are units in Cambridge Bay (six members, two vessels), Rankin Inlet (14 members, two vessels), Yellowknife (25 members, three vessels), Fort Resolution (three members, one vessel), Fort Chipewyan (ten members, two vessels), Inuvik (12 members, one vessel), Aklavik (ten members, one vessel), and Hay River (15 members, three vessels). The Committee was advised that new units were recently established in Aklavik, Rankin Inlet and Pangnirtung, and that additional units are being considered.

New CCGA units are being contemplated for communities along the Mackenzie River, an initiative that the Committee strongly supports. The CCGA is funded in part by the Canadian Coast Guard through a contribution agreement for out-of-pocket expenses incurred while engaged in authorized activities.¹⁴⁴ In Hay River, the Committee was astounded to hear that federal funding is not provided for the purchase of equipment. In order to pay for the replacement of tangible assets, funds are raised by donations, raffles, and bingos.

A matter frequently raised in our informal discussions in the western Arctic was the increase in polar ship tourism, along with the concern that the vessels used for this purpose may not necessarily be suited for navigation in Arctic waters. Small foreign pleasure craft are increasingly showing up in Canada's northern waters. So far, there have been fewer cruise ship excursions in Canadian waters than in Alaska and Greenland, but if traffic increases, infrastructure and passenger safety needs will become of increasing concern. In Alaska, we heard that the United States has very little SAR capability along the North Slope, and would be hard pressed to respond to an accident in the Beaufort Sea.

The Committee heard that the JRCC in Victoria works very closely with the adjacent Rescue Coordination Centre in Juneau, Alaska. When a distress call is received, it is not unusual for the US Coast Guard (USCG) to respond to incidents in Canadian waters, and vice versa, depending on who is closer to the area in question.¹⁴⁵

In September 2009, the Committee visited the USCG Air Station Sitka, where the Committee received briefings on base operations and also witnessed a SAR demonstration involving the deployment of a rescue swimmer from a helicopter.

Three rescue helicopters (Sikorsky HH-60J Jayhawks) are Air Station Sitka's primary tool for SAR in its area of responsibility, which includes Southeast Alaska, from Dixon Entrance north to Central Alaska, and from the Alaska–Yukon border west to the central Gulf of Alaska – approximately 12,000 tidal miles of rugged coastline and one of the most demanding flight environments for USCG aircraft operations. Air Station Sitka maintains a 24-hour SAR alert crew and averages 140 SAR cases a year, with about half of the cases involving the conduct of air ambulance missions (e.g., from small villages, logging camps, boats and cruise ships).

¹⁴⁴ Nationally, the CCGA is organized into six federally incorporated organizations that parallel the Coast Guard's regions. The Minister of Fisheries and Oceans maintains a formal Contribution Agreement with each corporation. Five-year Contribution Agreements with the six corporations were signed in 2007–2008.

¹⁴⁵ The primary SAR air resource in the Victoria region is 442 Transport and Rescue Squadron located at 19 Wing Comox on Vancouver Island, where there are five Cormorant CH-149 helicopters and six DeHavilland CC-115 Buffalo fixed-wing aircraft.

Air crew and helicopters are used not only in SAR, but also for homeland security, environmental response, various missions in cooperation with federal, state, and local government agencies, maintaining marine aids-to-navigation, and fisheries enforcement.¹⁴⁶

F. Canada–US Cooperation

Besides the provision of SAR services, the CCG and the USCG cooperate and share information on an ongoing basis in a number of other areas.

At our briefings in Juneau, Alaska, Rear Admiral Christopher C. Colvin, Commander of USCG District 17, outlined for the Committee the five fundamental roles of the USCG: maritime safety, maritime security, maritime mobility, national defence, and protection of natural resources. In Alaska, a state that has more coastline than the remaining forty-nine US states combined, District 17 provides federal oversight and is the primary responder for all environmental maritime protection and response issues. District 17's overarching Arctic policy and mission is Operation Arctic Crossroads, a multi-agency initiative to expand Arctic domain awareness and secure US interests in the Arctic.

The USCG has been an agency of the US Department of Homeland Security since 2003 and is one of the five branches of the US military in wartime;¹⁴⁷ unlike the civilian Canadian Coast Guard, it is a law-enforcement organization. District 17's major enforcement mission is domestic fisheries in the Gulf of Alaska, the Bering Sea, and the Aleutian Islands.¹⁴⁸ Unlike other USCG districts, halting the flow of illegal drugs and the entry of aliens is not a primary focus.

Although the mandates of the USCG and the CCG differ, this does not affect in any way the joint work they conduct in the Arctic. Joint mapping between Canada and the United States of the extended continental shelf was frequently mentioned at our meetings as a good example of practical and useful cooperation.

Building on the success of their first joint mapping cruise of the seabed in the western Arctic Ocean in 2008, Canada and the United States conducted a second joint mapping

¹⁴⁶ An Aids to Navigation Team and a Buoy Tender are also located at Air Station Sitka.

¹⁴⁷ The other four branches of the US military are the Army, the Air Force, the Navy, and the Marine Corps.

¹⁴⁸ Alaska's commercial fisheries represent over half of total US total seafood landings, and the state has 8 of the 20 largest US seafood ports. The Alaskan seafood industry is the largest private-sector employer (30,000 are employed year-round in fishing and 70,000 in summer). The groundfish fishery is among the largest in the world. Alaska produces most of the world's supply of wild chinook, sockeye and coho salmon. The value of the total landed catch was US \$1.7 billion in 2008. Approximately 13,000 vessels are involved in commercial fisheries.

survey in the western Arctic Ocean, from 7 August to 16 September 2009. Both missions involved *CCGS Louis S. St-Laurent* and USCG cutter *Healy*, which Committee members visited when they were in Juneau, in September 2009. The two icebreakers were said to complement each other by collecting different types of data; the *Louis S. St-Laurent* gathered seismic data to measure the thickness of sediments, while the *Healy* undertook bathymetric surveys to determine the depth and shape of the seabed.¹⁴⁹ The joint missions were considered a great success, and a third joint expedition is being planned in 2010.¹⁵⁰

At a briefing in Victoria, BC, on 26 September 2009, Vija Poruks, Assistant Commissioner for the Canadian Coast Guard, Pacific Region, indicated to the Committee that the CCG actively deals with two of the four USCG districts in the Pacific region: District 17 in Alaska and District 13 in Washington and Oregon.¹⁵¹ The working relationship between the CCG and its US counterparts was described to the Committee as “excellent.”

The CCG and the USCG have joint responsibility in implementing the bilateral Canada–United States Joint Marine Pollution Contingency Plan (JCP), which provides a framework for Canada–US cooperation in response to marine pollution incidents in the inland or coastal waters of both countries, and regarding major incidents in one country in which the assistance of the neighbouring country is needed.¹⁵²

An annual Canada–United States Coast Guard Summit serves as a forum for the exchange of information and coordination of effort. Joint maritime security exercises are conducted periodically in northern waters between the two Coast Guards. The two agencies participate in the North Atlantic Coast Guard Forum (five member countries) and the North Pacific Coast Guard Forum (20 member countries).

Professional exchanges and visits regularly take place to promote the sharing of best practices and the mutual understanding of operational procedures.

¹⁴⁹ The 41-day mission in 2009 revealed a buried extinct volcano and a very large, previously unknown seamount located about 700 nautical miles north of Alaska.

¹⁵⁰ The USCG and CCG also coordinate their icebreaking activities in the Great Lakes and assist each other with respect to navigational aids along the St. Lawrence Seaway and the Great Lakes.

¹⁵¹ The other two operational areas are District 11 in California and District 14 in Hawaii. With regional and fleet headquarters in Vancouver and Victoria, the Canadian Coast Guard, Pacific Region, is responsible for more than 27,000 km of coastline in Yukon and British Columbia. For Juan de Fuca Strait and Puget Sound, a cooperative vessel traffic services agreement is in place to ensure safe and efficient navigation.

¹⁵² See Environment Canada, “Environmental Emergencies: Contingency Planning,” <http://www.ec.gc.ca/ee-ue/default.asp?lang=En&n=0187A1E9>.

G. Political Support, Future Role

The Canadian Coast Guard performs considerable and critical work in the Arctic, a region of tremendous potential. Its vital role will become ever more critical in the coming years.

The Coast Guard supports other government departments and agencies by providing ships, helicopters and other services. Canada relies on its icebreakers as a primary means of projecting its sovereignty in the Arctic. Research on fisheries, oceanography, seabed mapping and marine climate depends on its vessels. Vessels and commerce depend on the agency for marine communications and traffic management. The Coast Guard supplies isolated northern communities, breaks ice for northern commercial shipping, maintains navigational aids in northern seaways, and provides for marine pollution response. Everyone relies on the Coast Guard for marine search and rescue. The Coast Guard provides most of Canada's maritime awareness picture in the Arctic.

The history of what is now known as the Canadian Coast Guard dates back to the Department of Marine and Fisheries in 1867.¹⁵³ It moved to the Department of Transport in 1936, and then to DFO in 1995. A number of difficulties were encountered in the years immediately following the amalgamation of the Coast Guard with DFO. The two organizations had different structures and corporate cultures, and the focus was on cost reduction and efficiency.¹⁵⁴ Today, the CCG fleet numbers 114 vessels, compared with the 198 vessels the Coast Guard operated before the merger.¹⁵⁵

Significantly, on 1 April 2005, the Coast Guard became a Special Operating Agency within DFO to affirm its role as a national institution, to ensure that the fleet provides services to other government clients (e.g., National Defence, Environment Canada, the RCMP, DFAIT, Transport Canada, Natural Resources Canada, the Natural Sciences and Engineering Research Council of Canada), and to allow the agency more autonomy and operational flexibility.¹⁵⁶

¹⁵³ CCG, "History," <http://www.ccg-gcc.gc.ca/eng/CCG/History>.

