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Sovereignty & Security In Canada's Arctic

Interim Report



**The Honourable Pamela Wallin, Chair
The Honourable Roméo Dallaire, Deputy Chair**

**Standing Senate Committee
on National Security and Defence**

March 2011



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**Special Study on the National Security and
Defence Policies of Canada**

The Honourable Pamela Wallin
Chair

The Honourable Roméo Dallaire
Deputy Chair

**Standing Senate Committee
on National Security and Defence**

MARCH 2011

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MEMBERSHIP

THE STANDING SENATE COMMITTEE ON NATIONAL SECURITY AND DEFENCE
40th Parliament, 3rd Session
(March 3, 2010 - ...)

The Honourable Pamela Wallin
Chair

The Honourable Roméo Dallaire
Deputy Chair

and

The Honourable Senators:

*James Cowan (or Claudette Tardif)

Joseph A. Day

Daniel Lang

*Marjory LeBreton, P.C. (or Gerald J. Comeau)

Fabian Manning

Grant Mitchell

Pierre Claude Nolin

Dennis Glen Patterson

Lucie Pépin

*Ex officio members

Other Senators who have participated from time to time on this study:

The Honourable Senators Banks, Duffy, Marshall, Martin, Meighen, Mercer, Munson,
Plett, Rompkey and Segal

Committee Clerk:

Kevin Pittman

*Analysts from the Parliamentary Information and
Research Service of the Library of Parliament:*

Holly Porteous

Martin Auger

ORDER OF REFERENCE

Extract from the *Journals of the Senate*, Wednesday, March 17, 2010:

The Honourable Senator Wallin moved, seconded by the Honourable Senator Raine:

That the Standing Senate Committee on National Security and Defence be authorized to examine and report on the national security and defence policies of Canada, including, but not limited to:

- (a) the capability of National Defence to defend and protect the interests, people and territory of Canada both here and abroad; and its ability to prevent and respond to a national emergency or attack;
- (b) the role of our Forces in Afghanistan and post 2011;
- (c) the relationship with NATO, NORAD, the UN, other international bodies and our allies; the role and use of reservists; the effectiveness of humanitarian efforts such as Haiti; and the Canada First Defence Strategy;
- (d) the working relationships among the various agencies involved in intelligence gathering, security, protection and defence, and how they collect, coordinate, analyze and disseminate information and whether these functions might be enhanced;
- (e) the existing mechanisms to review the performance and activities of the various agencies involved in security, intelligence, defence and humanitarian assistance;
- (f) the security of our borders and critical infrastructure and the impact on consumers, transport systems, border security and budgets;

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-seventh Parliament be referred to the committee; and

That the committee report to the Senate no later than June 16, 2011 and that the committee retain all powers necessary to publicize its findings until 90 days after the tabling of the final report.

After debate,

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

Gary W. O'Brien

Clerk of the Senate

Foreword

This report is about Canada's Arctic sovereignty and security.

Although other definitions are possible, herein "Arctic" means everything north of the 60th parallel of north latitude. This is the definition used in the Canada Command backgrounder, *Canadian Forces in the North*.¹ We use "North" interchangeably with "Arctic," as did many of our witnesses, and as do Canadians in general.

In Canada, north of 60 means the three territories—Yukon, Northwest Territories, Nunavut—and includes a small part of northern Quebec and the northernmost tip of Newfoundland and Labrador. Worldwide it embraces Iceland, most of Alaska, Sweden and Norway, northern Russia, and all but the southernmost tips of Finland and Greenland (a self-governed part of Denmark). Not surprisingly, these eight countries comprise the Arctic Council, the high-level international Arctic forum whose founding was a Canadian initiative.

The meaning of "security" is more nebulous, but as this Committee's mandate is national security and defence, we mean the national security of Canada, which in an Arctic context has military and public safety, connotations. The federal government departments and agencies which look after such matters in the Arctic include: the Canadian Forces, the Canadian Coast Guard (an agency of Fisheries and Oceans Canada), the RCMP, the Canadian Security Intelligence Service, the Canada Border Services Agency, Citizenship and Immigration Canada, Transport Canada, Environment Canada and Natural Resources Canada. The three territorial governments also provide certain services related to Arctic security.

This is an interim report. It is not exhaustive on the subject nor necessarily our final word. Given other defence and security issues pressing on our time, as well as the exigencies of Canadian politics, we cannot anticipate when a further report will be forthcoming.

Finally, your Committee's intention is to produce reports that are clear, concise, on topic, based on witness testimony, and whose recommendations are doable in a fiscal climate of austerity. We hope that with this report we have achieved those aims.

¹ National Defence. *Canada Command Backgrounder #09.002, The Canadian Forces in the North*. Available: <http://www.canadacom.forces.gc.ca/nr-sp/bg-do/09-002a-eng.asp> [Modified: August 17, 2009]

In the end, the battle for the Arctic will be fought by scientists and lawyers. The weapons will be information and scientific data, and the battleground will be conference rooms and courtrooms.²

Stephen Carmel, Maersk Line Limited

Introduction

After a post-Cold War lull, the Arctic is making headlines again because the world's climate is changing. The shrinking of the Arctic Ocean's vast ice sheet promises a bonanza of oil, natural gas, minerals, fish and other marine life for a resource-hungry world. At the same time, shorter and less costly sea routes are being proposed for transportation of cargo between Asia, Europe and North America—possibly through Canada's fabled Northwest Passage. As the ice recedes, Arctic waters will also be open to other marine traffic, allowing resource development on and off shore, and clearing the way for more tourists to take Arctic cruises.

Resources and transportation routes, of course, have long been points of contention among nations and a leading cause of conflict. Access to resources and transportation routes is considered a matter of national security everywhere. It is no surprise, then, that nations—especially Arctic nations—are thinking about and preparing for the future. That preparation includes increasing their military presence and capabilities in their respective Arctic zones.

Canada is a leading Arctic player, enmeshed in a web of international bodies that research, discuss and deal with Arctic issues, as well as being party to international agreements concerning the Arctic. Our territory north of the 60th parallel, at about four million square kilometers, is bigger than India, the world's seventh largest country. It is rich in natural resources and its people look forward to increased development opportunities.³

The present Canadian government has taken a particular interest in the Canadian Arctic that reflects the region's growing importance in world affairs, and in our national life. The Canada First Defence Strategy, for instance, speaks to defence of the Arctic and includes plans for six to eight Arctic/offshore patrol ships. Canada's Northern Strategy outlines measures for exercising sovereignty in the Arctic—including design and construction of a new Polar Class icebreaker, and expansion of Canadian Forces facilities and capabilities. More recently, the government outlined a Canadian Arctic Foreign Policy. And the prime minister has taken a great personal interest, visiting the Arctic for several days at a time each year since taking office. As Canada's Foreign Affairs Minister

² Canada. Parliament. Senate. Standing Committee on National Security and Defence. *Proceedings*. (Issue No. 2, March 29, 2010, p. 19). 40th Parliament, 3rd Session, 2010. Ottawa: Public Works and Government Services Canada, 2010.

³ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 10, December 13, 2010, p. 36).

Sovereignty and Security in Canada's Arctic

Lawrence Cannon told the Committee, "The importance of the Arctic and Canada's interest in the North have never been greater."⁴

The Canadian Arctic, of course, is not dispute-free, and news of these issues frequently makes headlines, which tend to play them up as conflicts.

Canada and Denmark, for instance, have two minor disputes, one over who owns a tiny island, the other over two small patches of the Arctic Ocean north of Ellesmere Island and Greenland. That said, it should be noted that Canada and Denmark cooperate both militarily and otherwise in the Arctic, are both members of the Arctic Council and "The Arctic Five," and are working on a negotiated settlement of these disputes.

Of greater significance is a boundary dispute between Canada and the United States in the Beaufort Sea of the Western Arctic—greater because it involves a large wedge of resource-rich sea floor over which each nation asserts ownership. Again, however, our two countries are long-time allies, partners in defence, as well as each other's largest trading partners. We are also both members of the Arctic Council and our governments are quietly working on a negotiated settlement of the Beaufort dispute, whose resolution is now a number one Canadian priority.⁵

The biggest headline maker by far, however, is the Canada–US dispute over the Northwest Passage. Canada asserts that the Passage's waters are internal, fully subject to our laws and regulations. The United States and many other countries say the Northwest Passage is an international strait, meaning that all nations have the right of so-called "innocent passage." It is an emotive issue for Canadians in that it involves national pride, our view of ourselves as an Arctic nation, what seems like a challenge to our sovereignty, and, among some, resentment of the United States. It is also an issue over which our two nations have agreed to disagree. And the dispute may ultimately be theoretical. The Committee heard informed testimony that for various reasons, the Northwest Passage may not be of interest to the world's shipping lines any time soon.

Beyond these managed disputes, there is a broader international picture to consider. Arctic Ocean coastal states have the most to gain from greater access to the Arctic seabed's resources. The United Nations Convention on the Law of the Sea (UNCLOS) permits each of the world's coastal states to claim an extended continental shelf with exclusive seabed resource rights, provided there is additional continental shelf available adjacent to their territory beyond their 200 mile Exclusive Economic Zone (EEZ). The five Arctic Ocean coastal states, including Canada, are determining the extent of their extended continental shelves. Canada will submit its claim in 2013. Collectively, these claims will give the five coastal states exclusive rights to a considerable area of seafloor.

⁴ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 8, November 1, 2010, p. 44).

⁵ Department of Foreign Affairs and International Trade. *Statement on Canada's Arctic Foreign Policy*. August 20, 2010. Available: http://www.international.gc.ca/polar-polaire/assets/pdfs/CAFP_booklet-PECA_livret-eng.pdf [Accessed: February 10, 2011]

It remains to be seen whether or not Canada's claim overlaps anyone else's, but if so it is a matter for determination under UNCLOS.

This UNCLOS process in the Arctic, however, shuts out states that do not have an Arctic coastline. This has not stemmed their interest. China, most notably, appears to be positioning itself to be an Arctic player despite having no Arctic territory, carrying out both Arctic and Antarctic scientific research. Furthermore, a retired Chinese rear admiral and several academics have openly said, in effect, that they wish their country to be more assertive concerning the Arctic, and on the world stage generally.

In considering Canada's national security in the Arctic, many questions must be asked.

- Is the Canadian government sufficiently aware of what goes on in this vast, sparsely settled place?
- Is Canada keeping pace with developments unfolding due to climate change?
- Is the region again becoming militarized, as it was during the Cold War, as some fear?
- What are the military threats, if any, that Canada faces in the Arctic?
- What are the non-military threats to our security there?
- Is Canada doing what needs to be done to protect our territory in the North from threats to our security?
- Does Canada have the search and rescue capabilities there to assure the security of people on land, at sea, and travelling by air—a pertinent question considering the old age of our Air Force search and rescue planes, their bases far from the Arctic and the long delay in the Fixed Wing Search and Rescue aircraft acquisition?
- And considering that three ships ran aground in the Arctic in the summer of 2010, are the region's waters adequately charted (another aspect of situational awareness), and are transportation and environmental regulations adequate to deal with trouble when it arises?

These questions, and the issues mentioned earlier were the focus of testimony at our Committee's hearings. Some witnesses view developments in the Arctic with concern and would like to see the Canadian government doing considerably more to make sure Canada is prepared for worst-case scenarios. Others believe that international disputes in the Canadian Arctic, and the Arctic generally, are well in hand and that Canada is part of a strong international system that has successfully managed Arctic issues peacefully and cooperatively, and is likely to continue doing so.

*The first and most critical pillar of our Northern Strategy is exercising Canadian Arctic sovereignty.*⁶

Hon. Lawrence Cannon, Minister of Foreign Affairs

Sovereignty—a clarification

“Arctic sovereignty” is a phrase much used and sometimes abused in Canada. The notion is often floated that that this country “claims” sovereignty in the Arctic, which suggests that our sovereignty there is somehow lacking or dubious. There has also been a tendency to think of sovereignty and security as the same thing. Two witnesses strongly challenged this view, and the confusion over the two words. It is worth quoting them here to put this misperception to rest.

First, Whitney Lackenbauer, professor at St. Jerome’s University, distinguished between sovereignty and security, pointing out that “... sovereignty is actually a legal concept which entails ownership and the right to control over a specific area regulated by a clearly defined set of international laws.”⁷

Alan Kessel, legal advisor to the Department of Foreign Affairs and International Trade, then took issue with those who say Canada “claims” sovereignty. “This is a misnomer; you do not claim something that you own.”⁸ Mr. Kessel then highlighted the difference between sovereignty and security, and the danger in confusing the two.

If you have a house and someone runs through your backyard in the middle of the night, you do not lose sovereignty of your house. You still own it. You may question the security of your backyard, and you may want to look into that, but you do not lose ownership of something just because you question whether it is secure enough. That is the key in understanding this particular issue because once you start falling into the realm of ‘If it is not secure, it is not mine,’ I think you have lost much of your argument. It is always yours.⁹

Canada therefore does not claim sovereignty of the Arctic. We own it. As Mr. Kessel put it, “Canadian Arctic sovereignty is long-standing, well established and based on historic title.”¹⁰ The exercise of that sovereignty then becomes key, to demonstrate that we’re taking care of what is ours. Securing our Arctic is an important part of exercising our sovereignty, not tantamount to sovereignty itself.

⁶ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 8, November 1, 2010, p. 45).

⁷ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 1, March 22, 2010, p. 39).

⁸ *Ibid.*, 60–61.

⁹ *Ibid.*, 61.

¹⁰ *Ibid.*

Canada's Arctic—the Domestic Scene

CANADIAN FORCES AND THE ARCTIC

... it is harder to sustain operations in the Arctic than it is to sustain operations logistically in Afghanistan ... what you bring is what you have.¹¹

General Walt Natynczyk, Chief of the Defence Staff

There are four Canadian Forces operational commands.¹² Canada Command is responsible for domestic and continental operations, including in the North. It exercises this responsibility largely through Joint Task Force (North)—JTFN.

Headquartered in Yellowknife, JTFN provides Canada Command with an operational headquarters, “with the capability to effectively plan, command, support, and execute joint, integrated and combined expeditionary operations throughout the North.”¹³

JTFN’s area of responsibility covers a lot of real estate—about four million square kilometres, or 40 percent of Canada’s land mass and 75% of its coastline. This includes the 94 major islands and 36,469 minor islands of the Arctic Archipelago.

JTFN’s role “is to exercise Canadian sovereignty north of the 60th parallel, to coordinate and support CF activities in the North, and to provide liaison with the territorial governments...”¹⁴

One Air Force unit is based full time in the North: 440 Transport Squadron in Yellowknife, which operates Twin Otter aircraft for airlift, utility and liaison flights, as well for search and rescue.

The Air Force also operates the Canadian Forces Station at Alert—the northernmost permanently inhabited place in the world, at the northeast tip of Ellesmere Island about 817 km from the North Pole. CFS Alert collects signals intelligence and supports search and rescue radio frequency direction finding, and provides other services as directed.¹⁵

¹¹ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 5, June 7, 2010, p. 71).

¹² The others include Expeditionary Force Command, Special Operations Forces Command, and Operational Support Command.

