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DEVELOPING A COHERENT PLAN TO DEAL WITH CANADA'S CONUNDRUM IN THE NORTHWEST PASSAGE

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Canada's north has always inspired conflicting visions. On the one hand, ice, snow, polar bears, and endless winter nights denote a rather bleak and unwelcome place; on the other hand summer brings endless day, vibrant life on the tundra and, as Canadians have come to understand, less and less ice each coming year. Global warming and climate change are affecting the north at a far greater rate than anywhere else in Canada. Predictions even hint at the opening up of the long sought after route from Asia to Europe, the fabled Northwest Passage. This route, should it permit commercial shipping, provides the opportunity to transit quickly between the Atlantic and the Pacific, conceivably reducing the length of voyages by 7000 kilometers. Shipping companies need to ask some vital questions: When will the passage be open? For how long will it be open every year? The risk averse might ask additional questions: Is it dangerous? Are there any engineering or design considerations for my ships? Are there any guarantees concerning safe navigation?[1]

Long before the Northwest passage is safely navigable for trans-oceanic commerce, however, Canada's arctic waters will be an increasingly attractive and frequent destination for fishing vessels, scientific research, tourism or cruise ships, as well as resource exploration and exploitation platforms. Thus, there is an obvious need

[1] See Franklyn Griffiths, "The Shipping News: Canada's Arctic Sovereignty Not on Thinning Ice," *International Journal* 58/2 (Spring 2003), pp.257-282.

to act. The question remains. What coherent approach is needed to satisfy national and international stakeholders so that Canada's Arctic waters and coastline are reasonably protected and secured from potential threats and happenstances?

The *status quo* of rhetoric, followed up by ineffective action, has not conclusively demonstrated that Canada is serious in its claims to its "Internal Waters" (the Northwest Passage). Canada must devise a multi-faceted strategy that takes a page from the concepts of manoeuvre warfare, enabling Canada to assert control over its Arctic waters in a manner that preserves those waters and associated shorelines for responsible use by all. In order to devise such a strategy, the current context and the challenges, with seemingly incoherent actions that are underway by the various federal players in the North, must be critically examined. The legal situation, the protagonists and the various arguments demonstrate that an international court has no clear-cut verdict to render on the legal status of the Northwest Passage. The policy and political imperatives, both domestic and international, frame the set of actions available to policy makers to secure greater influence over the northern waters. Finally the current whole-of-government approach facilitates a coordinated strategy. A coherent strategy is essential to allocate resources rationally and to enable the key federal players to act in an orchestrated fashion, building an effective solution to the dilemma of arctic sovereignty.

The Legal Issues with Canada's claim

Canada's terrestrial claim to the Arctic Archipelago, save the uninhabited Hans Island in Kennedy Channel, is undisputed. Professor Rob Huebert, a frequent writer on

Arctic issues, states: "There is no question about the status of the land territory that comprises the Canadian Arctic Archipelago. All conflicting land claims were settled in the 1930s, with the sole exception of Hans Island. Denmark and Canada will find a way to resolve the Hans Island situation, which lies between Canada and Northern Greenland; it will take effort but a creative solution will be put in place. The only relevance of this claim is on the determination of the maritime boundary between Canada and Greenland."[2] Where to draw the maritime boundary between Canada and Alaska is also a point of contention with the US, especially when considering the potential for exploitation of oil and gas deposits located beneath these waters. But these border disputes are unaffected by the melting ice conundrum that lies at the heart of the navigability of the Northwest Passage.