¹⁵⁴ SCOFO (2009), p. 62–6.

¹⁵⁵ CCG, "Our Vessels and Helicopters," http://www.ccg-gcc.gc.ca/eng/CCG/Careers_Vessels_Helicopters.

¹⁵⁶ In December 2003, the policy functions related to the Coast Guard's responsibilities for regulatory policy for marine safety, boating safety and navigable waters protection were transferred to Transport Canada.

Prior to the transition in 2005, Coast Guard operations reported to DFO regional offices. They now report to the CCG Commissioner, who reports to the Minister of Fisheries and Oceans through the deputy minister, an arrangement that was said to give the agency more operational independence and greater ability to manage its budget.¹⁵⁷

In 2007, the Auditor General's Status Report on "Managing the Coast Guard Fleet and Marine Navigational Services" made only one recommendation: "that the Coast Guard establish its priorities for improvement, setting clear, achievable goals for each priority," that "sufficient and appropriate resources should be allocated to each priority" and that managers and organizational units "be accountable for achieving the expected results." The reason given to the Committee by Auditor General Sheila Fraser was that the Coast Guard needed to focus its limited resources on a number of key issues.¹⁵⁸ The 2007 Status Report noted that the replacement schedule for the icebreaking fleet was becoming outdated and unrealistic.

Participants at our meetings, such as Ethel Blondin-Andrew, Chairperson of the Sahtu Secretariat,¹⁵⁹ felt that the Coast Guard needs to be recapitalized. Only recently has it been recognized that the Coast Guard needs to be rebuilt.

Financial commitments made in recent budgets are said to represent the first investments since the mid-1980s.¹⁶⁰ Since 2005, the Government of Canada has earmarked \$1.4 billion to acquire 17 new large vessels, 12 of which are to replace existing vessels that will be taken out of service, including *CCGS Louis S. St-Laurent*.¹⁶¹

According to the Coast Guard, as the signs of climate change in the Arctic are becoming more apparent – less multi-year sea ice, less ice cover in summer and increased variability from season to season – the demands for Coast Guard services are increasing.¹⁶² In May 2009, the Committee recommended that the Coast Guard, as the expert agency on the maritime situation facing Canada in the Arctic, formulate and implement a long-term strategic

¹⁵⁷ George Da Pont, *Committee Proceedings*, 12 May 2009.

¹⁵⁸ Sheila Fraser, Auditor General of Canada, *Office of the Auditor General of Canada, Committee Proceedings*, 21 April 2009. The Coast Guard responded by developing three-year business plans that set out a long-term approach to address the challenges faced by the Coast Guard. In addition, mid-year progress reports are prepared and made publicly available.

¹⁵⁹ *Committee Proceedings*, September 2009.

¹⁶⁰ George Da Pont, *Committee Proceedings*, 12 May 2009. Between February 2006 and March 2007, funding was announced for the purchase and maintenance of three offshore fisheries science vessels, one offshore oceanographic science vessel, and 12 midshore patrol vessels – all of which will have no capacity for Arctic operations. Budget 2009 provided funding to acquire 98 small vessels and barges to enhance refits and life extensions on larger vessels.

¹⁶¹ *Ibid.*, 2 April 2009.

¹⁶² CCG, *2007–2008 Fleet Annual Report*, p. 25, <http://www.ccg-gcc.gc.ca/folios/00092/docs/Fleet-Annual-Report-ENG.pdf>.

vision to guide it for the future (recommendation 10). Since then, the Coast Guard has been developing a long-term (10- to 15- year) strategic “Arctic Vision,” championed by the CCG Commissioner which the government plans to have in place in 2010.¹⁶³

In Cambridge Bay, the mayor and town councillors asked for a year-round Coast Guard presence in their community, just like the RCMP. In Alaska, the Committee learned that the USCG is shifting operations northward. USCG District 17 is in the process of assessing the effectiveness of its capabilities in the Arctic to ascertain what organizational changes are needed to facilitate a full-time presence.

In Canada, the Coast Guard operates from five regions across the country, each region being responsible for maritime safety, environmental protection, facilitating maritime commerce, and supporting Canada’s maritime priorities. In each region, Regional Operations Centres task and deploy vessels and personnel as required.

As for Canada’s North, the entire region is administered from regional headquarters in Sarnia, Ontario. The reason given to the Committee is that CCG operations are seasonal and that it would be difficult to justify having permanent and ongoing infrastructure in the North. When asked if the Coast Guard had any plans for moving the administration of its services from Sarnia to the North, the CCG Commissioner answered:

[T]here is little doubt in my mind that at some point the Coast Guard will have a northern operation based full time in the North. It is inevitable. The issue is when does it become feasible, over what time frame? These are the considerations that we have been looking at.¹⁶⁴

H. Conclusion and Recommendations

Many of the challenges faced by Canada in defending and consolidating Canada’s sovereignty in the Arctic are related in various ways to the Coast Guard, the agency that helps safeguard the values and environmental and economic interests of Canadians, especially those who live in the North. The Committee believes that Canada has a responsibility to affirm its control of the Northwest Passage, part of its internal waters.

¹⁶³ René Grenier, *Committee Proceedings*, 21 September 2009.

¹⁶⁴ *Committee Proceedings*, 12 May 2009.

Although Canada and the United States have different positions on key issues, such as where to place the maritime boundary between Alaska and Yukon in the Beaufort Sea, and over the legal status of the Northwest Passage, from an operational standpoint, there is a great deal of cooperation between the CCG and the USCG, which the Committee wishes to see continue.

Climate change is extending the duration of the navigable season in the Arctic, and the demand for marine services will only intensify. Given the Coast Guard's enormous importance in the rapidly changing Arctic, Canada will need to ensure that the agency has the capacity, tools and equipment to do the job for which it is mandated.

In the Committee's view, the CCG icebreaking fleet will not be adequate once shipping increases.¹⁶⁵ Coast Guard icebreakers currently 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 response, icebreaking, and resupply). But the agency presently has a limited capacity to navigate in Canada's Arctic, and although everyone supports the replacement of the 40-year-old *CCGS Louis S. St-Laurent* with a new polar icebreaker with greater capabilities, the announced new icebreaker will have the capacity to operate in the Arctic for only nine months of the year.

Canada should be planning for the replacement of the remaining icebreakers with new heavy icebreakers capable of operating year-round in the Archipelago and on the extended continental shelf.¹⁶⁶

Through the Coast Guard's Arctic Response Strategy, pollution response equipment is placed at a number of sites in the Arctic to manage fuel spills that result from the transshipment of oil when communities are resupplied. Community-level training to contain oil spills has ceased in recent years because of a lack of funds, and the evidence given to the Committee suggests that the Coast Guard would be hard pressed to respond adequately to a large spill in offshore areas or in ice-covered waters. The response time – a major worry in the North – would depend on the ability to move equipment. In the case of a major incident, the cleanup effort would obviously be more difficult in the Arctic.

¹⁶⁵ Paradoxically, as sea ice recedes and navigation increases, greater icebreaking capability will be required because sea ice will continue to form in winter. As the polar ice cap breaks up, heavy ice conditions are expected to persist for some years in certain areas because the ice pack tends to be pushed toward the Canadian Arctic Archipelago.

¹⁶⁶ Because icebreakers are complex and unique ships, the lead time to put a new vessel out to sea is 8–10 years from decision to replacement. More icebreakers would be a cost-effective response to Canada's surveillance and sovereignty patrol needs in the Arctic.

Canada will need to develop its SAR capabilities further. The ability to provide SAR is an important means for Canada to demonstrate its commitment to sovereignty in the vast and sparsely populated region that is the Canadian Arctic. Over 100,00 international flights transit over the Canadian Arctic each year. As sea traffic increases, the potential for accidents will rise. If an accident were to happen in Canada's vast Arctic, would Canada be able to respond, especially in winter?

Canada is planning and preparing for what is likely to become a much busier Arctic. Canada will need to build up its Coast Guard with added capabilities and equipment, and to provide it with adequate funding to carry out what will become an expanding role in the North.

Recommendation 6:

The Committee recommends that the "Arctic Vision" include the notion of the Coast Guard, along with the Canadian Forces, having a year-round northern operation administered in the North to demonstrate that Canada is serious about protecting Canadian interests and the interests of Canada's northern residents.

Recommendation 7:

The Committee recommends that Canada develop a long-term plan and provide the funding necessary for the acquisition of a suitable number of new multi-purpose polar icebreakers capable of operating year-round in its Arctic Archipelago and on the continental shelf.

Recommendation 8:

The Committee recommends that the Canadian Coast Guard identify areas in the Arctic at high risk of a major cargo or oil spill, assess current response capabilities, and communicate the results of the assessment to Canada's northern communities. The Government of Canada should provide funding to train northern residents in the use of oil spill containment equipment for oil spills close to shore.

Recommendation 9:

The Committee recommends that additional federal funding be provided to the Canadian Coast Guard Auxiliary for the purchase of tangible assets directly related to the provision of search and rescue services.