¹³ National Defence. *National Defence and the Canadian Forces: Welcome to Joint Task Force (North) (JTFN)*. Available: <http://www.cfna.forces.ca/site/index-eng.asp> [Modified: December 21, 2010]

¹⁴ National Defence. *Canada Command Backgrounder bg #09.002a: The Canadian Forces In The North*. Available: <http://www.canadacom.forces.gc.ca/nr-sp/bg-do/09-002a-eng.asp> [Modified: November 25, 2010]

¹⁵ National Defence. *Canada's Air Force. Canadian Forces Station Alert: On Top of the World*. Available: <http://www.airforce.forces.gc.ca/8w-8e/alert/index-eng.asp> [Modified: December 9, 2009]

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The Air Force, too, conducts Northern Patrols using aging CP-140 *Aurora* maritime patrol aircraft to monitor illegal fishing and other violations of Canadian law.¹⁶

There are three major recurring training exercises conducted each year in the Arctic—Nunavut, Nunakput, and Nanook—as well as other operations from time to time.

Brigadier-General (BGen) D.B. Millar, Commander of Joint Task Force (North) stated: “We practice scenarios where a cruise ship collides with an iceberg and we have to disembark passengers, or on a fire on board, or an oil spill from the future tankers that are expected to traverse the North.”¹⁷

The Air Force, along with NORAD, maintains four Forward Operating Bases in the Arctic for deployment of fighter aircraft when the need arises (at Inuvik, Yellowknife, Iqaluit, Rankin Inlet).

NORAD operates the North Warning System, 15 long range and 39 short-range radars along the entire Arctic coast of North America, a buffer 4,800 km long and 320 km wide from Alaska to Newfoundland that detects any approaching aircraft.¹⁸ The Canadian part of the North Warning System is operated and maintained by Pan Arctic Inuit Logistics.¹⁹

To improve the situational awareness of the Canadian Forces in the Arctic, a four-year *Northern Watch Technology Demonstration Project* is underway, run by Defence Research and Development Canada. *Northern Watch* researchers are testing both surface and underwater sensors “to collect surveillance data at a navigation chokepoint.” They are also running simulations using data from surface and space-based sensors.²⁰

The Polar Epsilon Project uses imagery and other information from RADARSAT 2, to enhance the land and sea surveillance capabilities of the Canadian Forces, giving the CF an all-weather, day-night eye on the North. According to DND, “the Project delivered its Arctic surveillance capability to Canada Command on June 17, 2010.”²¹

¹⁶ National Defence. *Canada Command Backgrounder bg #09.002a: The Canadian Forces In The North*. Available: <http://www.canadacom.forces.gc.ca/nr-sp/bg-do/09-002a-eng.asp> [Modified: November 25, 2010]

¹⁷ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 2, April 12, 2010, p. 71).

¹⁸ National Defence. *The Canadian Forces of the North American Aerospace Defence Command*. Available: www.norad.mil/about/canadian_Forces.doc [Accessed: February 7, 2011]

¹⁹ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 10, December 13, 2010, p.35).

²⁰ Defence Research Development Canada. *Northern Watch TD – Overview*. Available: http://www.ottawa.drdc-rddc.gc.ca/html/project_overview-eng.html [Modified: July 5, 2010]

²¹ National Defence. *Polar Epsilon Project BG 10-014, June 29, 2010*. Available: <http://www.forces.gc.ca/site/news-nouvelles/news-nouvelles-eng.asp?cat=00&id=3451> [Accessed : March 17, 2011]

Coming up is the new RADARSAT Constellation project—three satellites to be launched in 2014 and 2015 to “provide complete coverage of Canada’s land and oceans offering an average daily revisit.”²²

In addition, the Government has announced several Canadian Forces initiatives for the Arctic:

- New fixed wing search and rescue aircraft will replace the aging C-115 Buffalo and C-130 aircraft;
- Between six and eight Arctic/offshore patrol ships are to be built for the Navy, to operate part of the time in the Arctic; these are currently at the project definition stage, with the first to be launched in 2015;
- A deep water berthing and refuelling station is being built for the Navy at Nanisivik on the Borden Peninsula of Baffin Island, near a now-defunct lead-zinc mine;
- The Canadian Forces Arctic Training Centre is being built at Qausuittuq (Resolute Bay) on Cornwallis Island, to train up to 100 personnel at a time; it will be able to serve as a command post for emergency operations and disaster response;
- Four Arctic Response Company Groups—Canadian Forces reservists from militia regiments in southern Canada—are being trained in Arctic operations in case they need to be deployed there.

On that last point, however, the commander of Joint Task Force (North) was asked whether southern troops have the ability to do more than operate at the survival level and with a minimum of tactical capability in the Arctic. “No, we do not,” BGen Millar told the Committee, “In years past we did. We had tremendous capability with the Canadian Forces to operate and deploy to the North.” But he added that since the attacks of 9-11, “We are at the stage of rebuilding that very capability that we used to have.”²³

Finally, there was strong Northern endorsement for the Canadian military presence there. Corporate executive Charlie Lyall, an Inuk, said that “For Inuit, an active military presence in the Arctic is vital and provides strong partnerships for its major projects.”²⁴ He told the Committee that Inuit participation in clean up of old Distant Early Warning (DEW) sites had expanded their capacity for Northern contract work, as well as for undertaking contract negotiations. He also spoke about the Inuit role in North Warning

²² Canadian Space Agency. *RADARSAT Constellation*. Available: <http://www.asc-csa.gc.ca/eng/satellites/radarsat/default.asp> [Accessed: February 10, 2011]

²³ Senate Standing Committee on National Security and Defence. *Proceedings*. (Issue No. 2, April 12, 2010, p. 65).

²⁴ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 10, December 13, 2010, p. 34).

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System operation and maintenance. "DND can continue to play a vital role in the fiscal and corporate development process for Inuit."²⁵

THE CANADIAN RANGERS

Their motto is "Vigilans"—"The watchers." They are a unique force, a subcomponent of the Canadian Forces Reserve that, in the Arctic, falls under command of Canada Command's Joint Task Force (North). The Rangers perform "national-security and public-safety missions in those sparsely settled northern, coastal and isolated areas of Canada which cannot conveniently or economically be covered by other elements or components of the CF."²⁶

In the Arctic, the Rangers are made up of the community at large, unique in the CF Reserve for being selected by their communities instead of recruited by the military. As a result, "the community becomes completely involved in the safety and security of that area."²⁷

Wearing distinctive red caps, and red hooded sweatshirts with insignia, each is provided with a bolt action Lee Enfield No. 4 .303 calibre rifle and 200 rounds of ammunition annually. Rangers are the ultimate citizen soldiers. They report on unusual activity they see as they travel and hunt near their communities. They also conduct sovereignty patrols as assigned by Canadian Forces, provide local search and rescue when the need arises, periodically check unstaffed North Warning System radar sites for damage, and train with and help train non-indigenous members of the Canadian Forces in how to work and survive in the harsh Arctic world.²⁸ ²⁹ To carry out its missions in the Arctic, JTFN primarily employs 1 Canadian Ranger Patrol Group.

Rangers are employed part time. They are paid when training and when assigned to assist the Canadian Forces. They are reimbursed expenses for use of their personal equipment such as vehicles, boats and snowmobiles.³⁰

Witnesses had nothing but praise and enthusiasm for the Rangers, and none more so than their then-commanding officer, BGen D.B. Millar:

The jewel in the crown of the Canadian Forces in the North, our first responders, is our Rangers. I have 1,600 Rangers under my command at 57 out of 71

²⁵ Ibid., 35.

²⁶ National Defence. *Canadian Rangers*. Available: <http://www.army.forces.gc.ca/land-terre/cr-rc/index-eng.asp> [Modified: May 12, 2010]

²⁷ Standing Senate Committee on National Security and Defence. *Proceedings* (Issue No. 2, April 12, 2010, p. 68).

²⁸ National Defence. *Canadian Rangers. Canadian Rangers Patrol Group (CRPG)*. Available: <http://www.army.forces.gc.ca/land-terre/cr-rc/crpg-gprc-eng.asp> [Modified: May 12, 2010]

²⁹ National Defence. *Canadian Rangers. Training*. Available: <http://www.army.forces.gc.ca/land-terre/cr-rc/training-instruction/index-eng.asp> [Modified: May 13, 2010]

³⁰ National Defence. *Canadian Rangers play a vital role in the North*. Available: <http://www.army.forces.gc.ca/3crpg/eng/rangers-faqs-eng.html> [Modified: June 19, 2009]

communities in the North. When you plot that on a map, you have a tremendous footprint. The Rangers have significant capabilities and survival and navigation skills, and they are truly the boots on the ground.³¹

Rob Huebert, associate director of the Centre For Military and Strategic Studies at the University of Calgary, said, “There is no question that the indigenous knowledge, the Aboriginal knowledge that the various Inuit and Dene and other members of the Rangers bring is the answer. Given so many of the difficulties for southern troops in dealing with such a foreign landscape, having instead people for whom it is their home, their backyard, is the way to go.”³²

BGen Millar added that with communities ranging in size from 250 to 1,000 people, and with Ranger patrols numbering as many as 35 Rangers, they provide a sizable response capability. “I have an advantage as I have Rangers on call at a moment’s notice in the very communities where the security issue exists. In this situation, our response time is immediate.”³³

Charlie Lyall summed things up. “The Rangers are a flexible, inexpensive and culturally inclusive way for Canada to show the flag in the North in a relationship that has been forged over half a century. The Rangers also encourage local leadership and capacity building in our community.”³⁴

The Government, as Prime Minister Harper announced in 2007, is enlarging the Canadian Rangers.³⁵ JTFN will add 300 Rangers, bringing the total up to 1,900 in the North, with numbers nationwide to rise from about 4,000 up to 5,000.³⁶

In addition, the Canadian Forces are carrying out a Ranger Modernization Project to look at all aspects of uniform and equipment—including whether or not to replace the Rangers’ 1940s vintage bolt action Lee Enfield .303 rifle. The problem is not the firearm, described by BGen Millar as “... fantastic in its simplicity.”³⁷ The issue, he told the Committee, was a growing difficulty in finding spare parts. However, during a visit in January 2011 to Canadian Rangers in Yukon, General Walt Natynczyk reportedly said

³¹ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 2, April 12, 2010, p. 66).

³² Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 2, March 29, 2010, p. 17).

³³ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 2, April 12, 2010, p. 66).

³⁴ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 10, December 13, 2010, p. 34).

³⁵ Prime Minister of Canada. *Canadian Forces Arctic Training Centre*. Available: <http://www.pm.gc.ca/eng/media.asp?id=1785> [Accessed: February 10, 2011]

³⁶ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 2, April 12, 2010, p. 67).

³⁷ *Ibid.*, 68.

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he'd been told by a Ranger that "... when anyone on my patrol breaks this weapon, I can go on the internet and order the parts, and it's delivered in a week."³⁸

To any who might look askance at our Northern frontline reservists using so old and basic a rifle, BGen Millar pointed out that in the North, "... simple is best. You want a weapon that will not jam and will continue to function after you put it in the bottom of your boat or you have thrown it on the back of your *komatik* [sled]."³⁹ If the weapon were to be replaced, said BGen Millar, one of the criteria would be to keep it "simple and rugged."⁴⁰

The same, he said holds true for any equipment to be used by the Rangers, including the Ski-Doo. "We do not use four-stroke Ski-Doos because they have electronic start and are liquid cooled. In minus 50 degree weather, the batteries run out very quickly and the liquid freezes, so a two-stroke satisfies our requirements. Simple is best."⁴¹

As for other plans to expand and modernize the Rangers, BGen Millar spoke of creating rapid reaction force high-readiness Ranger units, building a new centralized training facility for Ranger recruits and senior leadership, and helping them develop a coastline watercraft capability (a trial was to have been conducted on the Mackenzie River in the summer of 2010).⁴²

The Committee heard a range of views about the Rangers. Professor Michael Byers of the University of British Columbia liked the idea of equipping them with small boats.⁴³ He also pointed out that the Rangers, "provide a source of part-time employment and pride for thousands of young men and women, which needs to be developed as well as a way of helping with the social and economic development of the North."⁴⁴

Professor Huebert told the Committee, "Honestly, I think we can do a lot more, and we have no idea how far we could push the [Rangers'] capacity, even with the small numbers we are speaking of."⁴⁵

³⁸ Jason Unrau, "General visits 'the eyes and ears of Canada,'" *The Whitehorse Star*, January 12, 2011, p. 4.

³⁹ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 2, April 12, 2010, p. 68).

⁴⁰ *Ibid.*

⁴¹ *Ibid.*

⁴² *Ibid.*, 64.

⁴³ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 1, March 22, 2010, p. 90).

⁴⁴ *Ibid.*, 89-90.

⁴⁵ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 2, March 29, 2010, p. 18).

But Professor Lackenbauer stated:

The danger, of course, is to manage expectations so that policy-makers do not try to make the Rangers into something they are not. They are Reservists, but they cannot be expected to possess the same capabilities as southern-based units. Making them more military will neither improve Canada's security nor our sovereignty. ... The Rangers are not broken, and I see danger in trying to fix them.⁴⁶

SEARCH AND RESCUE

*The next big issue will be the search and rescue part as the North becomes more open. As you know, flights now go over the North Pole, which never used to happen before, during the Cold War. We are aware that man-made machines do have issues on occasion. How would we deal with that?*⁴⁷

Alan Kessel, Legal Advisor, Department of Foreign Affairs

Canada is huge. The Arctic occupies about 40% of our territory. Across this nation, including in the North, people are active on land, on and under water, and in the air. Frequently they get lost and/or find themselves in trouble. That is where search and rescue (SAR) comes in.

"Search and rescue is a challenging file for us," we were told by Canada's Chief of the Air Staff, Lieutenant-General André Deschamps. "Canada has the largest search and rescue area in the world"—about 15 million square kilometres.⁴⁸ This is nearly five times the size of India (3,287,263 km²)⁴⁹.

The minister of national defence is the lead minister for search and rescue. The Canadian Forces help coordinate search and rescue activities throughout Canada, as well as providing search and rescue aircraft and personnel. But they are not the only players. Also involved are:

- The territories, provinces and municipalities; they are responsible overall for land and inland waters SAR, except in national parks;
- The Royal Canadian Mounted Police (Public Safety Canada), which, as the police force of jurisdiction in eight of ten provinces and in the territories, is directly responsible for land and inland waters SAR;⁵⁰ in the Arctic they are assisted in conducting ground searches by the Canadian Rangers;

⁴⁶ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 1, March 22, 2010, p. 42).

⁴⁷ *Ibid.*, 73.

⁴⁸ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 5, May 31, 2010, p. 46).

⁴⁹ Central Intelligence Agency, *The World Fact Book*. Available: <https://www.cia.gov/library/publications/the-world-factbook/geos/in.html> [Accessed: March 8, 2011]

⁵⁰ Royal Canadian Mounted Police. *Search and Rescue*. Available: <http://www.rcmp-grc.gc.ca/ccaps-spcca/rs-eng.htm> [Modified: 15 December 2006]

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- The Canadian Coast Guard (Fisheries and Oceans Canada) which carries out maritime and coastal SAR, and together with the Canadian Forces runs Joint Rescue Coordination Centres (see below); the CCG also administers the Northern Canada Vessel Traffic Services Zone (NORDREG—Transport Canada's rules for safe navigation and environmental protection in the Arctic), and provides icebreaking services;
- Transport Canada, which regulates air, land, and marine transportation—for instance, via the NORDREG and the Canadian Aviation Regulations (e.g. rules for aircraft Emergency Locator Transmitters—ELTs);^{51, 52}
- Environment Canada's Meteorological Service of Canada and Canadian Ice Service respectively provide weather forecasts and ice information;
- Parks Canada (an agency of Heritage Canada), which is the lead when people run into trouble in national parks;
- The Civil Air Search and Rescue Association (CASARA), a volunteer body of aircraft owners and pilots provides additional SAR assistance when it is needed, but only in southern Canada until now.