The primary and most significant dispute lies with the waters of the Northwest Passage. Canada views the waters as historic internal waters and, therefore, asserts sovereignty over them. According to Huebert, the importance of this claim is that Canada assumes full sovereignty over the waters and thereby asserts full control over all activity within them.[3] By claiming sovereignty, Canada's claims run contrary to other nations' interests, particularly those of the US. The American perspective is that the Northwest Passage is an international strait with an inherent right of transit passage.[4] This position extends from the view that oceans and the bodies of water that connect them are part of the larger oceans common, once the domain of the Royal Navy and

[2] Rob Huebert, "Climate Change and the Canadian Sovereignty in the Northwest Passage," *Isuma* 2/4 (Winter 2001), 3. Available online at http://www.isuma.net/v02n04/huebert/huebert_e.html, accessed 30 January 2007.
[3] Huebert. "Climate Change," p. 4.
[4] Elizabeth B. Elliot-Meisel, "Still unresolved after fifty years: the Northwest Passage in Canadian-American relations, 1946-1998," *American Review of Canadian Studies* 29/3 (Fall 1999), p. 3.

now that of the United States Navy (USN), the world's strongest maritime power. From a US perspective, free navigation of the oceans of the world ensures greater freedom for commerce to move unimpeded. The USN exists to ensure vital sea lines of communication remain open and accessible. Therefore, it is in the interests of the United States to consider the Northwest Passage an international strait. If the Northwest Passage were treated differently, other nations in similar circumstances might seek decisions from an International Court to define their straits as internal waters. This, in effect, would deny the USN the capability to project power abroad. Thus, Canada's claim has the potential to constrain US freedom of the seas. Furthermore, European and Asian trading nations view the Passage as an international strait. Understanding each nation's perspective and centre of gravity is critical to finding a rational solution that satisfies the national constraints of each nation.

The major contention about the legal status of the Northwest Passage swings on whether it is an international strait. If the passage is internal waters Canada assumes the exclusive right to decide who may enter it. However, if international courts determined that it is an international strait like Cape Horn or the Indonesian Archipelago, with transit passage subject to the considerations of the International Maritime Organization, then these waters would be deemed to be an open shipping route.[5] What then are the major arguments?

The US position relies on two legal precedents: the first is based on geography and the second on usage. Geographically, if a waterway joins together two areas of high seas, then it constitutes an international strait. The US has followed this argument

[5] Andrea Charron, "The Northwest Passage in Context," *Canadian Military Journal* 6/4 (Winter 2005-2006), p. 42.

in the past to demonstrate its resolve on the world stage, off the coast of Libya and again in the Black Sea during the Cold War. In neither case did the US government seek permission; it simply asserted the right of passage. All seven channels of the Northwest Passage link Davis Strait and the Beaufort Sea, although only five channels offer a route deep enough for large commercial vessels.[6] Thus, it meets the geographical criteria of an international strait in this respect. The second argument hinges on use of the passage as an international strait. The International Court of Justice decision on the Corfu Channel (United Kingdom versus Albania) demonstrated that relatively small amounts of international traffic could constitute use as an international strait.[7]

The Canadian government has carefully staked out its position over the Arctic Archipelago, but Canada's claim to the sea floor reflects the belief that vast resources are present and accessible. Canada defines its coastline using straight baselines which enclose the Northwest Passage, and this claim is supported by an International Court of Justice decision ruling on the *Fisheries Case* (United Kingdom versus Norway) in 1951. That decision reinforced the concepts of coastal waters and the straight baseline method of measurement for territorial seas. The UN Law of the Sea Convention further supports this method, although a caveat maintains that the waters in question must not have been "international" prior to a given Nation asserting its territorial seas through the straight baseline method.[8] The Northwest Passage has been navigated and, at least for short periods every year, it can be navigated. It has never been a convenient or safe

[6] Donat Pharand, "The Arctic Waters and the Northwest Passage: A Final Revisit," *Ocean Development & International Law* 38/1 (2007), p. 29.
[7] Pharand, "Arctic Waters and the Northwest Passage," p. 35.
[8] Pharand, "Arctic Waters and the Northwest Passage," pp. 35, 42.

route for mariners, however, and only a very small number of foreign vessels have passed through it, hence the ongoing public debate.