APPENDIX 1

NORTHERN STRATEGY COMMITMENTS



Recent Northern Strategy Commitments

Sovereignty

Strengthening Our Presence

- \$720 million to procure a new Polar Icebreaker – the CCGS John G. Diefenbaker
- Procuring new Arctic/Offshore Patrol Ships
- Expansion and modernization of the Canadian Rangers
- Establishing a Canadian Forces Army Training Centre in Resolute Bay
- Establishing a deep-water berthing and fuelling facility in Nanisivik
- Launching RADARSAT II satellite
- Ongoing military exercises and surveillance operations such as Operation Nanook

Enhancing our Stewardship

- Introducing new ballast water control regulations
- Amending the Arctic Waters Pollution Prevention Act
- Making reporting mandatory for all vessels under NORDREG

Defining Our Domain and Advancing Our Knowledge

- An additional \$40 million over four years to fund scientific studies to determine the full extent of Canada's continental shelf as defined under UNCLOS

Economic and Social Development

Supporting Northern Economic Development

- \$50 million to establish an Economic Development Agency for the North
- \$90 million for the renewal of the Strategic Investments in Northern Economic Development program
- Launching the Northern Regulatory Improvement Initiative
- Issuing \$1.8 billion in offshore oil and gas exploration licenses in the Beaufort Sea
- \$120 million over two years to extend the Mineral Exploration Tax Credit
- Establishing a three-year moratorium on the application of Marine Navigation Services Fees

- Investing \$100 million in geo-mapping in the North to inform and guide the private sector in its mineral and petroleum exploration efforts
- Increasing funding for tourism promotion and community cultural and heritage institutions
- Negotiating basin-opening financial support for the Mackenzie Gas Project
- Providing \$37.6 million in support of environmental assessments, regulatory coordination, science, and Aboriginal consultations related to the Mackenzie Gas Project

Addressing Critical Infrastructure Needs

- \$42 million to establish a commercial fisheries harbour in Pangnirtung
- Investing in Northern infrastructure, including recreational and green infrastructure
- Extending broadband service to under-served communities

Supporting Northerners' Well-Being

- Investing \$200 million over two years for social housing in the North.
- \$20 million over 2 years to increase the daily residency deduction for Northerners
- Supporting the Aboriginal Skills and Employment Partnership Program
- Increasing funding by \$195 million between 2006 and 2009 to enhance Territorial Formula Financing
- Delivering the Food Mail Program
- Improving territorial health systems and reducing reliance on outside care
- Strengthening support to Canada's university granting councils for research in support of industrial innovation, health priorities, and social and economic development in the North.
- Establishing graduate student fellowships on Canada's role in the circumpolar world

Environmental Protection

Being a Global Leader in Arctic Science

- \$156 million, the largest single country investment, for International Polar Year research
- Committing to establish an Arctic Research Station, including \$2 million to support a feasibility study for the research station
- \$85 million to upgrade the existing network of Arctic research infrastructure
- Signing a memorandum of understanding with the United Kingdom for cooperation in polar research activities

Protecting Northern waters and lands

- Establishing conservation areas and national parks
- \$15 million over three years to create and expand protected areas in the Northwest Territories
- Supporting the Health of the Oceans initiative
- Accelerating action on the reclamation and remediation of federal contaminated sites across Canada.

Governance

Made-in-the-North Policies and Strategies

- Negotiating and implementing land claims and self-government agreements with Aboriginal Northerners

Providing the Right Tools

- Advancing devolution and implementation of agreements to build effective governance models

Source: Government of Canada

APPENDIX 2**GOVERNMENT OF CANADA RESPONSE TO THE REPORT OF THE STANDING SENATE COMMITTEE ON FISHERIES AND OCEANS: *RISING TO THE ARCTIC CHALLENGE: REPORT ON THE CANADIAN COAST GUARD*****8 October 2009****Introduction:**

The Government of Canada would like to thank the Standing Senate Committee on Fisheries and Oceans (SCOFO) for its Second Report: *Rising to the Arctic Challenge: Report on the Canadian Coast Guard (CCG)*. The Government has thoroughly reviewed, and given careful consideration, to the recommendations contained in this report.

The Government is actively involved in the North, which is one of its top priorities, and has made extensive progress on its Northern Strategy, a horizontal initiative led by Indian and Northern Affairs Canada (INAC), which was announced by the Prime Minister in August 2007 and recently reaffirmed with the publication of the policy paper *Canada's Northern Strategy: Our North, Our Heritage, Our Future*.

The purpose of this whole-of-government approach to the North is to provide an integrated Northern Strategy focused on: exercising Canada's Arctic sovereignty as international interest in the region rises; encouraging social and economic development and regulatory improvements that benefit Northerners; adapting to climate change and ensuring sensitive ecosystems are protected for future generations; and, providing Northerners with more control over their livelihood.

Within this context, the Government agrees with the Committee's assessment of the need for intervention in the North in support of Canada's sovereignty and sovereign rights, as well as with the important role the CCG plays in the Arctic. The Government is also supportive of many of the Committee's recommendations, and is pleased to report that work is already underway, or has been completed, on many of these initiatives.

Regarding the various waterways known as the "Northwest Passage" (hereafter "Northwest Passage" refers to these various waterways), the Government has consistently stated in a number of forums that these waterways are internal waters of Canada, and that Canada has an unfettered right to regulate these waters as it would with regard to land territory. Navigation in these waters is taking place under Canadian regulation and control, and is subject to stringent environmental laws, such as the *Arctic Waters Pollution Prevention Act (AWPPA)*, which was amended in 2009 to extend its application from 100 to 200 nautical miles. The *AWPPA* applies to Canada's internal waters and to all of Canada's Exclusive Economic Zone (EEZ) in the Arctic.

In addition, Canada's presence and capacity in the Arctic are strengthened by CCG's vessel activities and maritime services, many of which are delivered in partnership with, and in

support of, other federal departments and agencies, academic institutions, and northern communities. For example, the CCG provides: icebreaking services; aids to navigation; assistance in resupplying Arctic communities; marine communications and traffic services; and, support for scientific activities, such as those related to the International Polar Year (IPY) and establishing the limit of Canada's outer continental shelf consistent with the United Nations Convention on the Law of the Sea (UNCLOS). By undertaking these responsibilities, the CCG plays an important role in exercising Canada's sovereignty, and maintaining its security in the Arctic, which, in turn, helps safeguard Canadian values.

The Government agrees with the Committee on the need to engage with the international community. Canada asserts its leadership in the North through its foreign policy in the Arctic. It is a member of many multilateral organizations, such as the Arctic Council, the International Maritime Organization (IMO), the International Hydrographic Organization (IHO), and participated in the recently concluded IPY, which are important vehicles for advancing Canadian interests in the Arctic.

Canada engages with a number of Arctic coastal states and other interested states (e.g. China) and entities (e.g. the European Union [EU]). Canada also signed the Ilulissat Declaration, adopted in Greenland on May 28, 2008 by the five coastal states of the Arctic Ocean (Canada, the United States [US], Russia, Denmark, and Norway), which articulated the will to advance work on Arctic issues through existing frameworks of international agreements and UNCLOS, and agreed to intensify their cooperation in the areas of Search and Rescue (SAR), protection of the marine environment, safety of navigation, and scientific research, and to continue to contribute actively to the work of the Arctic Council.

Canada recently co-led the development of the Arctic Marine Shipping Assessment (AMSA) with the US and Finland, which was presented at the Arctic Council Ministerial meeting in April 2009. The AMSA is the first comprehensive review of circumpolar shipping activities and will increase understanding of current and future shipping activities, as well as potential environmental and socio-economic implications in the Arctic.

Once again, the Government wishes to thank the Senate SCOFI for its report. The Minister of Fisheries and Oceans, in collaboration with the Ministers of Transport, Infrastructure and Communities, National Defence, Indian Affairs and Northern Development and Federal Interlocutor for Métis and Non-Status Indians, and Foreign Affairs, will continue to work towards ensuring the safety and sustainability of the North for Canadians and Northerners.

Recommendation 1:

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

Response: The Government supports this recommendation

The Government agrees with the Committee's recommendation and has consistently stated in a number of forums that the waterways of the “Northwest Passage” are internal waters of Canada and that Canada has an unfettered right to regulate these waters as it would with regard to land territory. Canada maintains that all waters within the Arctic archipelago are internal waters of Canada by virtue of historic title. For greater clarity, Canada drew straight baselines around these Arctic islands in 1986. Since the internal character of these waters is

derived from historic title and not the drawing of the baselines, no right of innocent passage or of transit passage exists through them. Further, title is not linked to the extent of the ice-cover and is consequently undiminished by any reduction of the ice.

Navigation in these waters is taking place under Canadian regulation and control and is subject to stringent environmental laws, such as the *AWPPA*. The disagreement with the US over the “Northwest Passage” is a dispute over the legal status of the waters and not over ownership or sovereignty. Despite this disagreement, Canada and the US signed the Agreement on Arctic Cooperation in 1988, which requires the US to seek consent for US government icebreakers to use these waters, without prejudice to either party’s legal position. The agreement has been respected and has worked well for both sides, thus Canada does not foresee any imminent challenges to its legal position. However, the Government will vigorously defend Canada’s position if it is challenged.

Recommendation 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 Canada’s northern residents, and making the waterway a safe and efficient shipping route.

Response: The Government supports this recommendation

The Government remains committed to the protection of Canada’s safety, security, and the exercise of sovereignty in the Arctic, including in and around the “Northwest Passage”, through coordinated interdepartmental efforts. Safety, sovereignty, security, and enforcement activities in the Arctic feature prominently in the mandates of several departments and agencies.

The Arctic is a central focus of the Department of National Defence’s (DND) *Canada First Defence Strategy* (CFDS). As part of this Strategy, a number of investments and commitments have been made in both northern capabilities and presence of the Canadian Forces (CF), including:

- the planned acquisition of up to eight Arctic Offshore Patrol Ships (AOPS) by 2020, which are expected to be capable of operating in the first-year ice of Canada’s northern waters during the navigable season, including in the “Northwest Passage”, and will patrol Canada’s EEZ off all three coasts;
- the establishment of an Arctic training centre in Resolute Bay to allow the CF to train in the harshest Canadian climates;
- the creation of a berthing and refuelling facility in Nanisivik that will begin operations in 2015 to allow CF and CCG ships to refuel and resupply without having to rely on tankers;
- a primary reserve company which has been established in Yellowknife and the continued training of four Arctic Response Company Groups, which will be provided with specialized equipment and training to ensure they can operate effectively in the Arctic environment; and,
- the expansion of the Canadian Rangers to 5,000 personnel by 2011–12 (in May 2009, there were approximately 4400 Rangers, and 164 patrols had been established out of a planned 172).