The three Joint Rescue Coordination Centres (JRCC), mentioned above, stand ready at the first report of a problem anywhere in Canada to offer a coordinated response. Jointly staffed by Canadian Forces (Air Force) and Canadian Coast Guard personnel, the JRCC are located in Victoria, Trenton and Halifax. These operate around the clock every day of the year.

Each centre, in addition to covering its designated part of Southern Canada, is responsible for a portion of the Arctic. Victoria covers Yukon. Trenton covers the central Arctic. Halifax covers eastern Baffin Island and the northernmost (Arctic) parts of Quebec and Newfoundland–Labrador.

Air Force SAR aircraft are based at Comox, Winnipeg, Trenton, Greenwood (Nova Scotia), and Gander. They include the large four-engine C-130 Hercules, mid-size twin engine C-115 Buffalo and the new CH-149 Cormorant helicopters. Other Air Force aircraft can be called upon if needed. In 2009, SAR crews responded to more than 8,700 calls for help.⁵³

⁵¹ Transport Canada. *Northern Canada Vessel Traffic Services (NORDREG)*. Available: <http://www.tc.gc.ca/eng/marinesafety/debs-arctic-shipping-operations-nordreg-357.htm> [Modified: November 16, 2010]

⁵² Transport Canada. *Canadian Aviation Regulations 2010-2, Part VI - General Operating and Flight Rules Subpart 5 - Aircraft Requirements, 606.38*. Available: http://www.tc.gc.ca/eng/civilaviation/regserv/cars/part6-605-2438.htm#605_38 [Modified: December 1, 2009]

⁵³ National Defence. Canada's Air Force. *Search and Rescue*. Available: <http://www.airforce.forces.gc.ca/v2/page-eng.asp?id=17#s2> [Modified: March 25, 2010]

Each of the three Search and Rescue Regions (SRR) keeps one of each type of aircraft per SAR squadron ready to be airborne within 30 minutes during weekdays from 8 a.m. to 4 p.m. local time, and within 2 hours at other times.⁵⁴ In other words, aircraft are always on standby to respond. It should be noted, however, they are on standby in southern Canada, not the Arctic—see witness commentary, below.

As to the role played by private aviation in SAR, Foreign Affairs Minister Lawrence Cannon elaborated on this in a letter, at the request of the Committee.

“Expedience,” he wrote, “is a fundamental and guiding principle for search and rescue coordinators who rely on any available and appropriate means to provide necessary assistance. This includes access to any and all other Canadian Forces aircraft, commercial aircraft, private aircraft and, where appropriate, aircraft of bordering nations, such as the United States.”⁵⁵

Minister Cannon pointed out that the Joint Rescue Coordination Centres, with the help of Joint Task Force (North), maintain up to date information, “on facilities, capabilities and contacts for northern-based aircraft and operators and can and do access these resources very rapidly when needed.”⁵⁶

In addition, a new Canadian Forces initiative is being launched this year (2011). Voluntary private resources (aircraft and pilots) of the Civil Air Search and Rescue Association (CASARA) have long been used in southern Canada to help locate missing aircraft. That resource is now being extended to the North to “blend the availability of such volunteer search and rescue mission coordinators and aerial ‘spotters’ with chartered commercial aircraft based in the North to provide not only a rapid search and homing capability, but also the capacity to deliver protective clothing, communications, shelter and sustenance supplies to victims”⁵⁷ until they can be rescued by helicopter, boat or overland.

Minister Cannon also told the Committee that an Arctic Council Search and Rescue Treaty has been negotiated by the eight Arctic Council nations to, “provide procedural facilitation of access to assistance from other circumpolar nations for incidents in the North.”⁵⁸

Witnesses made two basic observations about search and rescue in the Arctic. First, the need is on the rise. Second, response times are potentially too slow given that Canadian Forces SAR air assets are based almost entirely in southern Canada.

⁵⁴ National Defence. National Defence and the Canadian Forces. *Canadian Forces Search and Rescue SAR BG 09.001*. Available: <http://www.canadacom.forces.gc.ca/sar-res/SAR-BG09001-eng.asp> [Modified: November 25, 2010]

⁵⁵ Hon. Lawrence Cannon, letter to Hon. Senator Pamela Wallin, November 23, 2010.

⁵⁶ Ibid.

⁵⁷ Ibid.

⁵⁸ Ibid.

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Colonel (Retired) Pierre Leblanc, the former commander of Joint Task Force (North), told a story to make the point. "We had a case while I was a commander where a small aircraft travelling to Yellowknife crashed. The crew on board survived the crash, but they died of exposure before search and rescue arrived. ... Time is of the essence with search and rescue in the High Arctic."⁵⁹

Col (Ret'd) Leblanc pointed out that with SAR aircraft based in southern Canada, it can take eight to 10 hours "before the aircraft will be physically over the target to drop either SAR technicians or equipment that will provide shelter for the people there."⁶⁰

Professor Byers added an international dimension. "If we want other countries to take us seriously as an Arctic power, we need to be able to conduct search-and-rescue missions in a very timely fashion."⁶¹

Yukon Premier Dennis Fentie agreed. "With the situation developing in the Northwest Passage and all that goes with that, establishing SAR centres across the North is critical. However, it also clearly represents that the nation ... is putting its footprint on the ground in the North..."⁶²

Charlie Lyall echoed points made by both Leblanc and Fentie. "It would be nothing but advantageous for search and rescue to be situated in the North. ... For people in Iqaluit or Rankin Inlet or Cambridge Bay, being able to search an area in a matter of hours instead of 24 hours would make a huge difference."⁶³

Professor Byers spoke of the need to acquire the proposed new fixed wing search and rescue aircraft, and talked about having a "paratroop" capacity "so that we can respond quickly if a major commercial airliner were to crash-land in the High Arctic."⁶⁴

Col (Ret'd) Leblanc made the specific suggestion that Canadian Forces base a single C-130 Hercules aircraft at Yellowknife, home to Joint Task Force (North), rotating it south for maintenance but always keeping one on station. "Yellowknife is almost dead centre of the High Arctic, so one can go east, west or further north within a relatively short period of time."⁶⁵

However, BGen D.B. Millar, commander of Joint Task Force (North), noted that there are Canadian Forces Twin Otter aircraft based at Yellowknife as part of 440 Transport Squadron, "... a very capable plane that can land on any surface, including snow and ice,

⁵⁹ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 1, March 22, 2010, p. 95).

⁶⁰ *Ibid.*, 94.

⁶¹ *Ibid.*, 83–84.

⁶² Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 10, December 13, 2010, p. 28).

⁶³ *Ibid.*, 40.

⁶⁴ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 1, March 22, 2010, pp. 83-84).

⁶⁵ *Ibid.*, 101–102.

so we will employ those if required as well.”⁶⁶ There are four Twin Otters at Yellowknife.⁶⁷

And Chief of the Air Staff, Lieutenant-General André Deschamps, spoke of the new agreement, described in Minister Cannon's letter to the Committee, to bring the Civil Air Search and Rescue Association (CASARA) into the Northern SAR picture starting this year. “We provide training and oversight, and in return they provide us with a large network of volunteers.”⁶⁸

In the North, because commercial operators predominate, LGen Deschamps indicated that there had been recent encouraging talks in Whitehorse with commercial operators to see about having them operate within a volunteer organization. “That is positive because those operators are knowledgeable about the Arctic and would be a great force multiplier for us.”⁶⁹ BGen Millar was likewise enthusiastic: “... it just makes sense to be able to harness that capability in support of our search and rescue.”⁷⁰

A word here about Air Force SAR aircraft.

*The aging CC-115 Buffalo and CC-130 Hercules fixed wing aircraft need to be replaced. They have been the backbone of Canada's SAR fleet since the 1960s. In 2004, a Statement of Operational Requirements (SOR) was drafted for replacement fixed wing SAR airplanes—but in the fall of 2010, after program delays due to higher priority procurements, comments on the SOR by industry and an SOR review by the National Research Council, the Department of National Defence has gone back almost to square one and is drafting a new SOR. In the meantime, Canada's shrinking fleet of elderly Buffaloes and Hercules keeps flying.*⁷¹

*Defence Minister Peter MacKay, however, has indicated that the wait will soon be over. “We now have the path forward. We have the information required and we going to proceed in a way that will see us purchase new fixed wing aircraft in the very near future.”*⁷²

⁶⁶ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 2, April 12, 2010, p. 73).

⁶⁷ National Defence. *Canada's Air Force. General Information. 440 Transport Squadron*. Available: <http://www.airforce.forces.gc.ca/17w-17e/sqns-escs/page-eng.asp?id=413> [Accessed: March 11, 2011]

⁶⁸ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 5, May 31, 2010, p. 47).

⁶⁹ *Ibid.*

⁷⁰ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 2, April 12, 2010, p. 72).

⁷¹ Government of Canada. Canada News Centre. *Fixed-wing search and rescue, BG 10.005*. March 15, 2010. Available: <http://news.gc.ca/web/article-eng.do?crtr.sj1D=&mthd=advSrch&crtr.mnthndVl=&nid=520669&crtr.dpt1D=&crtr.tp1D=&crtr.lc1D=&crtr.yrStrtVl=&crtr.kw=statement&crtr.dyStrtVl=&crtr.aud1D=&crtr.mnthStrtVl=&crtr.yrndVl=&crtr.dyndVl> [Modified March 18, 2010]

⁷² Canada. Parliament. House of Commons. *Debates*, 40th Parliament, 3rd Session, Vol. 145, No. 050. May 27, 2010. (Online). Available:

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SITUATIONAL AWARENESS

On August 27, 2010, the cruise ship *Clipper Adventurer* ran aground on an uncharted rock lying three metres below the surface of Coronation Gulf, about 55 kilometres from the community of Kugluktuk (Coppermine), NWT. No one was injured. All passengers were safely rescued by the Canadian Coast Guard. No environmental damage was done. The ship was eventually safely re-floated. The incident, however, revealed a gaping hole in Canada's Arctic situational awareness—inadequate marine navigational charting.

The Canadian Arctic, to again use the cliché, is vast, remote and thinly populated. Despite this, the Government has a responsibility to be aware of what transpires there and to provide that information to those using the Arctic.

Decades ago, the RCMP set up posts in Northern communities, and famously patrolled by dog sled. They also patrolled Arctic waters by boat. The RCMP are still there, but over the years they have been joined by employees of other federal government departments.

The Canadian Coast Guard's icebreaking program keeps harbours open as necessary, and provides icebreaking and escort for Government and commercial vessels in the Arctic.⁷³

The Canadian Forces have long had assets and personnel in the North and are increasing their presence and capabilities, as outlined earlier. The Canadian Rangers are perhaps their best-known contingent—permanent, community-based part-time reservists.

The Canadian Forces, as mentioned, are also partnered with the American military in NORAD, watching the skies above and now the seas for any sign of threat to the continent's approaches, including in the Arctic, using radar and satellite surveillance.

The Canadian Space Agency and MacDonald, Dettwiler and Associates Ltd. continue to design, build and launch increasingly sophisticated RADARSAT satellites that provide high resolution images to Canadian Government departments for many purposes, including coastal and marine surveillance and security.⁷⁴

Canadian Forces have been using this data for their Polar Epsilon Project—all-weather, day-night surveillance to detect and track foreign vessels,⁷⁵ and maintain "Arctic

<http://www2.parl.gc.ca/HousePublications/Publication.aspx?Language=E&Mode=1&Parl=40&Ses=3&DocId=4559699>. [Accessed: February 10, 2011]

⁷³ Fisheries and Oceans Canada. Canadian Coast Guard. *Icebreaking*. Available: http://www.ccg-gcc.gc.ca/eng/Central_Arctic/Icebreaking [Modified: December 18, 2009]

⁷⁴ Canadian Space Agency. *RADARSAT-2 Overview*. Available: http://www.asc-csa.gc.ca/eng/satellites/radarsat2/inf_over.asp [Modified: November 23, 2007]

⁷⁵ National Defence. National Defence and the Canadian Forces. *Backgrounder Polar Epsilon Project*. Available: <http://www.comfec.forces.gc.ca/pa-ap/nr-sp/doc-eng.asp?id=2931> [Modified: March 30, 2009]

situational awareness” to respond to natural disasters, environmental crises, and assist with search and rescue.⁷⁶

Next to go into orbit will be three satellites in the RADARSAT Constellation series—the first time that RADARSAT will have taken a multi-satellite approach. They will be launched in 2014 and 2015, and will be able to spot details as small as one metre by three.⁷⁷

In the meantime, Defence Research and Development Canada, an agency of the Department of National Defence, has been carrying out trials in a technology demonstration project called *Northern Watch*, testing a system of surface and underwater sensors “that could collect surveillance data at navigation choke points where marine traffic passes through.”⁷⁸

Canada also maintains situational awareness through law and regulation in the North, particularly through NORDREG—the Northern Canada Vessel Traffic Services Zone. In the summer of 2010, NORDREG was extended from 100 nautical miles to 200 nautical miles offshore.

Whereas NORDREG compliance was originally voluntary, as of summer 2010 it became mandatory.⁷⁹ All vessels of 300 gross tonnes or more, or 500 gross tonnes combined weight if involved in a towing or pushing operation, and any vessel or combination of vessels carrying pollutants or dangerous goods, must submit reports before entering, while in, and upon leaving the NORDREG Zone.

The Canadian Coast Guard must verify that the vessels are suitably constructed to withstand ice conditions, monitor their location at all times, and provide support services including updated ice condition information.⁸⁰ Col (Ret'd) Leblanc recommended that all vessels, not just those over 300 gross tonnes, be subject to NORDREG.⁸¹

All of the above provide Arctic situational awareness, but there is an additional component. “The front line in the North, when it comes to security and sovereignty, happens to be northern people and their communities,” we were told by Yukon Premier

⁷⁶ National Defence. National Defence and the Canadian Forces. *Canada Command Backgrounder BG #09.002a, The Canadian Forces in the North*. Available: <http://www.canadacom.forces.gc.ca/nr-sp/bg-do/09-002a-eng.asp> [Modified: August 17, 2009]

⁷⁷ Canadian Space Agency. *RADARSAT Constellation*. Available: <http://www.asc-csa.gc.ca/eng/satellites/radarsat/default.asp> [Modified: August 26, 2010]

⁷⁸ Defence Research and Development Canada. *Northern Watch: a window into Canadian Arctic Surveillance*. Available: <http://www.drdc-rddc.gc.ca/news-nouvelles/spotlight-pleinfeux/index-eng.asp> [Modified: March 12, 2009]

⁷⁹ Transport Canada. *Government of Canada Takes Action To Protect Canadian Arctic Waters*. Available: <http://www.tc.gc.ca/eng/mediaroom/releases-2010-h078e-6019.htm> [Modified: June 23, 2010]

⁸⁰ Transport Canada. *Northern Canada Vessel Traffic Services (NORDREG)*. Available: <http://www.tc.gc.ca/eng/marinesafety/debs-arctic-shipping-operations-nordreg-357.htm> [Modified: November 16, 2010]

⁸¹ Senate Standing Committee on National Security and Defence. *Proceedings*. (Issue No. 1, March 22, 2010, p. 92).