Canada's legal claim asserting that the waters of the Northwest Passage are internal waters has never been formally argued before an international court. It has, however, been discussed by renowned scholars who emphasize the ambiguity regarding the legal status of its claim or how a court might render a decision and resolve the Northwest Passage dispute.[9] It is not a matter of rhetoric or will but rather a requirement to determine a pragmatic approach to satisfy mutual concerns and provide mutual benefits. Given that Canada has much to lose, albeit predominantly prestige, but prestige enables courage, and courage leads to resolve. Therefore, Canada should develop a coherent strategy that recognizes the vital interests of both the US and Canada. This consideration is important because the current geo-political situation and American emphasis on national security offers a unique opportunity for Canada to exercise its creative energies and exploit the commonalities between our nations. Canada can develop a scheme that is mutually beneficial yet satisfies its distinct national interests. It is clear that Canada would like to have full control over the Northwest Passage; on the other hand, Canada knows the US wants unfettered access to the oceans of the world and the precedent of allowing Canada to exercise its claims is a risk the US government is not prepared to take. National security, or in this case continental security, may trump this particular issue. Thus, Canada needs to pursue a strategy of providing reasonable access to the Northwest Passage to the US Navy while putting in place a framework of policies, regulation and enforcement capability that ultimately provides the US with confidence that the northern perimeter is secure. Until

[9] Pharand, "Arctic Waters and the Northwest Passage," p. 6.

then, no government should be in a hurry to present their case to an international court; ambiguity offers more room to maneuver. (Suffice to say that if Canada were to "win" that would not end the debate. Prior court rulings on domestic trade issues like softwood lumber have not resolved those issues; history informs us they are best resolved by bilateral agreements.) Canada needs a bilateral agreement with the US to address this matter appropriately; the Americans will not recognize anything less. The passage is not yet suitable for safe navigation. Although many alarmist or sensational approaches have been offered by pundits to create awareness and generate a call to action, the acute "threats" are still many years away in practical terms.[10]

Noted legal scholar Donat Pharand summarized the legal status and arguments in his recent work "The Arctic Waters and the Northwest Passage: A Final Revisit." He concludes that Canada's efforts to date have established Canada's claim that the waters of the Arctic Archipelago are internal waters. [11] This was achieved in 1985 when Canada established straight baselines in accordance with the 1951 *Fisheries* decision.[12] To date very little traffic has occurred in the passage, and virtually all of it has complied with Canadian regulations. The status quo is not guaranteed as the ice melts, however, and greater traffic transits within these waters increases the risk that our claim will be challenged. It therefore behooves Canada to negotiate a transit passage agreement with the US and others as required. Furthermore, Canada should establish appropriate multi-lateral and bilateral agreements with our sister arctic nations.[13] Without an active

[11] Andrea Charron, "The Northwest Passage Shipping Channel: Sovereignty First and Foremost and Sovereignty to the Side," *Journal of Military and Strategic Studies* 7/4 (Spring 2005), p. 7. Available online at http://www.jmss.org/2004/fall/index2.htm.
[11] Pharand, "Arctic Waters and the Northwest Passage," p. 58.
[12] Pharand, "Arctic Waters and the Northwest Passage," p. 14.
[13] Pharand, "Arctic Waters and the Northwest Passage," p. 59.

strategy and implementation plan, Canada's ability to manage the arctic waterfront is in danger.

Donald McRae underscores this point in his article "Arctic Sovereignty? What is at Stake?" A responsible government provides proper policing, surveillance, search and rescue and other services throughout its territory, demonstrating its control and responsibility through action, presence and persistence.[14] Therefore, Canada must establish a regime of control and presence to demonstrate our intent and effectively "walk the talk" about defending its interests. Although the shipping season in the Arctic is relatively short and remains hazardous, it seems inevitable that the Northwest Passage will be more frequented by diverse types of shipping and 'quality' of vessel in the years to come. It has become important to act and define a persistent presence that demonstrates resolve and affects the necessary level of control within the waters of the Arctic Archipelago.