DND is also enhancing its surveillance capabilities for the region, including through Polar Epsilon, a project designed to use the imagery from the RADARSAT II satellite to provide much better situational awareness of our Arctic land and waters.

The CCG provides a significant presence in the Arctic, including in the “Northwest Passage”, and supports enforcement activities. Annually, from late June to early November, when marine activity levels are highest, the CCG deploys its seven icebreakers and other vessels into the region. The CCG’s acquisition of a new Polar icebreaker, the *CCGS John G. Diefenbaker*, which was funded in Budget 2008 and is scheduled for delivery in 2017, will improve the CCG’s capabilities and extend its operating period in the Arctic from five months to nine months.

These CCG vessels provide a wide-range of essential northern shipping services, including: escorting commercial ships through ice to ensure access to Northern communities; supporting scientific endeavors, such as marine science, hydrographic charting and mapping the limit of Canada’s outer continental shelf in support of Canada’s submission to the Commission on the Limits of the Continental Shelf (CLCS); aids to navigation in Canadian Arctic waterways; acting as the primary response lead for pollution incidents and environmental accidents north of 60° [latitude]; providing marine SAR capability; and, delivering food, cargo, and fuel to remote sites where commercial ships do not go. These vessels also support, when requested, the national security and enforcement mandates of other departments and agencies, including conducting joint national security exercises with DND.

The CCG is responsible for providing year-round Marine Communications and Traffic Services (MCTS) in the Arctic, which also demonstrates a strong Canadian presence in the region. The MCTS, which operates out of three Arctic Centres (two seasonal in Inuvik, Northwest Territories and Iqaluit, Nunavut and one in St. John’s, Newfoundland and Labrador, is responsible for a wide variety of services in the North, including: screening vessels for safety and environmental protection before they enter the Arctic Canada Traffic Zone; supporting Canada’s SAR responsibilities by monitoring radio channels; monitoring dangerous ice conditions; providing routing and meteorological information to facilitate safe sailing in the Arctic; providing marine telephone services, such as radio medical calls; gathering, on behalf of Transport Canada (TC), foreign-flag vessel Pre-Arrival Information Reports 96 hours before a vessel enters Canadian waters; and, beginning in 2010, enforcing the proposed new Northern Canada Vessel Traffic Services Zone Regulations (NORDREG) (currently known as the Arctic Canada Traffic System (NORDREG) for applicable vessels, which will further enhance Canada’s presence and control of marine activity in the North.

CCG is also helping to sustain the Government’s efforts to enhance maritime domain awareness in the Arctic through the implementation of the vessel Long Range Identification and Tracking (LRIT) system, pursuant to the IMO’s approval of the international regulation within the SOLAS Convention. The LRIT system is a satellite-based vessel monitoring tool designed to track SOLAS-class vessels, aid in SAR missions, and help address environmental response issues. In addition, Fisheries and Oceans Canada (DFO), through the Canadian Hydrographic Service, has a program for charting the northern waters pursuant to the *Oceans Act* to ensure that ships have the most up-to-date CHS charts and publications, as required by the *Canada Shipping Act, 2001, Charts and Nautical Publications Regulations 1995* and the *AWPPA*.

TC works closely with its partners in the North to ensure that Arctic shipping routes continue to be safe, secure, and efficient and to protect the Arctic marine environment. The *Marine*

Transportation Security Regulations requires non-SOLAS vessels over 100 gross registered tons or carrying more than 12 passengers and SOLAS vessels over 500 gross registered tons to submit a pre-arrival information report 96 hours prior to entering Canadian waters, including Arctic waters. While in Canadian Arctic waters, vessels of 300 gross registered tons or more report status and position information on a voluntary basis to NORDREG.

In addition, TC's National Aerial Surveillance Program (NASP) Dash 7 provides surveillance (approximately 400 hours in 2009) and support to CCG vessels in the Arctic during the shipping season. This surveillance aircraft has recently been modernized with an integrated suite of marine pollution surveillance equipment, which will enhance TC's ability to detect, classify, and track all targets of potential interest and marine oil spills.

With the information gathered during its surveillance patrols, the modernized Dash 7 will enhance Canada's protection of the Arctic's fragile marine ecosystem by deterring marine polluters while increasing Canada's maritime domain awareness. Also, the surveillance aircraft patrolling over the waters within the Arctic archipelago will constitute yet another example of Canada exercising its sovereignty over the region.

Recommendation 3

The Committee recommends that the Government of Canada consider Goose Bay, Labrador, as a sub-Arctic staging area for the coordination and support of CCG, fisheries, SAR, surveillance and other Arctic activities.

Response: The Government partially supports this recommendation

The major Government asset and facility at Goose Bay is that of the CF air base, 5 Wing Goose Bay. Since the publication of the CFDS, work has been ongoing by DND to define and develop several courses of action to deliver enhanced northern and Arctic capabilities in support of an increased presence and capability in Canada's North. Given the significant amount of readily available DND/CF infrastructure at 5 Wing Goose Bay, it is logical to consider what role it might play in northern or sub-arctic training, staging and operations.

The DND/CF facilities at Goose Bay are also being used for other purposes. DND recently invested in resurfacing the runway at Goose Bay. The new runway enhances the marketability of Goose Bay to a wider range of commercial and military aviation and is essential to maintaining this world-class facility. A project has been initiated to upgrade the control tower and the precision approach and landing system. As well, Goose Bay has and will continue to be considered as a venue for foreign military and training and CF training activities, such as the hosting of Canada's National SAREX in 2007. Furthermore, Goose Bay will continue its role as a 1 Canadian Air Division/North American Aerospace Defence Command Deployed Operating Base.

CCG operates a Marine Communications and Traffic Services (MCTS) centre out of Goose Bay, which provides service for the Labrador coast, as well as the Davis Strait and the east coast of Baffin Island as required, and operates with ten staff on a 24/7, 365 days per year basis. Program requirements in that area, including SAR, are being met through a variety of CCG vessels operating out of the Newfoundland Regional base. The most recent review of SAR needs in this region showed a 97 percent achievement rate for the CCG's service requirements.

An analysis of the historical distribution of demand, as well as an assessment of future needs, determines that the greatest number of incidents can be responded to in the least amount of time utilizing the existing CF SAR basing solution. Demonstrating the capability to deliver a CF SAR response to the farthest reaches of our National areas of responsibility, within 11 hours of being notified, assures that incidents in all regions will receive a timely response. Goose Bay remains a valuable base in supporting SAR air operations in the North, as SAR helicopters from Gander and Greenwood will often use it as a refuelling point when accessing northern latitudes. CF fixed wing SAR aircraft have speed and range capabilities that allow them to access northern latitudes without refuelling in transit.

DFO also has an office in Goose Bay, which operates year-round to deliver departmental programs in Labrador, including: resource management through fisheries licensing, the development and implementation of fisheries management plans, and the delivery of Aboriginal programs; conservation and protection through enforcement of the *Fisheries Act*; and, habitat management through the regulation of the development of projects affecting fish and fish habitat. In addition, this office supports the negotiation and implementation of local Aboriginal Land Claims settlements.

Recommendation 4:

The Committee recommends that the Nunavut Marine Council (NMC) (Part 4, Article 15.4.1 of the 1993 Nunavut Land Claims Agreement [NLCA]) be created as a forum for priority setting and planning, and as a practical means to enhance Canada's sovereignty in marine areas.

Response: The Government partially supports this recommendation

Section 15.4.1 of the NLCA indicates that the Nunavut Impact Review Board (NIRB), the Nunavut Water Board (NWB), the Nunavut Planning Commission (NPC), and the Nunavut Wildlife Management Board (NWMB) may join together to act as a NMC or may separately advise and make recommendations to other government agencies (e.g. the CCG) on the marine areas of the Nunavut Settlement Area.

Since the effective date of the NLCA in 1993, these Boards (NIRB, NWB, NPC and NWMB) have periodically met as the NMC. During the 2008-09 fiscal year, INAC provided incremental funding to these Boards to allow for meetings among their respective Executive Directors to assess the viability, feasibility, and desirability of them convening as a NMC in a more regularized manner. It was determined at that time that permanently establishing a NMC was unnecessary as it was felt that the continued ad hoc, project/need-driven approach to joining together as a NMC was the appropriate approach.

In discussing planning and priorities for matters within their mandates, these Boards pass on advice and recommendations to the Government on the marine areas (either individually or as the collective NMC). By working collaboratively with the residents of the North, and by giving due consideration to the advice of the members of NMC, the Government not only demonstrates its commitment to the NLCA, but also enhances Canada's ability to exercise sovereignty over its Arctic marine areas.

However, it is important to note that there is no land claim obligation for the Government itself to establish a NMC – under the NLCA, the responsibility for determining the need for a NMC lies solely with existing Boards (NIRB, NWB, NPC and NWMB). Canada would

support the consideration of any future creation of a formal NMC upon receipt of a recommendation and appropriate justification by the Boards.

Recommendation 5:

The Committee recommends that Canada assume a leadership role in promoting international cooperation on: (a) issues relating to continental shelf claims; and (b) the development of a mandatory common code relating to the construction, manning and equipment of all vessels operating in the Arctic Ocean equal to Canada's domestic standards.