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Dennis Fentie.⁸² Charlie Lyall reinforced the point: "Inuit recognize that we are the most visible and important component of a true sovereign Canadian presence in the North."⁸³

As concerns the grounding of the *Clipper Adventurer*, Canada's Dominion Hydrographer told us that Canadian laws and regulations require that ships in Canadian waters carry and use nautical charts and related publications issued by or on the authority of the Canadian Hydrographic Service (CHS). The International Convention for the Safety of Life at Seas requires coastal states to provide adequate navigational charts.⁸⁴

And yet we were also told, by Stephen Carmel, who has been master of very large container ships and is a senior vice-president at Maersk, the world's largest shipping company, that "I have looked for [Arctic] charts and have not been able to find anything I would be comfortable with navigating a very large ship myself."⁸⁵ He alluded to unexpected sea mounts and shallows. "It is important to know where that stuff is before we head in there."⁸⁶

The *Clipper Adventurer* was evidently carrying the right charts, but the rock it struck was not noted on them—although it was the subject of a 2007 Coast Guard Notice to Shipping.⁸⁷ Dominion Hydrographer, Dr. Savithri Narayanan told the Committee, "... water depth information on the chart for the area where the cruise ship was grounded is based on track lines conducted before the days of precise satellite positioning. That is, the depths are measured only along a single track, with no investigation of the hazards on each side of the vessel's path."⁸⁸

She also pointed out that, "... cruise ships like to go where no one has gone. Even if you chart the usual shipping lanes, they want to go elsewhere; they want to explore uncharted waters, and that is one of the challenges we all have to face."⁸⁹

Dr. Narayanan further noted that owing to the size of the Arctic marine area, its complicated marine environment of "channels, inlets and shallow continental shelves," and the short time window each year in which bathymetry can be carried out, "only about 10 percent of the [Canadian] Arctic is charted to modern international

⁸² Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 10, December 13, 2010, p. 32).

⁸³ *Ibid.*, 34.

⁸⁴ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 7, October 4, 2010, p. 7).

⁸⁵ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 2, March 29, 2010, p. 29).

⁸⁶ *Ibid.*

⁸⁷ Jane George, "Expert: Clipper Adventurer ran into a known hazard," *Nunatsiaq Online*, September 4, 2010,

http://www.nunatsiaqonline.ca/stories/article/0409102_clipper_adventurer_ran_into_a_charted_hazard_expert_says/, [Accessed: February 10, 2010].

⁸⁸ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 7, October 4, 2010, p. 9).

⁸⁹ *Ibid.*, 11.

standards.”⁹⁰ She said that the main Arctic shipping routes fare slightly better; about 35 percent are up to modern standards. In southern Canada, she said, 40 to 50 percent of waterways are charted, with 100 percent of the most critical channels covered.⁹¹

The Canadian Hydrographic Service she heads has been classifying Canadian waters as high, medium or low risk since 2002, and upgrading charts accordingly. Dr. Narayanan told the Committee that initially only 20 charts were categorized as high risk in the Arctic, “because of low traffic in the area and the high cost of charting.”⁹²

“Though the immediate strategy has been to chart primarily along a narrow corridor of the Northwest Passage,” she says that the CHS has been adapting its plans and risk assessments according to emerging needs. Recently, she says, the CHS charted the approaches to Nanisivik, where there is to be a naval deep water berthing and refuelling facility, and Pangnirtung Harbour in preparation for construction of a small craft harbour there.⁹³

The budget of the Canadian Hydrographic Service, said Dr. Narayanan, is about \$30 million annually, of which about 10 percent is devoted to the Arctic.⁹⁴ She said that in the Arctic, charting need not be carried out everywhere, especially where the water is deep. The focus she said must be on main shipping corridors, approaches to communities, and areas where ships will sail in future.⁹⁵

Nonetheless, “if we use the existing resources, and assuming that technology and existing human resources stay the same, it will take a significant amount of time to chart the necessary areas in the Arctic.”⁹⁶

Before leaving this aspect of situational awareness, it is worth pointing out another apparent gap in Arctic marine navigational safety—vessels are not required to carry marine pilots (mariners with specialized knowledge of particular waters, who guide ships through potentially dangerous or congested waters).

“To my knowledge,” Stephen Carmel told us, “if the Northwest Passage were to open tomorrow and I wanted to bring a 70,000 tonne tanker through it on my licence, I could do it. I would not be required to take a pilot knowledgeable in local conditions or responsible to the Crown for the safe passage of my ship.”⁹⁷

On this very topic, the 1999 interim report of the Senate Special Committee on Transportation Safety and Security said that the consensus of witnesses was that there

⁹⁰ Ibid., 8.

⁹¹ Ibid.

⁹² Ibid.

⁹³ Ibid.

⁹⁴ Ibid., 11.

⁹⁵ Ibid., 12.

⁹⁶ Ibid., 11.

⁹⁷ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 2, March 29, 2010, p. 32).

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was not yet enough marine traffic to warrant creation of an Arctic Pilotage Authority.⁹⁸ However, a recent edition of *The Canadian Pilot*, the journal of the Canadian Association of Marine Pilots, said it was time for the Government and stakeholders “to begin planning for the establishment of Arctic pilotage.”⁹⁹

CANADIAN FORCES OR CANADIAN COAST GUARD?

One witness questioned the respective roles played in the Arctic by the Canadian Forces and the Canadian Coast Guard, and proposed a realignment.

Professor Michael Byers told the Committee that the upcoming Arctic/offshore patrol ships should be operated “by the agency with the most experience in Arctic shipping,” the Canadian Coast Guard, not the Canadian Navy. Canada, he said, would not be going to war with Russia or anyone else in the Arctic. The main concern, Byers said, is enforcement of laws and regulations—a job done now by the Canadian Coast Guard and the RCMP. The Canadian Forces, he said should work on developing its SAR and surveillance capabilities.¹⁰⁰

Col (Ret'd) Leblanc agreed. “If I had a choice between giving [resources] to the Navy and the Coast Guard, I would probably give them to the Coast Guard. They have the experience. The real threat right now is not the nation-to-nation threat.”¹⁰¹ This, he added, would require changing the Coast Guard's role. “I would recommend that we arm those ships and that we give the Coast Guard the mandate to look after the security of the Arctic.”¹⁰² [The Government has said it will review the possibility of arming Coast Guard vessels until the new Arctic/offshore patrol vessels enter service; this was in reply to a Senate Committee report in 2010.]¹⁰³

Professor Rob Huebert said “the issue is security,”¹⁰⁴ making sure Canada's rules and regulations are enforced by the Canadian Forces working with the Canadian Coast Guard and the RCMP. “It does not matter whether it should be Coast Guard or National Defence. What will be required ... is that we have some capability of responding.”

⁹⁸ Canada. Parliament. Senate. Special Committee on Transportation Safety and Security, *Interim Report*. (January 1999). 36th Parliament, 1st Session. Available: <http://www.parl.gc.ca/36/1/parlbus/commbus/senate/com-e/saf2-e/rep-e/repintjan99-e.htm> [Accessed: February 10, 2011]

⁹⁹ “Overcoming Challenges in Arctic Waters,” *The Canadian Pilot*, Vol.2, No. 2, Fall 2010, p.6, http://www.marinepilots.ca/newsletter/CMPA_V2N2_Eng.pdf [Accessed: February 10, 2011]

¹⁰⁰ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 1, March 22, 2010, p. 84).

¹⁰¹ *Ibid.*, 98.

¹⁰² *Ibid.*, 99.

¹⁰³ Fisheries and Oceans Canada. *Government of Canada Response to the Report of the Standing Senate Committee on Fisheries and Oceans: Controlling Canada's Arctic Waters: Role of the Canadian Coast Guard*. Available: <http://www.dfo-mpo.gc.ca/reports-rapports/arctic-arctique-2010/resp-arctic-arctique-eng.htm> [Accessed: March 8, 2011]

¹⁰⁴ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 2, March 29, 2010, p. 11).

Instead, Huebert spoke of “an all-Canada approach” whereby perhaps Canadian Forces could “man a gun or a missile system on a Coast Guard vessel.”¹⁰⁵

As for the Coast Guard’s prospective Polar icebreaker, the *Diefenbaker*, Byers suggested that the Government change plans, building a number of smaller Coast Guard icebreakers rather than one large ship.

While these were interesting ideas, the Committee believes that based on the testimony heard, no compelling case was made for the new naval ships going to the Canadian Coast Guard, nor for scrapping the idea of a new Polar icebreaker and instead building a number of smaller icebreakers. It is in any case late in the game for the Government to consider such a big change in plans.

¹⁰⁵ Ibid., 12.

Policy, organizations & the legal regime

CANADA'S ARCTIC FOREIGN POLICY

The Canadian Government published its *Statement on Canada's Arctic Foreign Policy* on August 20, 2010. The top priority is exercising sovereignty in the North. The Foreign Affairs minister added that other top priorities include "making progress on outstanding boundary issues," and "securing recognition for the full extent of [Canada's] extended continental shelf."^{106, 107}

ARCTIC SECURITY WORKING GROUP (ASWG)

This little-known body was the initiative of witness Col (Ret'd) Pierre Leblanc in 2000 when he was commander of Joint Task Force (North).

The *Arctic Security Working Group* is made up of representatives from the Canadian Forces, Canadian Coast Guard, other federal government departments and agencies, the territorial governments, aboriginal peoples organizations and other Northern stakeholders.

It meets twice a year and has dealt with issues such as the possibility of terrorist attack on natural gas facilities, contraband moving through the mail and the increased risk of an air disaster due to increased air traffic.¹⁰⁸ Col (Ret'd) Leblanc said the ASWG was created to improve "practically non-existent communications" between departments, and to improve security.¹⁰⁹ He recommended to the Committee that the ASWG be maintained.¹¹⁰

THE ARCTIC COUNCIL

A Canadian initiative, the Arctic Council was founded in 1996 by the *Ottawa Declaration*, "... as a high level intergovernmental forum to provide a means for promoting cooperation, coordination and interaction among the Arctic States ... on common Arctic

¹⁰⁶ Foreign Affairs and International Trade Canada. *Address by Minister Cannon at launch of statement on Canada's Arctic Foreign Policy, No. 2010/57*, August 20, 2010. Available: <http://www.international.gc.ca/media/aff/speeches-discours/2010/2010-057.aspx?lang=eng> [Modified: August 20, 2010]

¹⁰⁷ Government of Canada, *Statement on Canada's Arctic Foreign Policy: Exercising Sovereignty and Promoting Canada's Northern Strategy Abroad*, August 20, 2010. Available: http://www.international.gc.ca/polar-polaire/assets/pdfs/CAFP_booklet-PECA_livret-eng.pdf [Accessed: February 10, 2010]

¹⁰⁸ "Working Group Talked Security," *Whitehorse Daily Star*, May 16, 2007, <http://whitehorsestar.com/archive/story/working-group-talked-arctic-security/> [Accessed: March 9, 2011]

¹⁰⁹ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 1, March 22, 2010, p. 94).

¹¹⁰ *Ibid.*, 93.

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issues, in particular issues of sustainable development and environmental protection in the Arctic."¹¹¹

The Council's eight member states are those with territory north of 60° North latitude—Canada, the United States, the Russian Federation, Finland, Norway, Sweden, Denmark and Iceland. The Council also includes permanent participants—indigenous peoples groups from the various member states

Observer status is open to non-Arctic states, inter-governmental and inter-parliamentary associations and non-governmental organizations. Five non-Arctic states are currently permanent observers—France, Germany, Poland, Spain, the Netherlands, and the United Kingdom.

The Arctic Council requested two major studies that are germane to this Senate Committee's study of Arctic security writ large.

Impacts of a Warming Arctic: Arctic Climate Impact Assessment, published in 2004 by Cambridge University Press, states, among other things, that "Arctic climate is now warming rapidly and much larger changes are projected", and that "Arctic warming and its consequences have worldwide implications."¹¹²

The *Arctic Marine Shipping Assessment 2009 Report*, prepared by a Council working group, draws similarly startling conclusions:

- "There is a possibility of an ice-free Arctic Ocean for a short period in summer perhaps as early as 2015."
- "It is highly plausible there will be greater marine access and longer seasons of navigation, except perhaps during winter, but not necessarily less difficult ice conditions for marine operations."¹¹³
- "For the Canadian Arctic, the Northwest Passage is not expected to become a viable trans-Arctic route through 2020, but destination shipping is anticipated to increase."
- "The most significant threat from ships to the Arctic marine environment is the release of oil through accidental or illegal discharge."
- "Gaps in hydrographical data exist for significant portions of primary shipping routes important to support safe navigation."

¹¹¹ Arctic Council, *About Arctic Council*. Available: <http://arctic-council.org/article/about> [Accessed: February 10, 2010]

¹¹² Susan Joy Hassol, *Arctic Climate Impact Assessment: Impacts of a Warming Arctic*(Cambridge: Cambridge University Press, 2004), p.10. Available: <http://www.acia.uaf.edu>. [Accessed: February 10, 2011]

¹¹³ *Arctic Marine Shipping Assessment 2009 Report*, (The Arctic Council, 2009), p. 4. Available: <http://www.pame.is/amsa/amsa-2009-report> [Accessed: February 10, 2010]

- “Except in limited areas of the Arctic, there is a lack of emergency response capacity for saving lives and for pollution mitigation.”¹¹⁴

Although it provides a high level intergovernmental forum to discuss Arctic matters of common concern, the Arctic Council’s purview does not extend to security in its narrower military, national security sense. Michael Byers told the Committee that this is “at the insistence of the United States.”¹¹⁵

He elaborated, “... it is left to bilateral relations between NATO and Russia to work on these security issues. We deal with them in some context in the United Nations Security Council, but the Arctic Council itself does not yet have a role there.”

Professor Byers recommended Council members consider “expanding the mandate of the Arctic Council so that those security issues can also be part of the deliberations ...”¹¹⁶ Rob Huebert agreed. “We need to eliminate the American refusal to look at security issues.”¹¹⁷ He did not, however, suggest how that might be done.

Nonetheless, the Arctic Council can and does deal with other important security matters such as the dangers represented by climate change, pollution prevention and mitigation and emergency prevention, preparedness and response.

“THE ARCTIC FIVE”

This informal grouping includes only those countries with Arctic Ocean coastlines—the United States, Canada, Denmark (Greenland), Norway and Russia. It is an informal body which has held two ministerial meetings—at Ilulissat, Greenland in 2008, and at Chelsea, Quebec in 2010.

The meetings controversially excluded non-coastal Arctic countries Finland, Sweden and Iceland as well as Arctic aboriginal organizations. At the closed door 2010 session in Chelsea, American Secretary of State Hillary Clinton voiced this concern, saying, “Significant international discussions on Arctic issues should include those who have legitimate interests in the region,” and that “I hope the Arctic will always showcase our ability to work together, not create new divisions.”¹¹⁸

The five coastal states say they have unique Arctic interests and concerns owing to their location, including that they are the only ones who can file claims in the Arctic under the

¹¹⁴ Ibid., 5.

¹¹⁵ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 1, March 22, 2010, p. 81).

¹¹⁶ Ibid.

¹¹⁷ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 2, March 29, 2010, p. 9).