Esteemed Arctic scholar Franklyn Griffiths suggests that extremist statements have been uttered to "energize interest" and create a crisis to ultimately galvanize action.[15] This technique is classic reengineering: when organizations are satisfied with the status quo there is no desire to change; thus, the champion for change must identify a crisis that obviously requires the organization to evolve to meet the needs of the new world. Assuming Griffiths has it right -- that the extremists are choosing hyperbole over science to generate discussion, plans and ultimately action -- it follows that there is time to put in place provisions to reaffirm sovereignty. Such provisions have been identified

[14] Donald McRae, "Arctic Sovereignty? What is at Stake?" *Behind the Headlines* 64/1 (January 2007), p. 3.
[15] Franklyn Griffiths, "New Illusions of a Northwest Passage," in *International energy policy, the Arctic and the law of the sea* (Leiden: Martinus Nijhoff, 2005), p. 305.

by others, such as Andrea Charron who has recommended the following preemptive steps: establishment of a pilotage programme to guide ships through the navigable channels of the Northwest passage: adopt a legislative framework with a focus on the effects of global warming; adopt a security framework for the continent's north coast respecting our continental defence responsibilities and catering to the US security considerations; ante up the resources within DND, Coast Guard, RCMP, Transport Canada and others to service the North; and enforce the laws and respond to all hazards in a responsible and timely fashion.[16] Charron's suggestions make sense and largely follow the model that the Russians have adopted for their northern waters. The Russians provide ice breaking and pilotage services for a fee and mandate the use of these services. This policy reinforces the Russian's claims to these waters. Could the Canadian federal departments exercise their mandates in our Northern waters in this manner?

Canada has taken some steps to assert control in its arctic waters. The first significant piece of legislation -- a rather creative and imaginative solution at the time -- was the *Arctic Waters Pollution Prevention Act*. This act eventually was adapted as section 234 of UN Convention on the Law of the Sea (UNCLOS). It permits nations to pass environmental regulations in ice-covered areas. This legislation secured environmental protection for the passage without raising the sovereignty issue, and it all came about as Exxon readied the *SS MANHATTAN* for its second voyage through the Northwest Passage. This legislation was developed as a response to two significant events and as a legal mechanism to safeguard the future. In 1969, Humble Oil refitted the oil tanker *SS MANHATTAN* as an icebreaker so that it could traverse the Northwest

[16] Charron. "The Northwest Passage in Context," pp. 23 -24.

Passage from west to east carrying Beaufort Sea oil to refineries located on the eastern seaboard. A trial transit occurred in 1969 and, again in 1970, the *SS MANHATTAN* transited the passage from east to west in ballast. The passage was not without difficulties, as the vessel ran into trouble and had to be extricated by Canadian and American icebreaker escorts. If it had been fully loaded, a significant environmental spill would have occurred. In spring 1970 a significant spill did occur when the tanker *Arrow* ran aground off Chedabucto Bay, Nova Scotia. This influenced Prime Minister Pierre Trudeau to enact legislation that established pollution control over these waters in a manner that is considered reasonable and prudent today, but was viewed as revolutionary in 1970.[17] The strategy of writing legislation to protect our interest in the North is reasonable, but more remains to be done such as influencing the regulations that govern ship design and ship building methods for vessels operating in the dangerous waters of the north.

As the number of vessels operating in the North increases, Canada must assert control though pre-emptive legislation and regulation. These small steps demonstrate willingness and an earnestness regarding our interests in the North. By enacting enforceable, well-intentioned rules, Canada's national will can be asserted in small but meaningful ways. By introducing regulation Canada demonstrates resolve and establishes the conditions that effectively demonstrate sovereignty, albeit in a somewhat unilateral manner. These regulatory steps must be done before a 'right of way' has been established; this could also happen if Canada were to abrogate responsibility to take action to manage the shipping and vessels operating in the North.

[17] Charron, "The Northwest Passage Shipping Channel," 13; P. Whitney Lackenbauer and Matthew Farish, "The Cold War on Canadian Soil: Militarizing a Northern Environment," *Environmental History* 12 (October 2007), p. 933.