Response A: The Government supports this recommendation

International cooperation on continental shelf issues is important. Reflecting the stage of Canada's continental shelf submission preparation, efforts so far to promote international cooperation have focused almost exclusively on scientific cooperation in data collection and interpretation. As observed by the Committee, the Arctic is a difficult environment in which to conduct the scientific work necessary to collect the data to support Canada's submission to the United Nations Commission on the Limits of the Continental Shelf. It has only made sense to work with our Arctic neighbours in carrying out this research as all involved benefit from the sharing of resources, expertise and data. Canada's research activities have been led by Natural Resources Canada (NRCan) through the Geological Survey of Canada and DFO through the CHS.

In the western Arctic, Canada and the US conducted joint surveys in 2008 and 2009 using the *CCGS Louis S. St. Laurent* and the *USCGC Healy*. Since the *Louis* is equipped with a seismic array and the *Healy* is equipped with multi-beam sonar, the two ships complement each other by being able to collect different types of data. Having one ship break ice for the other also made it easier for the second ship to collect data. The joint missions were a great success and resulted in a large amount of high quality data. Canada and the US anticipate working together again in 2010 on a third joint survey. In the eastern Arctic, Canada and Denmark have collaborated to carry out bathymetric and gravity surveys, including a jointly run ice camp north of Ward Hunt Island.

Cooperation extends beyond data collection. Canada, Denmark and Russia share an interest in examining Arctic ridges, particularly the Lomonosov Ridge. Two trilateral scientific meetings to review data and exchange views and information were convened in St. Petersburg (November 2007) and Copenhagen (November 2008). Canada will host a third meeting in Halifax in November 2009. Canadian scientists have also participated in scientific conferences with broad international attendance to present joint interpretations from the collaborative surveys and discuss issues with peers.

The Government will continue to promote this direct cooperation on continental shelf delineation through activities and discussions with opposite and adjacent states. More broadly, the Government will continue to engage with other states with regard to the activities of the Commission on the Limits of the Continental Shelf and issues related to the outer continental shelf.

Response B: The Government supports this recommendation

Canada is working internationally on Arctic shipping issues, with Canada taking a leading role on updating the IMO Guidelines for Ships Operating in Polar Waters. The IMO Guidelines provide requirements for ship design, construction, crew qualifications, equipment and operations.

Canada also supports the International Association of Classification Societies (IACS) Unified Requirements initiative (hull and machinery). Canada has supported many research and development projects that have underpinned the IACS Harmonized Polar Class Rules.

Together, the IACS Unified Requirements and the IMO Guidelines provide standards for, among other things: ship categories; navigation control systems; design ice loads; navigational equipment; extent of strengthened hull areas; structural strength; material standards; rudders; steering gears; nozzles; ice knives; shell plate requirements; and, ship subdivision/damage stability.

Canada also cooperates with other countries through the International Hydrographic Organization to develop internationally consistent navigation products as required under the *Canada Shipping Act, 2001* and *AWPPA*, and by leading the development of international standards on data collection, products and dissemination of products around the world.

TC plans to review and amend the *Arctic Shipping Pollution Prevention Regulations* (ASPPR), which is a comprehensive package of construction standards and shipping control procedures pursuant to the *AWPPA*. The intent is to align the ASPPR with the proposed IMO Guidelines for Ships Operating in Polar Waters and the IACS Unified Requirements. TC also requires crew onboard ships operating in Arctic waters to comply with *Marine Personnel Regulations* and section 26 of the ASPPR, which details the qualifications of ice navigators, including the level of experience needed.

Canada's influence in the AMSA also resulted in a number of recommendations, including those that are intended to enhance Arctic marine safety. For instance, the AMSA recommends that Arctic states work together to:

- advance safety of Arctic marine shipping and to harmonize and enhance the implementation of the Arctic maritime regulatory framework;
- cooperatively support efforts at the IMO to strengthen, harmonize and regularly update international standards for vessels operating in the Arctic;
- explore the possible harmonization of Arctic marine shipping regulatory regimes within their own jurisdiction;
- support strengthening passenger ship safety in Arctic waters; and,
- support developing and implementing a comprehensive, multi-national Arctic SAR instrument.

Recommendation 6:

The Committee recommends that Canada demonstrate its commitment to international co-operation within the Arctic Council by re-establishing the position of Ambassador for Circumpolar Affairs (which was eliminated in 2006).

Response: The Government does not support this recommendation

Canada is strongly committed to international cooperation within the Arctic Council. At their most recent meeting in Norway in April 2009, Arctic Council Ministers endorsed a number of major new initiatives in which Canada played a leadership role. These included the AMSA which complements Canada's actions to protect the Arctic environment and to enhance Arctic marine protection, safety and security. In recent speeches and meetings with his Arctic counterparts, Canada's Foreign Minister has underlined the importance of the Arctic Council and his priorities for strengthening it.

The Government will continue to foster international cooperation within the Arctic Council through various means. With regard to the position of Ambassador of Circumpolar Affairs, these functions have been assumed by a senior public servant in the Department of Foreign Affairs and International Trade (DFAIT).

Recommendation 7:

The Committee recommends that DND make the Canadian Rangers an integral part of the Canadian reserves and provide them with marine capability.

Response: The Government supports this recommendation

The Canadian Rangers are an integral part of the Canadian Reserves and already engage in coastal and inland water surveillance. In May 2008, the Prime Minister announced the CFDS, the Government's comprehensive plan to ensure the CF have the people, equipment, and support needed to meet Canada's long-term domestic and international security challenges. The CFDS outlined the importance of the CF domestic responsibilities. Consequently, the CF is committed to improving its ability to operate in remote and sparsely populated coastal regions of Canada in the exercise of Canadian sovereignty. The Canadian Rangers are a highly valued and integral part of the CF's domestic surveillance and response strategy.

The Canadian Rangers are a sub-component of the Canadian Forces Reserves whose mission is to provide lightly equipped, self-sufficient, mobile forces in support of the CF's sovereignty and domestic operation tasks in Canada. As members of the Reserve Force, they are entitled to pay and benefits while conducting training, sovereignty and surveillance patrols, assistance to CF Domestic Operations, such as SAR, response to natural and man-made disasters and maintaining a CF presence in their local communities. The Canadian Rangers conduct these tasks independently or in conjunction with members of the Regular Force and Primary Reserves on an ongoing basis, under the command and control of their applicable Land Force Area or Joint Task Force North. As such, the Canadian Rangers are already an integral component of the CF.

The Canadian Ranger task list includes conducting coastal and inland water surveillance. Many Canadian Ranger Patrol Groups are presently equipped with various types of marine transport to fulfill this task. This capability is supplemented by the Canadian Rangers employing their own marine vessels for which they receive reimbursement via an equipment usage rate. Canadian Rangers will continue to employ watercraft within their assigned role and mission, however there is no intention to assign any tasks to the Canadian Rangers that have a tactical military connotation or that require tactical military training, such as naval boarding. There are also no plans at this time to equip the Canadian Rangers with any additional marine transport capabilities.

To enhance the capability of the Canadian Rangers, the CF is in the process of executing a Canadian Ranger Expansion Plan through a combination of increased recruiting of Canadian Rangers to join existing patrols and the creation of new patrols along our extended coastlines, across the Arctic and in the interior north of 50°. Through this phased plan, it is the intent of the CF to increase the strength of the Canadian Rangers to 5000 members by 2011/2012 (in May 2009, Canadian Ranger strength was approximately 4400). In conjunction with expansion, funding has been increased for the Canadian Rangers to meet their operation and training obligations. This focus includes an examination of increased mobility assets over land and water to ensure the Canadian Rangers are well prepared for domestic operations in support of the CF.

The Canadian Rangers, some of whom already conduct maritime tasks within the parameters of their assigned role and mission, are a fully integrated and functional entity within the Reserve Force and the CF is fully committed to expanding their capabilities to meet our future domestic response needs.

Recommendation 8:

The Committee recommends that the Government of Canada establish an Arctic Strategy Advisory Committee, led by INAC, to monitor and to advise in the development and implementation of an effective and integrated strategy for the North. The new Arctic Strategy Advisory Committee should comprise representatives from the federal government departments and agencies with a mandate in the Arctic, with particular emphasis on the CCG, the various Aboriginal/Inuit groups in the region, and the three territorial governments.

Response: The Government does not support this recommendation

Recognizing the need for an integrated approach to the North, the Prime Minister announced the establishment of the Northern Strategy in August 2007, which was recently reaffirmed by the Northern Strategy policy paper, *Canada's Northern Strategy: Our North, Our Heritage, Our Future*, published in July 2009. This Government of Canada priority is a comprehensive and integrated plan, within areas of clear federal jurisdiction, to: exercise Canada's sovereignty in the Arctic; protect the environment; promote economic and social development; and, improve governance. Since its conception, federal departments and agencies have been working cooperatively, under the lead of INAC, to develop and implement the Government's integrated Northern Strategy. INAC has also been working in collaboration with territorial governments and Aboriginal organizations to ensure that their needs and concerns are considered.

As part of the government machinery supporting this initiative, an Ad Hoc Deputy Ministers (DMs) Committee on the Arctic was struck and has been meeting regularly to oversee the implementation of the Strategy, and closely monitor its progress. Supporting the Ad Hoc DMs Committee is the Assistant Deputy Ministers (ADM) Coordinating Committee on the Arctic and the ADM Committee on the High Arctic Research Station. This internal organization permits the close coordination of efforts by all involved federal departments and agencies in the development and execution of the Northern Strategy.

However, the Government recognizes that planning and carrying out a Northern Strategy which focuses on the needs of Northerners requires more than federal internal teamwork.