¹¹⁸ Mary Beth Sheridan, “Clinton rebukes Canada at Arctic meeting,” *Washington Post*, March 30, 2010, <http://www.washingtonpost.com/wp-dyn/content/article/2010/03/29/AR2010032903577.html> [Accessed: February 10, 2010]

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UNCLOS extended continental shelf process. Russian Foreign Minister Sergey Lavrov reportedly said, "the Five has a full right to exist as informal machinery."¹¹⁹

The 2008 Arctic Ocean Conference in Greenland resulted in the *Ilulissat Declaration*, essentially a commitment by the five nations to work cooperatively, and to abide by international laws and rules in the Arctic. It makes special reference to the law of the sea concerning the outer limits of the continental shelf "and to the orderly settlement of any possible overlapping claims."¹²⁰

THE UN CONVENTION ON THE LAW OF THE SEA—UNCLOS

Canada is a signatory to this landmark 1982 agreement covering all aspects of ocean law, reached after years of negotiations. Part VI of the UNCLOS deals with the continental shelf, and Article 76 sets out the rules for determining and claiming an "outer continental shelf."¹²¹ This extended continental shelf is the part beyond the 200 nautical mile Exclusive Economic Zone (EEZ) of nations. Not all coastal nations have an extended continental shelf.

When sea ice covered most of the waters above the outer continental shelf of Arctic coastal states, there was no easy way to determine the continental shelf limits, as doing so requires extensive and comprehensive research on ocean depth, and ocean floor morphology and geology. The melting of the ice has since made that research more feasible.

Signatories to the UNCLOS have ten years from the time they ratify the treaty to make their claim to the UN for an extended continental shelf. Canada ratified in 2003, so must file its claim in 2013. Research of Canada's claim is ongoing at this time but estimates are that the Canadian continental shelf in the Arctic will grow by about the size of the three Prairie provinces combined. "That is an extraordinary amount of space that will be ours," we were told by Alan Kessel.¹²²

¹¹⁹ Atle Stallesen, "Formalizing the Arctic G5," *BarentsObserver.Com*, March 30, 2010, <http://www.barentsobserver.com/formalizing-the-arctic-g5.4766438.html> [Accessed: February 10, 2011]

¹²⁰ *The Ilulissat Declaration*, May 27–29, 2008, <http://arctic-council.org/filearchive/Ilulissat-declaration.pdf> [Accessed: February 10, 2011]

¹²¹ Oceans and Law of the Sea, Division for Ocean Affairs and the Law of the Sea. *United Nations Convention on the Law of the Sea, December 10, 1982*, Available: http://www.un.org/depts/los/convention_agreements/texts/unclos/UNCLOS-TOC.htm [Accessed: February 10, 2011]

¹²² Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 1, March 22, 2010, p. 64).

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THE MILITARY THREAT

Is there the prospect of a military threat to Canada's Arctic, and in the Arctic generally?

Our witnesses were of two minds on this question. Some pointed to increased military activity there by all the Arctic states, including Canada, and think Canadians and their government should be more concerned. Others note the situation but read it differently.

Professor Rob Huebert, a military and strategic studies expert, is among the concerned. The author of *Canadian Arctic Sovereignty and Security in a Transforming Circumpolar World* told us, "... I see troubling indicators that we may be entering the first stages of an Arctic arms race, in which competition and conflict may overwhelm our desires and rhetoric to have a cooperative regime for the developing circumpolar world."¹²³

As Professor Huebert explained, "From 2003 onward, all Arctic states have been engaged in combat exercises at one point or other within their Arctic region. Even countries such as Finland and Sweden—the traditional neutral states—have begun to exercise with NATO in northern Sweden. This was not seen even in the height of the Cold War."^{124, 125}

During the Cold War, of course, the Arctic was a key front in the superpower standoff, offering Russian and American strategic air forces and ballistic missiles the shortest routes to each other's territory. In those days, Russian strategic bombers frequently approached North America across the Arctic, to be met and warned off by American and Canadian fighter aircraft under NORAD command. Both sides played this potentially deadly training and probing game. Then the Soviet Union collapsed and the flights stopped for many years.

The lull did not last. In 2007 the Russians were back after Russian President Vladimir Putin announced that his country would resume the strategic flights.¹²⁶ "When I took command in Winnipeg, there was a sharp and sudden increase in strategic aviation activity on Russia's part, and the pace of that activity has remained steady ever since,"

¹²³ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 2, March 29, 2010, p. 7).

¹²⁴ *Ibid.*

¹²⁵ For more on military activity by circumpolar countries see: Linda Jakobson, "China Prepares for an Ice-free Arctic," SIPRI Insights on Peace and Security No. 2010/2," (2010): p. 2. Available: <http://books.sipri.org/files/insight/SIPRIInsight1002.pdf> [Accessed: February 10, 2011]

¹²⁶ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 2, April 12, 2010, p. 49).

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we were told by NORAD's Canadian deputy commander, Lieutenant-General (LGen) J.M. Duval.¹²⁷

Operating from "Russian main operating bases in the Arctic," and from "forward operating bases, with flights coming close to the Aleutian Islands and identification zones [Air Defence Identification Zones—ADIZ],"¹²⁸ these approaches have made headlines in Canada when our CF-18 fighters are scrambled to meet them.

But why were the Russians back? "There were numerous reasons behind the announcement," LGen Duval told us, "but it mainly had to do with Russia's improved economic conditions and increased military spending. Russia regained its ability to do what it was able to do during the Soviet era. Russia sees itself as a major player on the world stage. It is a way of flexing its geopolitical might, of saying it has the resources it takes to do what it is doing."¹²⁹

LGen Duval went on to say, "What the Russians are doing is legitimate. They are engaging in training for their armed forces. The identification zone is not the sovereign airspace of the US or Canada, but an international airspace."¹³⁰

Nevertheless, "It elicits a response because that is part of our detection and control mission. Any aircraft that approaches the identification zones should follow an international flight plan. ... Russian strategic aviation does not use flight plans."¹³¹

Do these bomber approaches, and increased Russian military activity in their own Arctic bode ill for circumpolar, indeed world peace? Professor Whitney Lackenbauer believes not.

When we talk about the prospect of the Russian bear being renewed and belligerent to gobble up more, the Russians are actually quite worried. Interesting messaging is happening between Canada and Russia. The Russians are basically saying the exact same thing we are. If you take Prime Minister Harper's speeches and line them up beside President Medvedev's speeches, they are almost identical. ... In fact, both sides are clear in their foreign-policy documents and in most addresses before Parliament that they will adhere to international law.¹³²

Professor Michael Byers concurred. "Similar to us, he [Russian President Dimitri Medvedev] will be concerned about non-state threats. ... However, I have not read anything in his or other Russian politicians' statements that suggests a desire to build forces against nation-state threats coming from Canada, the United States or other NATO countries."

¹²⁷ Ibid., 48.

¹²⁸ Ibid., 49.

¹²⁹ Ibid.

¹³⁰ Ibid., 50–51.

¹³¹ Ibid.

¹³² Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 1, March 22, 2010, pp. 50–51).

Professor Byers continued, “The tendency on the part of many journalists is to wish to sell newspapers by ratcheting up the threat of the Russian bear. I do not trust Russia. I do not like what they have done in places such as Georgia and Chechnya. However, in the Arctic, as far as I can see, they are acting responsibly.”¹³³

Professor Huebert, however, remains concerned— without singling out Russia. “‘Will we have an actual war in the Arctic?’ The answer is that we will not have an immediate war in the Arctic. What we see is countries hardening their position. There are points of tension, I would argue, that can escalate if they are mismanaged.”¹³⁴

Those “points of tension,” contends Huebert, include:

- differences of opinion over whether Arctic marine transportation routes (i.e. the Northwest Passage, and Russia’s Northern Sea Route) are internal or international waters;
- disputes that might yet arise over dividing the extended continental shelf under the UNCLOS process;
- potential disputes over fisheries jurisdiction;
- the potential for misinterpretation of military activity by others;
- Finland’s ongoing cooperation with NATO – of concern to Russia because the two countries share a border, and because Russia remains concerned about NATO’s continuing growth around its borders.

Huebert warned:

I think we really need to start having a much better appreciation of the long-term intent of our Arctic neighbours. It is naive to assume that everyone will be cooperating, that there will be no national interests that will be pursued by our neighbours, including the Russians, Americans, Danes, Norwegians and, very shortly, the Chinese. That is not to say that we will necessarily be falling into conflict, but we have to have a more realist understanding of how the future can evolve to ensure it does develop in a more cooperative fashion.¹³⁵

Of the witnesses we heard from, Rob Huebert was alone in expressing concern about the combination of increased Arctic military activities, disputes over boundaries and marine transportation corridors, and the potential for trouble being started by flash points elsewhere in the world. Others pointed to extensive cooperation and communication among Arctic countries, and ongoing peaceful negotiations of the few disputes there. Addressing their view, Huebert said, “To a large degree, it is the type of future I hope Canada will see in its Arctic region. However, the indicators I am starting to

¹³³ Ibid., 79.

¹³⁴ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 2, March 29, 2010, pp. 7–8).

¹³⁵ Ibid., 9.

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see in my research—the issues that seem to be developing—suggest that we should not have rose-coloured glasses when looking at the issues of the circumpolar North.”¹³⁶

Fellow academic Whitney Lackenbauer seemed to rebut Huebert's view. "... I want to emphasize that I do not believe that there is an Arctic race that is likely to deteriorate into military conflict over boundaries and resources," to which he added, "Grouping together a series of discrete and manageable challenges over maritime boundaries, transit rights and extended continental-shelf limits makes the alleged storm seem scarier than it is."¹³⁷

The question remains, is there a military threat to Canada in the Arctic? The consensus of witnesses was that there is not, in the sense of an imminent or even foreseeable peril. That is certainly the view of Canada's military.

BGen D. B. Millar, head of Joint Task Force (North) when he appeared before the Committee, told us "There is no conventional threat and therefore we are not arming ourselves in preparation for an attack from any country. The likelihood of an attack in the High Arctic is as likely as an attack in downtown Toronto."¹³⁸

Canada's Chief of Defence Staff, Gen Walt Natynczyk, made the same point but with tongue-in-cheek. "My comment is if a country invades the Canadian Arctic, my first challenge is search and rescue to help them out."¹³⁹

OTHER SECURITY CONCERNS

BGen Millar pointed to emergencies such as rising sea levels, melting permafrost, grounded vessels causing environmental damage, the outbreak of communicable diseases within small communities, and an increasing need for search and rescue.¹⁴⁰ It is frightening, for example, to contemplate an accident on the scale of the Exxon Valdez happening in the Arctic archipelago, so very far from any clean up infrastructure.

BGen Millar might have included concerns about terrorism, people-smuggling, drug-smuggling, and other criminal activities. While to some these may seem far-fetched, given the remoteness of the Arctic and the fact that it remains a cold, forbidding place much of the time, they are cited as possibilities in the Canada Command Backgrounder

¹³⁶ Ibid., 6.

¹³⁷ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 1, March 22, 2010, p. 39).

¹³⁸ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 2, April 12, 2010, p. 70).

¹³⁹ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 5, June 7, 2010, p. 71).

¹⁴⁰ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 2, April 12, 2010, pp. 62–63).

The Canadian Forces in the North.¹⁴¹ A recent article in the *Canadian Army Journal* gives real-world instances:

- An aircraft allegedly owned by Al-Qaeda stopped over in Iqaluit in 1993;
- A Russian four-engine jet transport landed in Churchill, Manitoba in 1998, was not met by Canadian officials, remained a short while, loaded a helicopter on board, then departed [Churchill is not technically in the Arctic];
- A Chinese icebreaking research ship arrived in Tuktoyaktuk, NWT, in 1999, surprising Canadian officials;
- A deported Romanian convicted criminal re-entered Canada in 2006 by motorboat from Greenland;
- Turkish sailors jumped ship in Churchill, Manitoba, in 2006;
- And in 2007, a group of adventurers was arrested in Nunavut while trying to transit the Northwest Passage, after failing to report their presence to Canadian immigration officials and misleading the RCMP by hiding a crew member.¹⁴²

Two witnesses told the Committee about the same and similar incidents. Col (Ret'd) Pierre Leblanc, who headed the military's Joint Task Force (North) from 1995 to 2000, said he received many reports of illegal activity from the Canadian Rangers, for example about Inuit from Greenland bringing American tourists to Ellesmere Island by snowmobile to hunt polar bears. "You can imagine," he said, "the number of Canadian laws that were broken—weapons, vehicles, immigration, hunting endangered species. They were also reporting illegal fishing in our waters off the northern part of Baffin Island."¹⁴³

We also heard from Charlie Lyall, President and CEO of Kitikmeot Corporation, who said, "... a man came to Grise Fiord in an 18-foot Lund, and I believe a couple of gang members were arrested on Victoria Island after they came across the Northwest Passage. Yes it is a concern, right down to the people coming into the country illegally. Being an ex-policeman, I can see that it would not be a problem for drug smuggling to start in the North and work its way south."¹⁴⁴

¹⁴¹ National Defence. National Defence and the Canadian Forces. *The Canadian Forces in the North*, bg 09.002a. Available: <http://www.canadacom.forces.gc.ca/nr-sp/bg-do/09-002a-eng.asp> [Modified: November 25, 2010]

¹⁴² Nancy Teeple, "A Brief History of Intrusions Into Arctic Waters," *Canadian Army Journal*, Vol. 12.3 (Winter 2010), pp. 45-68. Available: http://www.army.forces.gc.ca/caj/documents/vol_12/iss_3/CAJ_Vol12.3_09_e.pdf [Accessed: February 10, 2011]

¹⁴³ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 1, March 22, 2010, p. 101).

¹⁴⁴ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 10, December 13, 2010, p. 40).

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The Committee may wish in future to seek information about these, and about Canadian readiness to deal with the challenges they represent, given an assertion by Col (Ret'd) Leblanc that,

The total number of full-time personnel responsible for security issues of a federal nature in this area is probably less than 300 for most of the year, to look after an area that is larger than continental Europe. This includes Canadian Forces, RCMP officers dealing with federal matters, Canada Border Services Agency, Citizenship and Immigration Canada and Canadian Security and Intelligence Service. The Canadian Coast Guard provides a boost to those numbers during the shipping season.¹⁴⁵

It is to be noted that according to both Col (Ret'd) Leblanc and the *Canadian Army Journal* article, in at least two of the above instances it was local Inuit who discovered the intruders, an indication of the value to Canadian security of indigenous people in the Arctic. This buttresses what the Committee was told by Yukon Premier Dennis Fentie. "The front line in the North, when it comes to security and sovereignty, happens to be northern people and their communities."¹⁴⁶

THE CHINESE PUZZLE

*"The final Joker card we do not know is the entry of the Asians into the Arctic region."*¹⁴⁷

Rob Huebert, Committee Witness

China is not an Arctic country, but the Asian giant is clearly interested in the region. Rob Huebert told the Committee that the Arctic interests China because they want to understand the Arctic's role in the climate change that is affecting China itself. Second, "their economic prosperity depends on maritime traffic. Any possibility of new trade routes is of immediate importance and significance ...". Third, the Arctic is rich in non-renewable resources. And fourth, "... they depend heavily on fish stocks for feeding their population."¹⁴⁸

However, as Whitney Lackenbauer said, "[The Chinese] have not articulated a national strategy by any stretch of the imagination. They are still doing investigatory research."¹⁴⁹

¹⁴⁵ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 1, March 22, 2010, pp. 90-91).

¹⁴⁶ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 10, December 13, 2010, p. 32).

¹⁴⁷ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 2, March 29, 2010, p. 9).