By not enacting and enforcing legislation in the north, foreign vessels operating in the North will operate as they do now, conforming to a set of standards that are not up to the exacting conditions of the North. As more vessels operate in the north, the risk of a catastrophe grows. Canada has established a regulatory framework for our coastal and inland waters, for instance there are specific rules for operating in the Ice areas of eastern Canada,[18] which may be applicable. Given the current focus on national security in both Canada and the US, enacting regulation becomes another vehicle to realize a national motto consistent with a three-ocean view: '*A Mari ad Mare ad Mare,'* loosely translated as from sea to sea to sea.

Canada's other major maritime legislation, such as Transport Canada's Marine Transportation Security Act and the Canadian Coast Guard's vessel traffic reporting guidelines for Arctic waters (NORDREG), need to apply in these waters. Currently, NORDREG is a voluntary reporting system.[19] In August 2008, prior to the October election, Prime Minister Harper expressed a desire to move to a mandatory system. These changes have yet to be ratified by parliament. [20]Although vessels that register through NORDREG will be monitored and will receive expedient support upon request, the Canadian Coast Guard has made it clear there is no intention to override a master's authority and responsibility for the safe navigation of the ship. Virtually, all vessels in excess of 100 tonnes operating in the North do check-in; after all it is in their best interests to do so.[21] Although it would make for a stronger position if compliance with

[18] http://www.tc.gc.ca/marinesafety/TP/TP*($!/section-13.htm#app accessed on 28 May 2008.
[19] www.tc.gc.ca/marinesafety/tp/tp12259/section9-11.htm accessed 22 April, 2008.
[20] http://pm.gc.ca/eng/media.asp?id=2246 accessed 20 October, 2008.
[21] Pharand, "Arctic Waters and the Northwest Passage," p. 40. The one exception was the voyage of the *Polar Sea* in 1985, prior to the establishment of straight baselines, which defined the arctic waters as internal waters. According to Pharand, this one voyage is insufficient to define the Northwest Passage an international strait. Pharand, "Arctic Waters and the Northwest Passage," p. 42.

NORDREG was made mandatory, the implication is that Canada would have to track and monitor all vessels operating in the North. In order to achieve an appropriate level of monitoring and enforcement, additional resources will be required. Any discussion regarding monitoring will eventually involve a discussion of the financial implications. Before delving into resource issues, what could enhanced monitoring look like?

Monitoring is much more than simple observation: it implies location, tracking and occasional inspection. Thus vessels operating in the North would need to be tracked and followed up with to confirm compliance with Canadian regulations and laws. Thus an investment in tracking infrastructure is needed, as well as personnel resources to get to the vessel and inspect it. RADARSAT-2 provides the satellite coverage that will facilitate tracking of all marine traffic in the north. The Coast Guard coast radio coverage will likely need to be augmented to ensure adequate coverage for tracking and SAR response purposes. One of the main problems is logistics – it is difficult to move, to supply and remain on station in the region.[22] To that end the federal government has approved shipbuilding projects for the Coast Guard and the Navy. In Budget 2008, $720 Million has been set aside to procure a heavy icebreaker to replace the aging CCGS *Louis St. Laurent*. On the other hand the government intends to acquire six to eight Arctic Offshore Patrol Ships for $2.1 Billion. Typically Canadian Coast Guard deploys 6 icebreakers to the arctic for the summer season, partnering with 6 Arctic patrol ships would certainly define an enhanced on-water presence for the region. Working in concert with ship borne helicopters will increase the reach of these ships as well. The establishment of Nanisivik as a deep-water port will provide a maintenance and refueling site suitable to better support these deployed vessels. Further investment in

[22] *Jane's Defence Weekly*, 16 January 2008, p. 26.

fixed wing SAR and Long Range Patrol Aircraft are needed to round out the surveillance options for Canada's north. Additional RCMP resources, Transport Canada Maritime Security, and Border Services personnel, amongst others, will be required to enable federal presence and assert Canadian laws and regulations within the region.