Input from the people of the North is essential to the proper shaping and ultimate success of Canada's efforts. To date, much of that input has come through extensive engagement on particular elements of the broad suite of initiatives that make up the Strategy. For example, there have been wide consultations with Northerners on ways and means to improve the land and resource regulatory regime in the territories. DFO undertook a study with the Government of Nunavut on the feasibility of small craft harbours (SCHs), which resulted in the Government's decision to construct a harbour in Pangnirtung, Nunavut in order to foster the development of the emerging fishery in that territory.

In addition to engagement on particular initiatives, federal officials have engaged in broader discussions on the overall Strategy with both federal officials and Aboriginal organizations of the North. One such forum in which these discussions take place is the Nunavut Senior Officials Working Group, which has participation from both the Government of Nunavut and Nunavut Tunngavik Incorporated (NTI), the organization representing Inuit in Nunavut.

Through ongoing efforts such as those mentioned above, the Government has received, and continues to garner, extensive input from residents of the North on the Northern Strategy as it is further developed and rolled out. Given the success of this approach, the establishment of an Arctic Strategy Advisory Committee would at this time be redundant to those networks and partnership arrangements already in place and working effectively.

Recommendation 9:

The Committee recommends that Inuit, with their unique knowledge of the region, be recruited for the CCG whenever possible.

Response: The Government supports this recommendation

Within the broader human resources challenges currently being faced by the CCG, and despite the past difficulties with the hiring of Inuit for its northern operations, the CCG will continue its efforts to recruit and retain Inuit into its workforce. In particular, the CCG is currently developing strategies to encourage the recruitment of Inuit for Ship Crew positions aboard its vessels.

The Government recognizes the unique traditional environmental knowledge that Inuit provide in support of many of its Arctic programs. Departments conducting their missions in the Arctic using CCG ship platforms often hire Inuit for their traditional environmental knowledge to provide assistance in protecting wildlife, guiding services, and conducting bear watches for the safety of personnel when working off the ship.

To date, the CCG has made a concerted effort to recruit Inuit, but with limited success. Over the next three years, the CCG's human resources management and planning will continue to be among its highest priorities, as it works towards addressing significant changes and challenges to its workforce with the substantial departure levels among its most seasoned employees and the crewing of several new vessels. The CCG will address these challenges through its *Strategic Human Resources Plan 2009–2012*.

In addition, the CCG is aware of the objective set out in Section 23.2.1 of the NLCA to increase Inuit participation in Government of Canada employment in the Nunavut Settlement Area to a representative level. The recruitment of persons from other Aboriginal groups residing in the Arctic region is also important to CCG.

Recommendation 10:

The Committee recommends that the CCG, as the expert agency on the maritime situation facing Canada in the Arctic, formulate and implement a long-term strategic vision to guide it for the future.

Response: The Government supports this recommendation

In recognition of the significant roles that both DFO and the CCG play in the Arctic, the Department recently launched an internal departmental process to develop a long-term, strategic Arctic Vision, which is being championed by the Commissioner of the CCG.

The purpose of this Arctic Vision will be to help DFO and the CCG advance their mandate in the North by providing: for the development of an integrated, departmental approach to the North; a long term outlook (ten to fifteen years) for the direction of DFO and CCGs northern initiatives and activities and clear direction on the Department's short, medium, and long-term northern priorities; and, linkages between DFO and the CCG's domestic activities and international agenda.

The CCG provides many critical maritime programs and plays a key support role in helping DFO and other government departments and agencies realize their long-term northern goals. With many years of operational and program experience in the Arctic, the CCG is well-placed to champion the development of this long-term strategic Arctic Vision. As well, DFO programs are important to Canada's knowledge and protection of the Arctic region and its environment. This Arctic Vision for DFO and the CCG will provide important future strategic direction for the development of Arctic initiatives and operations. It will also highlight potential linkages with other government departments and agencies' northern initiatives, and identify areas for collaboration. It is expected that this departmental Arctic Vision will be in place in 2010.

Recommendation 11:

The Committee recommends that NORDREG, Canada's current voluntary vessel traffic system in the Arctic, be made compulsory. All foreign ships that enter Canada's Arctic waters should be required to register with NORDREG, regardless of vessel size.

Response: The Government partially supports this recommendation

The Government of Canada is preparing regulations that will formalize the existing voluntary reporting system in Canada's northern waters, currently known as Arctic Canada Traffic System (NORDREG) in regulation and implement requirements for vessels to report information. Once established, the Regulations will be known as the Northern Canada Vessel Traffic Services Zone Regulations (NORDREG). Implementing these regulations will strengthen and increase the effectiveness of the Northern Canada Vessel Traffic Services (VTS) and its ability to promote and facilitate the safe and efficient movement of maritime traffic in Canada's northern waters and protect the unique and fragile Arctic marine environment. It is anticipated that these regulations will come into force in 2010.

It is expected that the following prescribed classes of vessels will be subject to the regulated reporting requirements: (a) vessels of 300 gross tons or more; (b) vessels that are engaged in towing or pushing a vessel if the combined gross tonnage of the vessel and the vessel being

towed or pushed is 500 gross tons or more; and (c) vessels carrying as cargo a pollutant or dangerous goods, or engaged in towing or pushing a vessel carrying as cargo a pollutant or dangerous goods.

The application of NORDREG to these specific vessels takes into account the current application of NORDREG and the application of the mandatory reporting requirements on the east and west coasts of Canada. Smaller vessels were considered but are not being proposed for inclusion at this time. The proposed application is directed at those vessels that pose the greatest risk to the marine environment (i.e. those able to carry more fuel oil, pollutants, and larger amounts of cargoes, including dangerous goods). These regulations will apply equally to the prescribed classes of vessels regardless of being foreign or Canadian vessels, and whether entering the VTS zone from seaward or operating entirely within the zone.

Recommendation 12:

The Committee recommends that the federal government amend the definition of Arctic waters in the *AWPPA* to include the waters beyond the Arctic archipelago to the 200-nautical-mile EEZ, which is the case with other Canadian legislation, such as the *Oceans Act* and the *Canada Shipping Act, 2001*.

Response: The Government supports this recommendation

On August 27, 2008, the Government announced its intention to expand the coverage of Arctic shipping laws and regulations in support of the Government's integrated Northern Strategy. This coverage will give Canada greater and more effective control over marine activity in the Canadian Arctic while protecting air and water quality in Canada's North.

On January 28, 2009, the Minister of Transport, Infrastructure and Communities introduced legislation (Bill C-3) in the House of Commons to extend the application of the *AWPPA* by amending the definition of "Arctic waters" from 100 to 200 nautical miles, to help ensure that ships do not pollute Canadian waters. On June 11, 2009, the amendment to the Act received Royal Assent. The amendment came into force on August 1, 2009.

Recommendation 13:

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 as part of an integrated approach to vessel procurement recognizing the complementarity of CCG and naval vessels.

Response: The Government partially supports this recommendation

While the Government supports the need for long-term vessel planning, it is currently not feasible for CCG vessels to operate in the Arctic year-round due to annual mandatory operational maintenance and other essential requirements, nor operationally necessary, due to the current lack of demand for CCG programs and services in the Arctic over the winter months.

However, the Government is committed to building and maintain[ing] an effective federal fleet of ships for maritime security and services. Since 2005, the Government has invested \$1.4 billion in the CCG Fleet. In addition, the CF plan to acquire up to eight AOPS, whose operations will commence between 2015 and 2020. These ships will be capable of operating in first-year ice in Canada's northern waters during the navigable season, including in the "Northwest Passage", and will patrol Canada's EEZ off all three coasts. All ships are expected to be completed and delivered by 2020.

The CCG has established a long-term *Fleet Renewal Plan* to acquire new, multi-purpose icebreakers made in Canada, including the acquisition of multi-purpose Polar icebreakers, with acquisitions prioritized based on available funding. The Plan, which is reviewed every five years to reflect changing circumstances and evolving government priorities, is currently being updated.

At present, the CCG has two heavy icebreakers, four medium icebreakers (one of which is dedicated to science) and several other multi-taskable ice-capable vessels that can be assigned seasonally to Arctic ice operations. Additionally, the CCG has three smaller vessels in the Arctic which are not ice-capable: two supporting aids to navigation on the Mackenzie River; and, one supporting science in the Western and Central Arctic.

The existing icebreaker fleet, with the exception of the heavy icebreaker, the *CCGS Louis S. St-Laurent*, which is reaching the end of its operational life, is sufficient to meet program needs until 2020. Budget 2008 provided \$720 million in capital funding and \$25 million in annual operating funding for the acquisition of a new Canadian-built multi-purpose Polar icebreaker, the *CCGS John G. Diefenbaker*, to replace the *CCGS Louis S. St-Laurent*. This new icebreaker will provide further capacity to the CCG by providing for increased coverage in Canadian Arctic and adjacent waters (nine months instead of the current five months) over a larger geographical area. This new vessel is scheduled for delivery in 2017.

The operating profile of this new icebreaker will be based on requirements derived from expert advice, including anticipated future Arctic conditions, the multitude of program demands that are projected to be placed on that vessel in the coming years, and the necessary time required to regularly maintain vessels of this complexity. Once operational, it will be a large multi-purpose icebreaker, capable of autonomous and independent operations in the Arctic from May through January, and if necessary for extraordinary purposes, it would be able to safely over-winter in the Arctic. The CCG's medium icebreakers are due to be replaced around 2025. The CCG plans to replace the remaining icebreakers in a phased approach.