¹⁴⁸ *Ibid.*, 14.

¹⁴⁹ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 1, March 22, 2010, p. 52).

That research, in both the Arctic and Antarctic, is centred on the Polar Research Institute of China, in Shanghai. The focus is oceanography, biology, upper atmosphere physics and glaciology.¹⁵⁰

Since 1984, the Chinese have mounted 26 expeditions to the Antarctic and maintain three research stations there. They started scientific investigation of the Arctic in 1995, and made their first sea expedition there in 1999 on their research icebreaker *Xuelong* (*Snow Dragon*)—when their arrival at Tuktoyaktuk, NWT, appeared to catch Canadian officials by surprise.¹⁵¹ *Xuelong* is said to be the world’s largest non-nuclear powered icebreaker, at 163 metres and 21,000 tonnes. It has since made three more Arctic expeditions—in 2003, 2008 and 2010—including into Canadian waters. A new, smaller icebreaker (8,000 tonnes) is currently being built, to be operational in 2013. China also has a research station in Norway’s Svalbard Archipelago.¹⁵²

While China has been carrying out scientific polar research, it has been under pressure from within to play a broader Arctic role. Finnish researcher Linda Jakobson, a Beijing-based China expert whom the Committee has not heard from, writes that Chinese academics want their country to recognize the value of the Arctic to their nation’s interests. But she adds, “Chinese decision-makers, on the other hand, advocate cautious Arctic policies for fear of causing alarm and provoking countermeasures among the Arctic states.”¹⁵³

Understandably, given its research and strategic interests in the Arctic, China wishes to sit as a permanent observer at the Arctic Council, the chief forum for Arctic matters, whose permanent observers include several other non-Arctic states. China attended Arctic Council ministerial meetings twice as an ad hoc observer, in 2007 and 2009, but at the 2009 meeting no decision was taken on applications by China and others for permanent observer status.¹⁵⁴

As Professor Lackenbauer told the Committee, “Part of the concern in China’s eyes is that the Arctic littoral states are getting together, as we used to do with our old sectoral principles. We are just dividing it up into wedges, and we will keep the rest of the world out of the Arctic.”¹⁵⁵

Professor Byers urged that China be made a permanent non-Arctic state observer at the Arctic Council. “They should be allowed to see what is happening inside the tent so that

¹⁵⁰ Polar Research Institute of China, <http://www.pric.gov.cn/enindex.asp> [Accessed: February 13, 2011]

¹⁵¹ Jim Bronskill, “Federal Security Agencies Raise Spectre of Arctic Terror Threats,” *Globe and Mail*, November 10, 2010, <http://www.theglobeandmail.com/news/politics/federal-security-agencies-raise-spectre-of-arctic-terror-threats/article1792812/print/> [Accessed: February 13, 2011]

¹⁵² Linda Jakobson, “China Prepares for an Ice-Free Arctic,” SIPRI Insights on Peace and Security No. 2010/2, Stockholm International Peace Research Institute, p.6.

¹⁵³ *Ibid.*, 12.

¹⁵⁴ *Ibid.*, 9–10.

¹⁵⁵ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 2, March 29, 2010, p.52).

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they do not develop suspicions. It is better to have transparency when dealing with these matters.”¹⁵⁶

Foreign Affairs Minister Cannon provided an update on the situation. “We have agreed as members of the Arctic Council that at our next meeting, which will take place in May [2011], we will have on the agenda for discussion the criteria and conditions that will enable observer status within the Arctic Council.”¹⁵⁷

As for an extravagant claim by Chinese Rear Admiral (Ret.) Yin Zhuo, that “The Arctic belongs to all the people around the world as no nation has sovereignty over it,”¹⁵⁸ Canada's Foreign Minister, the Hon. Lawrence Cannon told the Committee, “The short answer is no, I do not see any way that China can have a claim, either through the UN Convention on the Law of the Seas or otherwise.”¹⁵⁹

INTERNATIONAL DISPUTES

*I have watched the Norwegians and the Russians achieve agreement on a maritime boundary dispute they discussed for 40 years, both sides using the United Nations convention as the means by which their lawyers argued their case to find a bilateral agreement.*¹⁶⁰

Vice-Admiral Dean McFadden, Chief of the Maritime Staff

Canada has two disputes in the Arctic with Denmark and two with the United States. These are of interest in a discussion of Arctic security in that some say they create uncertainty and raise the possibility that if unresolved, they could lead to conflicts.

WITH DENMARK

Hans Island is essentially a barren rock 1.3 square kilometres in area that lies between Ellesmere Island and Greenland. As Alan Kessel, legal advisor to the Department of Foreign Affairs, told us, “It is a tiny island with no resources. ... We believe it is ours. They believe it is theirs. We have not yet gone to war on it and do not intend to. We do talk to each other, and we will manage this as we have managed other matters.”¹⁶¹

The other issue is in the Lincoln Sea, north of Ellesmere Island and Denmark, over two small ocean zones of 31 and 34 square nautical miles in size, “a disagreement,” said Alan

¹⁵⁶ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 1, March 22, 2010, p.82).

¹⁵⁷ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 8, November 1, 2010, p.52).

¹⁵⁸ Gordon Chang, “China's Arctic Play,” *The Diplomat*, March 9, 2010, <http://the-diplomat.com/2010/03/09/china%E2%80%99s-arctic-play/> [Accessed: February 13, 2011]

¹⁵⁹ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 8, November 1, 2010, p.60).

¹⁶⁰ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 5, May 31, 2010, p.30).

¹⁶¹ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 1, November 1, 2010, p.62).

Kessel, “about how to measure the equidistance line between Ellesmere Island and Greenland. It all boils down to whether a rock is a rock or a rock is more than a rock.”¹⁶²

WITH THE UNITED STATES OF AMERICA

The Beaufort Sea

Canada and the United States disagree over where their maritime border lies north of the undisputed land boundary between Yukon and Alaska. As a result, both claim the same 6,250 square nautical miles of ocean and seafloor in a resource-rich area. “Clearly we have a dispute,” says Alan Kessel.¹⁶³ “It is actually a complicated disagreement.”¹⁶⁴

At least two matters are at play here:

1. The 1825 treaty between Russia and the United Kingdom that set the 141st meridian as the boundary between the two empires;
2. the UNCLOS process for determining the extended continental shelf.

The treaty between Russia and the UK now concerns the US and Canada because on March 30th, 1867, the United States bought Alaska from Russia, and on July 1st that year Canada became a sovereign nation.

“In the actual treaty itself,” said Mr. Kessel, “it says [that the border extends] ‘jusqu’à la Mer Glaciale.’” Canada’s view is that this means the border continues along the 141st meridian out into the ocean. The American view is that ‘jusqu’à la Mer Glaciale’ means the border follows the 141st meridian only to the shoreline, and that thereafter it runs out to sea on the equidistance principle of international law, which in this case means a line perpendicular to the shoreline at the point where the two countries meet, a more easterly line than the 141st meridian.¹⁶⁵

The UNCLOS process on an extended continental shelf comes into play because Canada and the United States are working jointly to determine the limits of an extended continental shelf in the area. Although the US is not a signatory to the UNCLOS, it has nonetheless been working since 2001 to determine the limits of its extended continental shelf.¹⁶⁶ For the past four summers, vessels from the US and Canadian Coast Guards have been cooperatively mapping the area.¹⁶⁷ As Mr. Kessel pointed out, Canada must submit its claim to an extended continental shelf to the commission in 2013. “We would like to at least have started working to reduce what you call a conflict, or dispute, so

¹⁶² Ibid.

¹⁶³ Ibid.

¹⁶⁴ Ibid., 66.

¹⁶⁵ Ibid., 62.

¹⁶⁶ US Congressional Research Service. *Changes in the Arctic: Background and Issues for Congress*, (R41153, October 15, 2010), by Ronald O’Rourke. Available:

http://assets.opencrs.com/rpts/R41153_20101015.pdf [Accessed: February 13, 2011]

¹⁶⁷ Senate Standing Committee on National Security and Defence. *Proceedings*. (Issue No. 1, March 22, 2010, p.66).

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that we can then go to the commission [on the limits of the continental shelf] and say, 'Look there is [no dispute] on the Canada –US border.'"¹⁶⁸

Professor Byers told the Committee, "We are now seeing a possibility where Canada or the United States could assert sovereignty rights out maybe 400 or even 500 nautical miles from shore"¹⁶⁹ based on the technical UNCLOS provisions on how to determine the extended continental shelf.¹⁷⁰

"Ironically," asserted Byers, "the US position [on the maritime boundary] might be better for Canada and the Canadian position might be better for the United States; I have never seen such a wonderful win-win situation for the purposes of negotiation."¹⁷¹ Without expanding here on why he thinks this is so, suffice it to say it involves where Canada's Banks Island lies in the Beaufort Sea.

Rob Huebert suggested that until a boundary settlement is reached, the two countries agree "to some form of joint management scheme ... rather than getting beat up on the definitive border."¹⁷² In a text submitted to the Committee, Alan Kessel wrote, "The United States and Canada have both offered oil and gas exploration licenses and leases in this [21,437 km²] disputed zone. Neither country has allowed exploration or development in the area pending resolution of the dispute."¹⁷³

Foreign Affairs Minister Cannon told the Committee, "We [he and US Secretary of State Clinton] also agreed that it was important to complete the mapping of the continental shelf, particularly in that area, before we engage in a more formal type of what one would assume to be discussions or negotiations."¹⁷⁴

Mr. Cannon also said, "The recent announcement by Norway and Russia on their successful resolution of their maritime boundary dispute in the Barents Sea is a case in point. This serves as a concrete example of how Arctic states are able to resolve differences in a peaceful and orderly way."¹⁷⁵

¹⁶⁸ Ibid.

¹⁶⁹ Ibid., 87.

¹⁷⁰ For more, please see: Foreign Affairs and International Trade Canada. *Defining Canada's Extended Continental Shelf*. Available: <http://www.international.gc.ca/continental/limits-continental-limités.aspx?lang=eng> [Accessed: February 13, 2011]

¹⁷¹ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 1, March 22, 2010, p.87).

¹⁷² Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 2, March 29, 2010, p.13).

¹⁷³ Alan H. Kessel, "Canadian Arctic Sovereignty: Myths and Realities," (submission to Standing Senate Committee on National Security and Defence, March 22, 2010).

¹⁷⁴ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 8, November 1, 2010, p.50).

¹⁷⁵ Ibid., 46.

The Northwest Passage

*The dispute that has everyone's hair on the back of their neck up, of course, is the Northwest Passage discussion, and that has gone into the realm of mythology.*¹⁷⁶

Alan H. Kessel, legal adviser, Department of Foreign Affairs

There is a widespread assumption that before long, Canada's Northwest Passage (NWP) will become part of a new ocean route between the Atlantic and Pacific oceans. Most of our witnesses shared this assumption—but one did not. A vice-president of the world's largest shipping line told the Committee why he does not think it will happen, and pointed out that history seldom unfolds as predicted.

The Northwest Passage was at first only an imagined sea route from Europe to Asia, a hypothetical short cut across the top of North America. Europeans began searching for it about 500 years ago. Many died in the attempt. Some, like Sir John Franklin and his men, were never seen again. The Northwest Passage itself was not travelled until 1906 when Danish explorer Roald Amundsen made it to Alaska in his sloop *Gjoa*, having left Greenland in 1903. In 1942, RCMP Sergeant Henry Larsen was the first to complete the journey from west to east, aboard the RCMP vessel *St. Roch*. He spent two winters locked in ice before completing his trip.

The Northwest Passage is not a single passage, but consists of several possible routes among the islands and ice of Canada's Arctic Archipelago. The shortest of these runs more or less east-west via the Perry Channel, north of Baffin, Somerset, Prince of Wales, Victoria and Banks Islands.

With rising average Arctic temperatures, there are predictions that the Northwest Passage(s) will in years ahead become sufficiently ice-free to serve as a sea trading (transit shipping) route between northern Asia and Europe, as well as offering expanded possibilities for destination shipping to Canadian Arctic locations, and for tourism. The attraction is that the NWP offers a shorter, seemingly cheaper alternative to using the Panama Canal.

The NWP lies entirely within Canada. "It is Canada on the north of it, Canada on the south of it, Canada on the west of it, Canada on the east of it," said Alan Kessel.¹⁷⁷ He told the Committee that the NWP is indisputably Canadian, and that the dispute is over the right of foreign vessels to transit the passage.¹⁷⁸

The United States (and many other countries) contend that because the NWP offers a connection between the North Atlantic and North Pacific via the Arctic Ocean, it is an international strait under maritime law, through which all ships enjoy the right of innocent passage as they do in other such straits around the world. Canada contends

¹⁷⁶ Ibid., 63.

¹⁷⁷ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 1, March 22, 2010, p.74).

¹⁷⁸ Ibid., 63.

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these are internal waters “by virtue of historic title,”¹⁷⁹ “and that we have an unfettered right to regulate it as we would land territory.”¹⁸⁰ This means, said Kessel:

We have no objection to vessels coming into Canadian waters. We just have a couple of conditions. One is that the vessel has to be up to standard, which is provided by Transport Canada and through the Arctic Waters Pollution Prevention Act ... If you comply with that condition, as well as have notification to us of your entry into our waters – NORDREG¹⁸¹ will become mandatory in a few months – then we have no problem. ... the key is just that you do it under our authority ...¹⁸²

Two late 20th century real world voyages by American ships caught the attention of Canadians—and raised their ire. The first was the 1969 transit of the NWP by the ice-reinforced commercial oil tanker, the SS Manhattan. The Americans did not ask permission to cross, but were granted it without asking and a Canadian icebreaker was sent to accompany the US vessel. Both sides had made their points. The second transit was made in 1985 by the United States Coast Guard cutter Polar Sea, on a resupply mission from Greenland to Alaska. Again, the Americans did not ask permission, although they did notify Canada that they were making the trip. Canada, while sticking to its legal position, decided to cooperate. Canadian observers were aboard for the trip.

Two years later, at the Shamrock Summit in Quebec City, the Mulroney and Reagan governments agreed that in future, the United States government would obtain the Canadian government's consent for US “icebreakers” to use the NWP, but that this would not affect the respective positions of the governments about the legal status of these waters.¹⁸³ Canada and the United States to this day agree to disagree about the NWP.

Some witnesses told the Committee that agreeing to disagree is not good enough. Professor Michael Byers said, “I do want to see a bilateral agreement or treaty here. Then I would want to see us encouraging our American neighbours to bring their allies around the world to a common US–Canada position.”¹⁸⁴

¹⁷⁹ Alan H. Kessel, “Canadian Arctic Sovereignty: Legal Issues,” (submission to Standing Senate Committee on National Security and Defence, March 22, 2010).

¹⁸⁰ Senate Standing Committee on National Security and Defence. *Proceedings*. (Issue No. 1, March 22, 2010, p.63).

¹⁸¹ Transport Canada. *No. H078/10 June 22, 2010, Government of Canada takes action to protect Arctic waters*. Available: <http://www.tc.gc.ca/eng/mediaroom/releases-2010-h078e-6019.htm> [Modified June 23, 2010]

¹⁸² Senate Standing Committee on National Security and Defence. *Proceedings*. (Issue No. 1, March 22, 2010, p.64).

¹⁸³ *Agreement between the Government of Canada and the Government of the United States of America on Arctic Cooperation*. Available: <http://www.treaty-accord.gc.ca/text-texte.asp?id=101701> [Accessed: January 26, 2011].