The surveillance plan has multiple components and includes observation and monitoring. The observation capabilities include satellite, sensors, aircraft and UAVs. Through the satellites in place today, and with the launch of RADARSAT-2, the capacity to observe will be greatly improved. This capability will need to be augmented by AIS receivers and sensors at various choke points to ensure adequate coverage of the Northern waters and enable vessel traffic monitoring agents to track vessels and ice conditions. There is additional need for aerial observation in the form of aircraft and UAVs, although currently UAVs are limited in how far north they can operate. This capability allows for close-in review of any situation and extends NORAD's surveillance capabilities in support of the overall national security mandate. In order to follow up on observed anomalies some amount of presence is required.

Environmental regulations governing the North are permitted by Article 234 of UNCLOS, providing that navigation interests are not impeded. Although Canada has in place the *Arctic Waters Pollution Prevention Act*, any additional regulations will require a more robust surveillance and response capability. A comprehensive package of fixed wing, UAV and surface/ subsurface sensors must be deployed. The more northern latitudes are not reached by our telecommunication satellites that are in geo-synchronous orbits above the equator, rendering pointless the deployment to the far North of sensors and UAVs without the supporting ground repeater stations. Satellite

coverage from RADARSAT-2 and fixed wing aircraft can provide this enhanced capability. Fixed wing aircraft further enable the deployment of enforcement or inspection teams if required. Surveillance is an important aspect of the northern strategy. Situational awareness means little if one is not able to respond with an appropriate capability. To that end, trained troops are required as well as a lift capability to bring them to the scene of action.

These investments are necessary and will redefine Canadian posture in the North. To date almost $3 billion has been committed for the acquisition of these capital assets. The costs, both financial and opportunity, to staff them with personnel resources and operate them have yet to be fully factored into the equation. A mitigating factor is that both the icebreakers and AOPS will be deployed in other coastal regions, performing other tasks during the winter season when, at least for now the arctic remains iced-up. Items that need to be costed include personnel, logistics support, accommodation and facilities for additional GOC personnel to provide the local effect and presence in appropriate locations. Recognizing opportunity costs will be a persistent resource allocation challenge.

The document entitled “Expanding Canadian Forces Operations in the Arctic” on the Prime Minister’s website [23] clearly identifies the financial implications as well as operating costs over a 20-year period for three main projects: the Canadian Arctic Training Centre, Canadian Ranger expansion, and the deep-water port facility at Nanisivik. One time project costs for all three projects are in the neighbourhood of $200 million and annual operating costs approximately $23 million. These are rough orders of magnitude calculations. Along with the acquisitions costs for Arctic patrol ships and an

[23] http://www.pm.gc.ca/eng/media.asp?id=1784 accessed 13 May 2008.

icebreaker, these commitments amount to a significant investment. Further analysis is required to account for surveillance capabilities such as Aurora flights, Aurora upgrades, and Aurora replacement. Other surveillance capabilities exist including RADARSAT-2 and Transport Canada's Marine Aerial Reconnaissance Team will also need to be factored into the cost model. [24] All of these activities rely on people for the surveillance and response capability, although some can be based in the south much of the personnel resources will work in the north or near north. In some cases, such as with the Canadian Ice Services the upgraded technology of RADARSAT-2 will assist the existing personnel in being more effective. Other capabilities such as the Arctic Patrol Ship are new. Crew for these vessels could come from the Kingston Class with some augmentation from the regular force to provide greater depth and experience in engineering, electronics and helicopter management -- all undertakings not currently executed in the Kingston Class.

Other factors that do not get a lot of airplay regarding operations in the north are the remoteness and vast distances involved. If resources are predominantly deployed only during the ice-free season, does this imply that a home base for support and family is located in traditional facilities in the south? The coast guard operates with a month-on, month-off rotation. Would the Navy and other departments follow suit? These implementation challenges have yet to be widely discussed, let alone analyzed, to determine the financial effect. They need to be researched and reckoned with.