Recommendation 14:

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

Response: The Government supports this recommendation

The CCG's approach to fleet operations is to ensure that all vessels are multi-tasked as the most efficient and effective means of maintaining assets, delivering on mandated programs, and providing support to other government departments and agencies. The CCG's *Fleet Renewal Plan* specifies that all vessels must be designed to be multi-task capable, and this

approach has been endorsed by the Government as the most efficient and effective means to operate the CCG fleet.

In Budget 2008, the CCG received \$720 million (accrual basis) and \$25 million annual operating funding for the acquisition of a new Canadian-built multi-purpose Polar icebreaker, the *CCGS John G. Diefenbaker*, to replace the *CCGS Louis S. St-Laurent*, which is scheduled for delivery in 2017. The Mission Profile for this new vessel specifies that this icebreaker will contribute to Canadian Arctic sovereignty requirements by: maintaining a visible presence through community visits (often associated with the delivery of medical care); providing icebreaking, logistical and platform support to other government departments (notably DND and the Royal Canadian Mounted Police [RCMP]); providing platform support to science activities; and, escorting foreign and domestic vessels through Canadian waters. Specific details for how the icebreaker will support maritime security, national defence, or policy enforcement activities in the Arctic will be determined through future discussions with DND, the RCMP, Canada Border Services Agency, and DFAIT.

While not an enforcement agency, the CCG is the only agency capable of providing on-water platform support to departments and agencies charged in challenging ice conditions. For example, DND will require support from the CCG to effectively extend both the AOPS operational reach into areas of heavier ice concentration and operational season into the early Summer/late Fall. By virtue of its presence, the CCG will also face an increased expectation to be the “eyes on the water” and collector and disseminator of maritime domain awareness.

APPENDIX 3**THE 1988 CANADA–US AGREEMENT ON ARCTIC COOPERATION****AGREEMENT BETWEEN THE GOVERNMENT OF CANADA AND THE
GOVERNMENT OF THE UNITED STATES OF AMERICA ON ARCTIC
COOPERATION**

1. The Government of Canada and the Government of the United States of America recognize the particular interests and responsibilities of their two countries as neighbouring states in the Arctic.
2. The Government of Canada and the Government of the United States also recognize that it is desirable to cooperate in order to advance their shared interests in Arctic development and security. They affirm that navigation and resource development in the Arctic must not adversely affect the unique environment of the region and the well-being of its inhabitants.
3. In recognition of the close and friendly relations between their two countries, the uniqueness of ice-covered maritime areas, the opportunity to increase their knowledge of the marine environment of the Arctic through research conducted during icebreaker voyages, and their shared interest in safe, effective icebreaker navigation off their Arctic coasts:
 - The Government of the United States and the Government of Canada undertake to facilitate navigation by their icebreakers in their respective Arctic waters and to develop cooperative procedures for this purpose;
 - The Government of Canada and the Government of the United States agree to take advantage of their icebreaker navigation to develop and share research information, in accordance with generally accepted principles of international law, in order to advance their understanding of the marine environment of the area;
 - The Government of the United States pledges that all navigation by U.S. icebreakers within waters claimed by Canada to be internal will be undertaken with the consent of the Government of Canada.
4. Nothing in this agreement of cooperative endeavour between Arctic neighbours and friends nor any practice thereunder affects the respective positions of the Governments of the United States and of Canada on the Law of the Sea in this or other maritime areas or their respective positions regarding third parties.
5. This Agreement shall enter into force upon signature. It may be terminated at any time by three months' written notice given by one Government to the other.

IN WITNESS WHEREOF, the undersigned, duly authorized to that effect, have signed this Agreement.

DONE in duplicate, at Ottawa, this 11th day of January, 1988, in the English and French languages, each version being equally authentic.

JOE CLARK

For the Government of Canada

GEORGE P. SCHULTZ

For the Government of the United States of America

APPENDIX 4**REPORTING REQUIREMENTS: ANSWERS TO QUESTIONS,
DFAIT, 9 NOVEMBER 2009**

ECAREG (Eastern Canada Vessel Traffic Services Zone) and VTS OFFSHORE (Western Canada Vessel Traffic Services Zones) [...] apply to vessels in transit; however, these [...] have minimum size regulatory cut-offs. For example, VTS OFFSHORE does not apply to pleasure craft under 30m or fishing vessels under 24m/150gt. These regulations are made under the *Canada Shipping Act, 2001* (CSA) and the application of these regulations reflect the purpose of the regulations under the CSA, which is to promote safe and efficient navigation and environmental protection. The regulations are not for the purpose of security, customs, immigration etc. Under the CSA, vessels belonging to a foreign military force are exempted (ss.7(1)).

Under the *Marine Transportation Security Act* (MTSA), non-SOLAS (*International Convention for the Safety of Life at Sea*) vessels over 100 gross registered tons or carrying more than 12 passengers, and SOLAS vessels over 500 gross registered tons, are required to submit a pre-arrival information report 96 hours prior to entering Canadian waters if travelling to a Canadian port. There is currently no requirement for transiting vessels of any kind to report under the MTSA or its regulations. Also, the MTSA does not apply to pleasure craft, fishing vessels, government vessels, or vessels without a crew that are in dry dock, dismantled or laid-up.

While in Canadian Arctic waters, vessels of 300 gross registered tons or more report status and position information on a voluntary basis to NORDREG, the northern vessel traffic service system managed by the Canadian Coast Guard's Marine Communications and Traffic Services. Vessel information provided supports the efficient provision of safety services including ship inspections, ice routing, icebreaker escort, and search and rescue. In August 2007, the Prime Minister announced intentions to implement mandatory ship reporting for vessels destined for Canada's Arctic waters. Regulations are being drafted, under the *Canada Shipping Act*, which would require ships to report through NORDREG in waters north of the 60th parallel. These regulations are anticipated for the 2010 shipping season.

Therefore, a foreign government vessel would only report to NORDREG if it were over 300 gross registered tons starting in spring 2010. Otherwise, the only reporting requirement would occur if it touched land or its crew came ashore, when it would then fall under the purview of the Canada Border Services Agency (CBSA). Despite its current voluntary nature, there is a very high degree of compliance with NORDREG, which has long been part of accepted Canadian Arctic operational procedures.

Under SOLAS, Contracting Governments (CGs) are entitled to receive long-range identification and tracking (LRIT) information about ships required to be LRIT compliant. This entitlement includes foreign flag vessels that have indicated their intention to enter a port facility of the CG, and foreign flag vessels navigating within 1,000 nautical miles of the CG's coast (that are not located within the waters landward of the baselines of another CG or

are not in the territorial sea of their flag state). Information is transmitted automatically between the Data Centres of each CG based on these entitlements.

The *Arctic Waters Pollution Prevention Act* (AWPPA) does not automatically exempt foreign government vessels (includes warships) from the requirement to comply with certain standards (construction, etc., as set out in regulations) or equivalent. If the vessel requires an 'equivalent' consideration, often an Order-in-Council is needed. The USCG cutter *Healy* had such an Order-in-Council on its first voyage east to west via the various waterways known as the Northwest Passage. The relevant section of the AWPPA is as follows:

12. (2) The Governor in Council may by order exempt from the application of any regulations made under subsection (1) any ship or class of ship that is owned or operated by a sovereign power, other than Canada, where the Governor in Council is satisfied that
- (a) appropriate measures have been taken by or under the authority of that sovereign power to ensure the compliance of the ship with, or with standards substantially equivalent to, standards prescribed by regulations made under paragraph (1)(a) that would otherwise be applicable to it within any shipping safety control zone; and
 - (b) in all other respects all reasonable precautions have been or will be taken to reduce the danger of any deposit of waste resulting from the navigation of the ship within that shipping safety control zone.

Governments are directed by Transport Canada to make contact via DFAIT. For commercial vessels, Transport Canada deals with the regulatory requirements.

Source: Norman A. Villegas, Parliamentary Affairs Officer, Parliamentary Affairs Division, Corporate Secretariat, DFAIT, Answers to Questions, email to the chair, 9 November 2009.

WITNESS LIST

Thursday, March 26, 2009	
<i>Indian and Northern Affairs Canada</i>	Patrick Borbey, Assistant Deputy Minister; Mimi Fortier, Director General, Northern Oil and Gas Branch; John Kozij, Director, Northern Strategic Policy Branch.
Thursday, April 2, 2009	
<i>Fisheries and Oceans Canada</i>	Hon. Gail Shea, P.C., M.P., Minister of Fisheries and Oceans; Claire Dansereau, Deputy Minister; Michaela Huard, Assistant Deputy Minister; George Da Pont, Commissioner, Canadian Coast Guard; Ian Matheson, Director General, Habitat Management; Barry Rashotte, Director General, Resource Management – Operations.
Tuesday, April 21, 2009	
<i>Office of the Auditor General of Canada</i>	Sheila Fraser, Auditor General of Canada; Neil Maxwell, Assistant Auditor General; Scott Vaughan, Commissioner of the Environment and Sustainable Development; Kevin Potter, Principal.
Tuesday, May 12, 2009	
<i>Fisheries and Oceans Canada</i>	George Da Pont, Commissioner, Canadian Coast Guard; Wade Spurrell, Assistant Commissioner, Central and Arctic Region; Mimi Breton, Assistant Deputy Minister, Oceans and Habitat Sector; Sylvain Paradis, Director General, Ecosystem Science Directorate; Burt Hunt, Regional Director, Fisheries and Aquaculture Management, Central and Arctic Region.
Tuesday, June 2, 2009	
<i>Fisheries and Oceans Canada</i>	Mimi Breton, Assistant Deputy Minister, Oceans and Habitat Sector; Sylvain Paradis, Director General, Ecosystem Science Directorate; Michelle Wheatley, Regional Director, Science, Central and Arctic Region.