¹⁸⁴ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 1, March 22, 2010, p.78).

Col (Ret'd) Pierre Leblanc, former commander of Joint Task Force (North), said Canada's position will weaken as the NWP opens up if more and more ships go through on the premise that it is an international strait. "This will eventually establish an international strait, and then we will have lost, in my view, the internal status of those waters."¹⁸⁵

Col (Ret'd) Leblanc told the Committee about a simulated Canada-US negotiation over the NWP in 1998 in which he advocated setting aside the dispute and making surveillance of the NWP a NORAD responsibility. "With time, the entire world will acknowledge that the Northwest Passage is ... controlled and monitored jointly by Canadians and Americans ..."¹⁸⁶ But Col (Ret'd) Leblanc also said that it would be in the security interests of the United States to acknowledge that the NWP is not an international strait, because then these waters would be under full Canadian control and not open to the unrestricted passage of world shipping.¹⁸⁷

Professor Lackenbauer seemed to urge realism about the NWP. He said that trying to get the Americans to change their position is "a non-starter," because they can hardly retract their position that it is an international strait "without prejudice to [their] global interest." He said that Americans have told him time and again that they will not change their official position.¹⁸⁸ Besides, he said, the agreement to disagree has worked well for half a century, and that there is no reason to change this now.¹⁸⁹

What is more, "I am saying that people who are thrusting upon us that within two or three years the Northwest Passage could be flooded with foreign vessels intent on undermining our sovereignty are way out of whack."¹⁹⁰

One witness above all cast cold water on the idea of the NWP becoming a shipping lane any time soon. Stephen Carmel, a senior vice president at the world's largest shipping company, Maersk Line, did not mince words: "... the Canadian Northwest Passage will not be the next Panama Canal."¹⁹¹

Carmel's argument was compelling. He told us that because the NWP is a shorter route than the Panama Canal does not mean it will be faster or cheaper. Ships, he said, would have to maintain speeds of seven to ten knots for the shorter distance to translate into faster times. That sort of speed, he said, was questionable because ice will continue to be a hazard, Arctic weather often reduces visibility and the NWP is shallow in places. Large container ships, he said "will never be able to work there, destroying the economic advantage."¹⁹²

¹⁸⁵ Ibid., 98.

¹⁸⁶ Ibid., 99.

¹⁸⁷ Ibid., 100.

¹⁸⁸ Ibid., 40.

¹⁸⁹ Ibid.

¹⁹⁰ Ibid., 45.

¹⁹¹ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 2, March 29, 2010, p.20).

¹⁹² Ibid.

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Predictability, he pointed out, is important in economic modelling of shipping routes. The NWP will be anything but predictable, he said. Yes, he acknowledged, six or seven days might hypothetically be shaved off travel by using the NWP, but ice conditions could hold up a ship for longer than that.¹⁹³

Carmel also said that shipping insurance costs would be high and variable owing to hazards such as ice conditions, as well as poor marine charting, a lack of aids to navigation and slow emergency response times.¹⁹⁴

He added that the NWP offers a potential cost savings only for marine traffic from Asia to the North American east coast (because Russia's Northern Sea Route is shorter for Asia-Europe commerce). A huge portion of Asian trade to North America, he said, does not go through the Panama Canal at present. Shippers find it cheaper to offload cargo at west coast ports in Canada and the US and send it by train to the east coast.¹⁹⁵

Then there is cabotage—marine trade from one point to another within a country. Cabotage rules, Carmel pointed out, require that ships engaged in such domestic trade be built in the country where that trade is carried out, “which blows the economics away,”¹⁹⁶ if they have to be built domestically to withstand the rigours of the NWP.

Professor Byers, however, insisted that within five to 10 years there is “a very real risk” of an ice-free Arctic Ocean in summer time. “We will see 12-month-a-year shipping in those waters ... anyone who tells you otherwise is taking a huge risk with the national security of this country.”¹⁹⁷

Carmel said, “At [Maersk], we do not expect to have anything to do with the Arctic for several generations.”¹⁹⁸ He later added, “I have never spoken to a regular shipping company in international trade that expects the Arctic ... to be usable to 2050. By that time the world will be a very different place, and it is hard to say what will happen then.”¹⁹⁹

¹⁹³ Ibid., 24.

¹⁹⁴ Ibid.

¹⁹⁵ Ibid., 21.

¹⁹⁶ Ibid., 27.

¹⁹⁷ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 1, March 29, 2010, 83).

¹⁹⁸ Standing Senate Committee on National Security and Defence. *Proceedings*. (Issue No. 2, March 29, 2010, 26).

¹⁹⁹ Ibid., 28–29.

Conclusions

Two years from now, 17 years after playing an instrumental role in its creation, Canada will chair the Arctic Council. The same year, the Canadian Government will submit its extended continental shelf claim to the Commission on the Limits of the Continental Shelf. And, if a recent newspaper report has it right based on word from unnamed officials, by the time that claim is submitted, Canada and Denmark will have resolved their dispute over who owns Hans Island.²⁰⁰

All of this points to how cooperation, negotiation and an international legal regime predominate in the Arctic. They are the means by which Canada and the other Arctic nations can and do resolve their differences. The Committee has no concern that Canada's disputes in the Arctic, with Denmark and the United States, will flare into conflict.

Although the Committee heard testimony about potential military and other threats to national security in the North, we do not view military developments in Arctic region with concern at this time. There are no immediate military threats to Canada in the Arctic, and Canadian Forces and Canadian Coast Guard capabilities in the North are on track for considerable enhancement in the decade ahead.

As to other security threats in the North, whether from terrorists, illegal migration, drug smuggling or other activities, we heard no testimony suggesting that there is need for alarm, although, as in other areas of Canada, these concerns should be carefully considered and prepared for. The Committee may wish to look further into Canada's readiness to meet these sorts of challenges.

China's aims in the Arctic remain unclear. There is no immediate concern that she represents a threat. China's actions, however, will bear close scrutiny.

In general, Canada appears to have an adequate and growing situational awareness in its Arctic—with the exception of marine hydrography and navigational charting—thanks to the eyes and ears of the Canadian Rangers, the Canadian Forces in general, the Canadian Coast Guard, the RCMP, RADARSAT, the people of the North and the territorial governments. The *Northern Watch* technology demonstration project points to a promising new way of staying situationally aware—through use of remote-sensing onshore and underwater microphones. It cannot be forgotten, however, that the immense size and sparse population of the North make it a big challenge.

As for exercising its sovereignty in the Arctic, Canada could always do more, but the Government's increasing interest and efforts in this area certainly appear adequate at this time; there is no serious challenge to Canada's ownership of its Arctic lands and waters, although there is the one, well-managed border dispute with the United States

²⁰⁰ John Ibbitson, "Dispute over Hans Island Nears Resolution," *Globe and Mail*, January 26, 2010.

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in the Beaufort Sea, and our agreement to disagree concerning the right of innocent passage through the Northwest Passage.

It is encouraging that a Polar class icebreaker has been promised, the Canadian Coast Guard Ship *John G. Diefenbaker*, as well as six to eight Arctic/offshore patrol ships for the Navy and new Fixed Wing Search and Rescue Aircraft for the Air Force.

But a Polar class icebreaker has been in prospect, off and on, for about 25 years now, a contract for design work has not been signed yet and its sea trials and final acceptance are not anticipated until late 2017.²⁰¹

As well, six years after a Statement of Operational Requirements was issued for the new SAR aircraft, the whole process went back to square one again in late 2010. These sorts of delays, of course, are not unusual in the history of Canadian defence procurement. They are, however, discouraging and potentially dangerous—and the process should be streamlined.

²⁰¹ Canadian Coast Guard. *The CCGS John G. Diefenbaker National Icebreaker Project*. Available: <http://www.ccg-gcc.gc.ca/e0010762> [Modified: April 28, 2010]

Recommendations

That:

1. The Government make speedy acquisition of new fixed wing search and rescue aircraft the top military procurement priority, and that target dates for the program be published.
2. The Government keep the Canadian Rangers modernization program on track, with consideration given to expanding the Rangers' role in the marine environment. The program should be completed sooner than later.
3. The Government ensure procurement of the Polar icebreaker, *John G. Diefenbaker*, by the end of 2017—which is the year the Canadian Coast Guard says the ship is expected to enter service.²⁰²
4. The Government reallocate existing Canadian Hydrographic Service funds so that more work can be done on a high priority basis to upgrade existing Arctic marine navigational charts and to create new ones in high risk areas.
5. The Government take steps to create an Arctic Pilotage Authority, whose ultimate purpose will be to require that commercial marine vessels in the Arctic carry pilots in areas that normally require the use of pilots—in narrow passages, where navigation is complicated by reefs and shallows, or on approaches to and from harbours.
6. The Government, in order to reduce SAR response times in the Arctic, position Canadian Forces SAR assets at a central location in the North such that there is always an aircraft on standby, as in the South, to respond quickly to emergency calls.

²⁰² Ibid.

Possible next steps for the Committee

The Committee may wish to continue its study of Arctic security by looking further into the following areas.

The Canadian Coast Guard's role and responsibilities. The Coast Guard were not called as witnesses for this interim report, but do play an important and long-standing part in exercising sovereignty in Canada's North.

Communications inadequacies. The Committee heard that communications present special problems in the Arctic; we could look into why this is so, how serious the problem is, and what needs to be done to improve it given that reliable communications are part of good national security.

RADARSAT. It would be helpful to learn from the Canadian Space Agency and perhaps from one of its clients, the Department of National Defence, about RADARSAT imaging and its contributions to national security, including a presentation of images to the Committee.

Public Safety. We have not heard from the RCMP, the Canadian Border Services Agency, Citizenship and Immigration Canada nor the Canadian Security Intelligence Service on the role they play there, and their assessment of Arctic security.

The Northwest Passage. One witness said the Northwest Passage would not be attractive to world shipping for decades to come due to dangers from ice, shallow or narrow channels and inadequate charting. The Committee may wish to look further into these assertions with other witnesses, including from the Canadian Coast Guard and Arctic destination shippers.

Northern Watch technology demonstration project. Defence Research and Development Canada conducted remote sensing trials using onshore and underwater microphones at a navigational choke point in the Arctic. The Committee may wish information on the outcome of these trials, and to find out whether there are future plans for such remote sensing to provide situational awareness.

Arctic Security Working Group. Witnesses mentioned the ASWG. The Committee might wish to hear more about this group and its activities, as it appears to play an important role in interdepartmental coordination of federal Arctic activities.

Search and rescue. There is a proposal being worked on to turn Arctic search and rescue over to the private sector, under command and control of the Canadian Forces. The Committee should find out more about this idea.

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NORAD's maritime role. "The renewal of the NORAD Agreement in May 2006 added a maritime warning mission, which entails a shared awareness and understanding of the activities conducted in US and Canadian maritime approaches, maritime areas and internal waterways."²⁰³ The Committee might wish to find out more about how this new mission applies to the Arctic.

²⁰³ North American Aerospace Defense Command, *About NORAD*. Available: <http://www.norad.mil/about/index.html> [Accessed: March 8, 2011]

APPENDIX A:

LIST OF WITNESSES

Agency and Spokesperson	Date
As an individual: Colonel (Retired) Pierre Leblanc	March 22, 2010
Foreign Affairs and International Trade Canada: Alan H. Kessel, Legal Advisor	March 22, 2010
St. Jerome's University: Whitney Lackenbauer, Associate professor and Chair of the Department of History	March 22, 2010
University of British Columbia: Michael Byers, Professor	March 22, 2010
As an individual: Rob Huebert, Associate Director of the Centre for Military and Strategic Studies, Associate Professor, Department of Political Science, University of Calgary	March 29, 2010
Johns Hopkins University: Charles Doran, Canadian Studies program	March 29, 2010
Maersk Line Ltd: Stephen M. Carmel, Senior Vice President of Maritime Services	March 29, 2010

SOVEREIGNTY & SECURITY IN CANADA'S ARCTIC

<p>National Defence:</p> <p>Brigadier-General D.B. Millar, OMM, C.D., Commander of the Canadian Forces' Joint Task Force (North)</p> <p>Brigadier-General Gary O'Brien, Director General Land Reserve/COS Land Reserve</p>	<p>April 12, 2010</p>
<p>North American Aerospace Defense Command (NORAD):</p> <p>Lieutenant-General J.M. Duval, Deputy Commander</p>	<p>April 12, 2010</p>
<p>As an individual:</p> <p>Paul Chapin, Member of the Board of Directors, Conference of Defence Associations</p>	<p>April 26, 2010</p>
<p>National Defence</p> <p>Vice-Admiral Dean McFadden, Chief of the Maritime Staff</p> <p>Lieutenant-General André Deschamps, Chief of the Air Staff</p>	<p>May 31, 2010</p>
<p>National Defence</p> <p>General Walter Natynczyk, Chief of Defence Staff</p>	<p>June 7, 2010</p>
<p>The Honourable Peter MacKay, P.C., M.P., Minister of National Defence.</p> <p>National Defence</p> <p>Vice-Admiral Denis Rouleau, OMM, MSM, CD, Vice Chief of the Defence Staff.</p>	<p>June 21, 2010</p>
<p>Canadian Hydrographic Service :</p> <p>Savithri Narayanan, Dominion Hydrographer</p> <p>Dale Nicholson, Regional Director, Central and Arctic Region</p>	<p>October 4, 2010</p>

APPENDIX A

The Honourable Lawrence Cannon, Minister of Foreign Affairs	November 1, 2010
Foreign Affairs and International Trade Canada: Alan H. Kessel, Legal Advisor Sheila Riordon, Director General of Energy, Climate and Circumpolar Bureau	November 1, 2010
The Honorable Dennis Fentie, Premier of Yukon	December 13, 2010

APPENDIX B

CANADA AND THE CIRCUMPOLAR WORLD



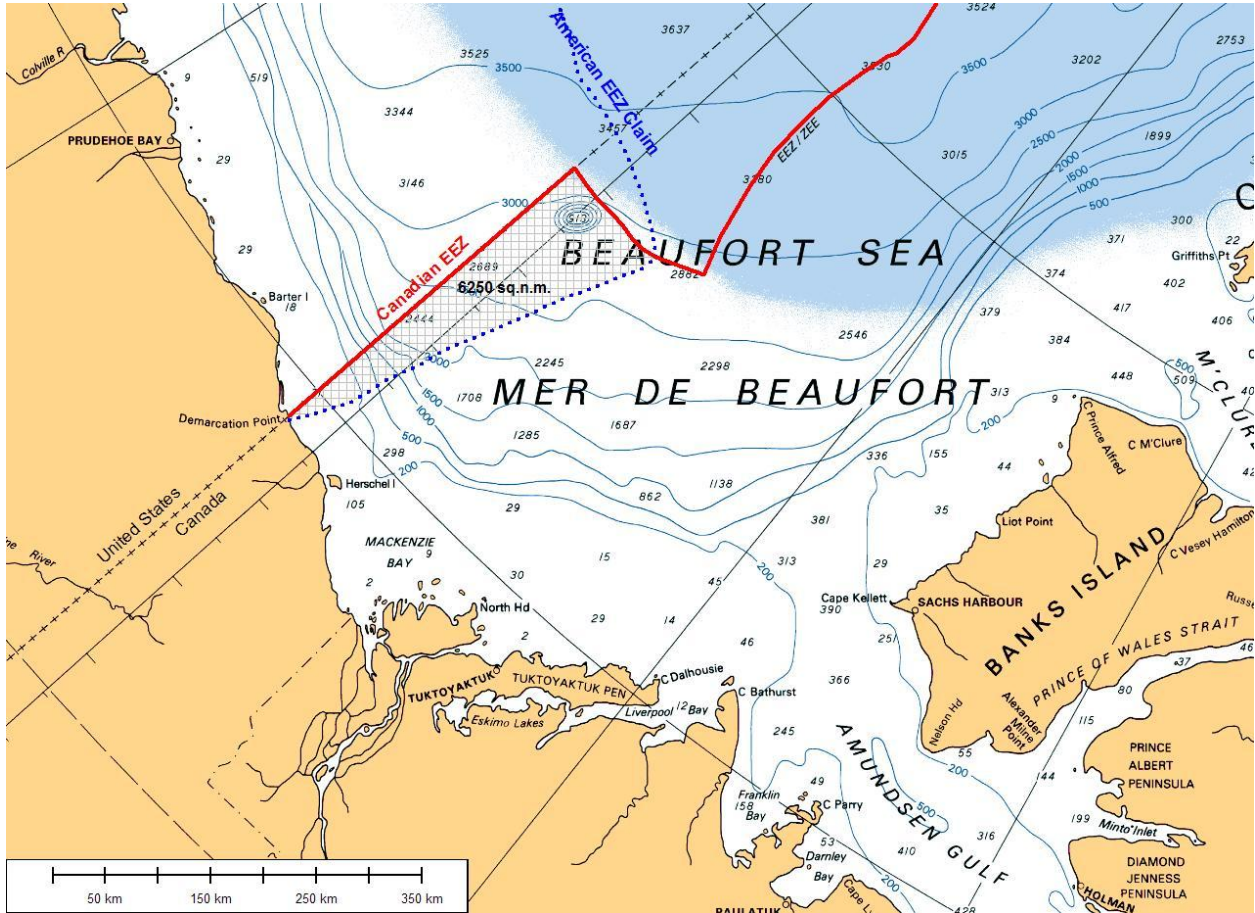
Credit: Natural Resources Canada (Atlas of Canada)

Available:

http://atlas.nrcan.gc.ca/site/english/maps/archives/reference/circumpolar/MCR0001_circumpolar_2008

APPENDIX C

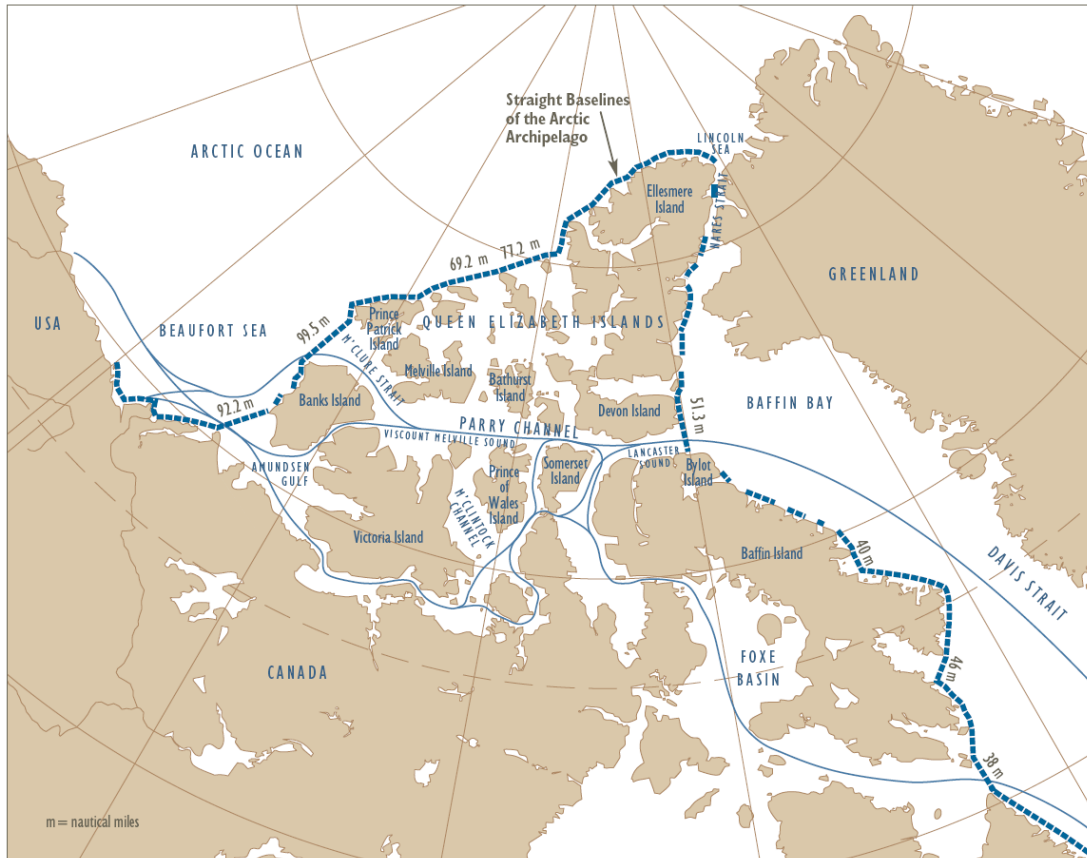
CANADA-UNITED STATES DISPUTED BOUNDARY IN THE BEAUFORT SEA



For illustrative purposes only. The shaded portion approximates the area that is in dispute.

APPENDIX D

MAIN ROUTES FOR THE NORTHWEST PASSAGE

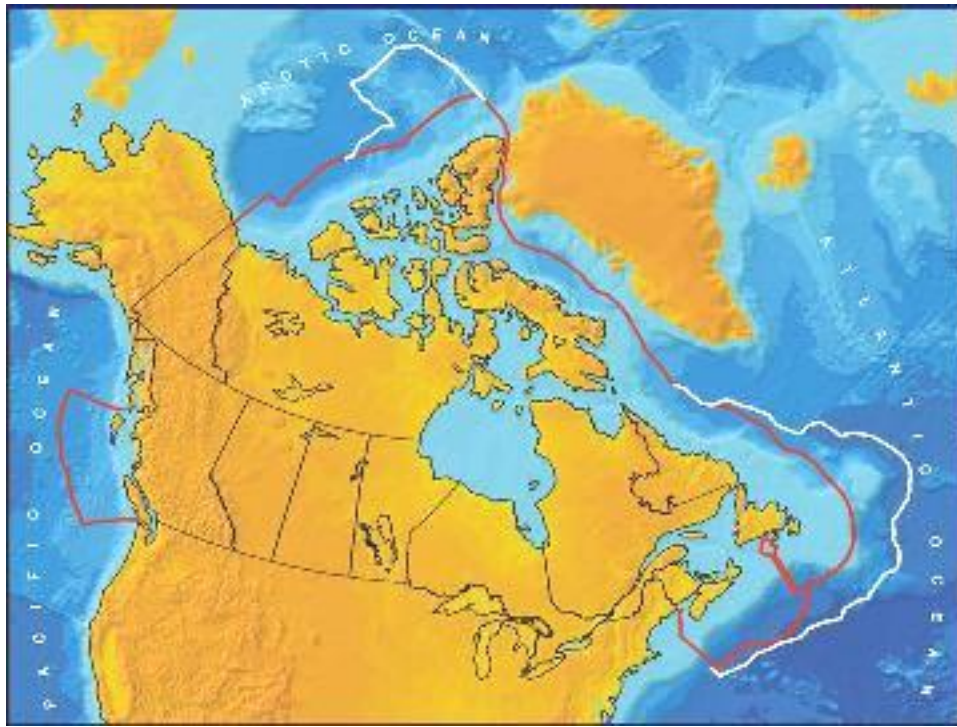


Source: Donat Pharand, "Canada's Arctic Sovereignty and the Northwest Passage," *Meridian*, Canadian Polar Commission, Spring/Summer 2009, <http://www.polarcom.gc.ca/media.php?mid=3508>

APPENDIX E

MAP SHOWING POTENTIAL EXTENDED CONTINENTAL SHELF FOR CANADA

White lines approximate the area that Canada might claim in 2013 when it submits its case under the UNCLOS process.



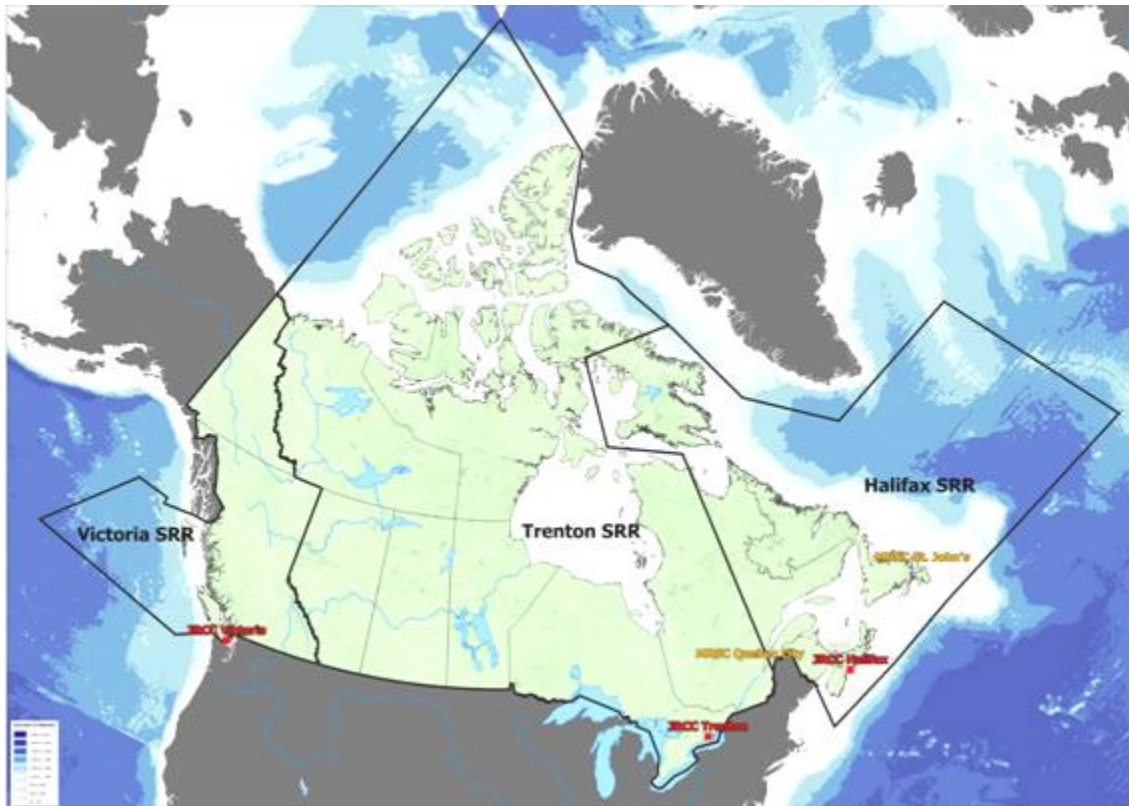
Available: Department of Foreign Affairs and International Trade

<http://www.international.gc.ca/continental/limits-continental-limités.aspx?lang=eng>

APPENDIX F:

CANADA'S SEARCH & RESCUE AREA AND REGIONS

All Joint Rescue Coordination Centres are in southern Canada

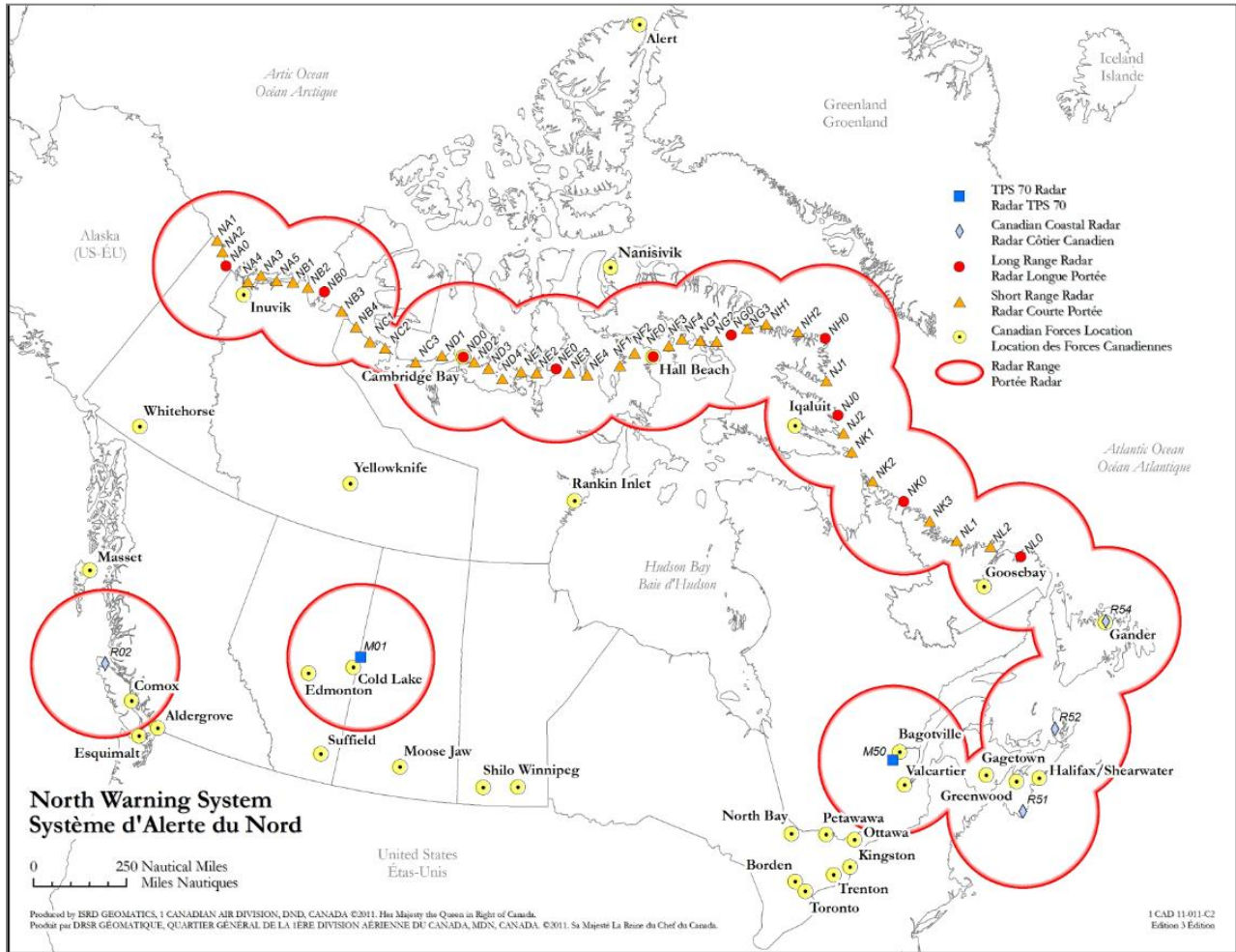


Credit: Department of National Defence

<http://www.canadacom.forces.gc.ca/sar-res/SAR-BG09001-eng.asp>

APPENDIX G

MAP SHOWING NORTH WARNING SYSTEM LOCATIONS



Courtesy: Department of National Defence