Tuesday, June 16, 2009	
<i>Vermont Law School</i>	Betsy Baker, Associate Professor.
Monday, September 21, 2009	
<i>Fisheries and Oceans Canada</i>	René Grenier, Deputy Commissioner of the Canadian Coast Guard; Wade Spurrell, Assistant Commissioner, Central and Arctic Region; David Burden, Associate Regional Director General, Central and Arctic Region; Burt Hunt, Regional Director, Fisheries and Aquaculture Management, Central and Arctic Region; Mike Hecimovich, Area Director, Western Arctic Area, Central and Arctic Region.
<i>Indian and Northern Affairs Canada</i>	Trish Merrithew-Mercredi, Regional Director General, Northwest Territories Region; Teresa Joudrie, Acting Director, Contaminants and Remediation Directorate.
<i>National Defence</i>	Brigadier-General Dave Millar, Commander of the Joint Task Force (North).
<i>Royal Canadian Mounted Police</i>	Grant M.E. St. Germaine, Superintendent, Criminal Operations, « G » Division; Jack Kruger, Search and Rescue Coordinator for the Northwest Territories.
<i>Environment Canada</i>	Randal Cripps, Regional Director General, Prairie and Northern Region; Bruce MacDonald, Manager, Northern Conservation; Cheryl Baraniecki, Manager, Environmental Assessments.
Wednesday, September 23, 2009	
<i>Gwich'in Renewable Resources Board</i>	Amy Thompson, Executive Director.
<i>Gwich'in Tribal Council</i>	Mary Ann Ross, Vice-President; Mardy Semmler, Lands Manager.
<i>Fisheries and Oceans Canada</i>	Mike Hecimovich, Area Director, Western Arctic Area, Central and Arctic Region.
<i>Sahtu Renewable Resources Board</i>	Jody Snortland Pelissey, Executive Director.

<i>Inuvialuit Regional Corporation</i>	Duane Smith, Vice-Chair.
<i>Inuvialuit Game Council</i>	Billy Storr, Vice-Chair.
<i>Sahtu Secretariat</i>	Ethel Blondin-Andrew, Chairperson; Howard Townsend, Lands Advisor.
Tuesday, October 6, 2009	
<i>Fisheries Joint Management Committee</i>	Vic Gillman, Chairman; Max Kotakak Sr., Inuvialuit Member; Burton Ayles, Canada Member.
Tuesday, October 27, 2009	
<i>National Defence</i>	Commodore J.E.T.P. Ellis, Director General, Maritime Force Development; Captain (Navy) E.G. Bramwell, Project Manager, Arctic/Offshore Patrol Ship.
Thursday, November 5, 2009	
<i>Fisheries and Oceans Canada</i>	Gary Sidock, Director General, Fleet Directorate, Canadian Coast Guard.
<i>Royal Canadian Mounted Police</i>	Chief Superintendent Russ Mirasty, Director General, National Aboriginal Policing Services; Chief Superintendent Joe Oliver, Director General, Border Integrity.
<i>Canada Border Services Agency</i>	Philip Whitehorne, Chief of Operations, Inland Enforcement Section, Intelligence and Enforcement Division, Northern Ontario Region
<i>Transport Canada</i>	Donald Roussel, Director General, Marine Safety.
<i>National Defence</i>	Brigadier General S. Kummel, Director General – Plans, Strategic Joint Staff.

FACT-FINDING*

Friday, September 18, 2009 (Winnipeg, Manitoba)	
<i>Freshwater Fish Marketing Corporation</i>	John Wood, President and CEO; Jim Bear, Chairperson, Board of Directors; Irwin Constant, Federal appointment for Manitoba; Ron Ballantyne, Provincial appointment for Manitoba; Ken Campbell, Federal appointment for Manitoba; David Northcott, Vice-President, Operations.
<i>Fisheries and Oceans Canada, Freshwater Institute</i>	Burt Hunt, Regional Director; David Burden, Associate Regional Director General; Kathy Fisher, Division Manager, Resource Management and Aboriginal Affairs; Scott Gilbert, Director, Conservation and Protection; Barry Briscoe, Regional Director, OHSAR; Bev Ross, Regional Manager, Environmental Assessment for Major Projects; Julie Dahl, Regional Manager, Habitat Manager; Ray Ratynski, Division Manager, Species at Risk; Helen Fast, Division Manager, Oceans; Michelle Wheatley, Regional Director, Science; Robert Young, Division Manager, Arctic Aquatic Research Division; Robert Fudge, Executive Director, (NCAARE); Rick Wastle, Fish Aging Lab; Simon Wiley, Stock Assessment Lab; Rob Bajno, Genetics Lab; Jim Reist, Climate Change and Arctic Chars; Jack Orr, Whale Research/Tagging; Pierre Richard, Whale Research/Tagging; Bruno Rosenburg, Fatty Acid Lab.
Saturday, September 19, 2009 (Rankin Inlet, Nunavut)	
<i>Municipality of Rankin Inlet</i>	John Hickers, Mayor.
<i>Kivalliq Arctic Foods</i>	Darrin Nichol, President, Nunavut Development Corporation; Brian Schindel, General Manager; Johnny Kingmeatok, Staff.

*Includes both Coast Guard and fisheries-related matters.

Saturday, September 19, 2009 (Cambridge Bay, Nunavut)	
<i>Municipality of Cambridge Bay</i>	Syd Glawson, Mayor; Sharon Ehaloak, Councillor; Marg Epp, Councillor; Steve King, Senior Administrative Officer; Derrick Anderson, Assistant Administrative Officer; Megan Livingston, Council Officer.
Sunday, September 20, 2009 (Cambridge Bay, Nunavut)	
<i>Ikaluktutiak Co-op</i>	Bill Lyall, President.
<i>Kitikmeot Foods</i>	Monique Giroux-Laplante, Manager; Stéphane Lacasse, Staff.
<i>Sir Wilfrid Laurier</i>	Mark Taylor, Commanding Officer; Simon Dockerill, Chief Officer; William McIndoe, 2nd Officer; Ben Axmann, 3rd Officer; Randy Morford, Chief Engineer; Gabriel Chaikin, 1st Engineer; Laurie Laplante, Electrician; Miles G. Taylor, Logistics Officer; Other representatives.
Sunday, September 20, 2009 (Yellowknife, Northwest Territories)	
<i>University of Calgary</i>	Dr. Rob Huebert, Professor of Political Science and Associate Director of the Centre for Military and Strategic Studies.
Tuesday, September 22, 2009 (Hay River, Northwest Territories)	
<i>Coast Guard Facility</i>	Jack Kruger, Search and Rescue Coordinator; Les Sanderson, Acting Field Supervisor; Deanna Leonard, Fisheries Management Biologist; Other representatives.
<i>Northwest Territories Fishermen's Federation</i>	Alex Richardson, President.
<i>Freshwater Fish Marketing Corporation</i>	Dennis Geisler, Director of Field Operations, Western Regions.
<i>University of Calgary</i>	Dr. Rob Huebert, Professor of Political Science and Associate Director of the Centre for Military and Strategic Studies.

Wednesday, September 23, 2009 (Inuvik, Northwest Territories)	
<i>Fisheries and Oceans Canada</i>	Terry Stein, Conservation and Protection Field Supervisor; Amanda Joynt, Fisheries Management Biologist; Erica Wall, Fish Habitat Biologist; Marlene Bailey, Integrated Resource Management Officer; Cal Wenghofer, ISR Program Coordinator; Kevin Bill, Fish Management Biologist; Kelly Eggers, Integrated Management Planner; Sarah Fosbery, Administrative Clerk; Other representatives.
Thursday, September 24, 2009 (Juneau, Alaska)	
<i>Foreign Affairs and International Trade Canada</i>	Jennifer Loten, Consul, Consulate of Canada, Anchorage; Rudy Brueggemann, Political Affairs Officer, Consulate of Canada, Anchorage.
<i>US Coast Guard</i>	Rear Admiral Christopher Colvin; Captain Michael A Neussl, Chief of Staff; Captain Michael Inman, Chief, Response Division; Commander Michael Cerne; Other representatives.
<i>National Oceanic & Atmospheric Administration, National Marine Fisheries</i>	Jon Kurland, A/Deputy Regional Administrator; Sue Salveson, Assistant Regional Administrator; Phil Mundy, Director, Auke Bay Laboratories; Jonathan Pollard, Deputy Regional Counsel; Matthew Brow, National Marine Fisheries Service; Doug Mecum, Regional Manager.
<i>Alaska Department of Fish and Game</i>	Denby Lloyd, Commissioner; David Bedford, Deputy Commissioner; Gordy Williams, Special Assistant to the Commissioner; Cora Crome, Fisheries Policy Advisor.
Friday, September 25, 2009 (Sitka, Alaska)	
<i>Sitka Air Station</i>	Captain David Walker; Commodore Kevin Sareault; Commodore Melissa Rive; Other representatives.

Saturday, September 26, 2009 (Victoria, British Columbia)	
<i>University of Calgary</i>	Dr. Rob Huebert, Professor of Political Science and Associate Director of the Centre for Military and Strategic Studies
<i>Fisheries and Oceans Canada</i>	Bija Poruks, Assistant Commissioner; Paul Sprout, Regional Director General.
<i>Joint Rescue Coordination Centre</i>	Captain Stu Robertson; Captain Dave Bruneau; Marc Proulx, acting supervisor of the JRCC; Mike Stacey, Maritime Coordinator, CCG; John Millman, Maritime Coordinator, CCG; Captain Sarahlynn Hickey, Assistant Air Coordinator; Neil McBride, Acting Senior Staff Officer, Visits and Protocol; Captain Les Falloon, Assistant Chief of Staff, Operations, DND; John Palliser, Superintendent Marine Search and Rescue, CCG; Other representatives.