What then of the opportunity costs? Although the CF Defence strategy presents growth targets for CF personnel who could enable the Navy to crew all of its platforms,

[24] http://www.ottawa.drdc-rddc.gc.ca/html/abstract_arctic_aerial_reconnais_e.html accessed 13 May 2008.

retention and staffing into hard sea trades is a perennial problem. In fact, the Navy is slowly shrinking and greater emphasis on naval recruiting is underway to address this challenge. Will this be successful in satisfying the current, let alone the future, demand requirements? This remains to be seen.

Once monitoring becomes a reality, enforcement or at least follow-up with non-reporting or other vessels of interest becomes the focus. Laws, to be respected, must be 'enforceable.' Once the tracking rules and environmental protection laws are in place, the next step is to influence the design and architecture of vessels suitable for navigation in the tricky waters of the North. Transport Canada has an influential role on the regulatory framework in the North.

Marine transportation security is less a matter of extending the legislation than of 'enforcing' it in the north. Transport Canada needs the resources to enable it to monitor shipping in the north and to ensure all vessels and operators comply with these regulations. Importantly, this act is derived from the International Ship and Port Facility Security Code (ISPS) which is an amendment to the Safety of Lives at Sea Convention enacted by the International Maritime Organization (IMO).[25] As Transport Canada is charged with the safety and security of all modes of transport, they are the lead agency with respect to regulating and certifying vessels that operate in these waters. For now the *status quo* remains a tolerable situation. Are there policy and political alternatives open to Canada to achieve its desired end-state?

Political Imperatives and Policy Options

[25] http://www.tc.gc.ca/mediaroom/backgrounders/b04-m004e.htm accessed 6 May 2007.

Canada's major political parties have each made major pronouncements about asserting Canadian sovereignty in the North. Specifically, the Conservative Party's most recent election campaign promises an increase in capacity for the Canadian Forces to protect Canada's Arctic sovereignty.[26] This has been promised before. Since Prime Minister Trudeau's Liberal government enacted the *Arctic Waters Pollution Prevention Act* as a mechanism to assert control over Canadian waters, Conservative and Liberal governments have initiated major initiatives to defend claims and interests in the North. Follow-through and implementation of concrete actions to assert Canada's claim have, quite simply, not happened. For example, in the 1980s, Prime Minister Mulroney initiated a programme to build a Polar-8 icebreaker, acquire nuclear powered submarines, and install a network of surface and sub-surface sensors in the North. A poor economic climate in 1989 and the collapse of the Soviet Bloc brought the cancellation of these projects.[27] As a nation, the public expects governments to manage resources effectively. Thus, the consequence of getting the fiscal house in order in the 1990s was the loss of important sovereignty assertion projects for the North. These projects should have been scaled back or tailored to balance the competing pressures of the fiscal situation and the need for a concrete expression of northern sovereignty, rather than simply jettisoned. Decisions typically have outcomes; many times there are second and third order effects, which were unforeseen. The consequence of Canada's cancellation of so many good ideas has been that most nations do not expect Canada to follow-through and realize its promises.

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[26] See Conservative Party Campaign documents at www.conservative.ca/media/20060113-Platform.pdf accessed 30 March 2007.

[27] http://www.canada.com/montrealgazette/news/story.html?id=2db7c461-4252-44f4-8c7a-ceac2af1469d accessed 5 May 2008.

In his brief tenure as Prime Minister, Paul Martin worked through the Department of Indian and Northern Affairs (INAC) and the three territorial leaders to conceptualize a comprehensive Northern Strategy spanning and encompassing governance, economic development, the environment, community development, sovereignty, culture and scientific research. INAC was identified as the lead federal department for this series of initiatives.[28] Launched with great fanfare in December 2004, this initiative seems to have been overtaken by other priorities and concerns within INAC. As of May 2008, the previous information has been removed and there is a title page indicating: "Bookmark this page for access to up-to-date information on the Government's comprehensive Northern Strategy in the coming days."[29]

The current government was elected with a platform that advocated a stronger role for the Department of National Defence in defending Canadian Arctic sovereignty. With release of CF Defence Strategy, these projects have been affirmed. So why has concrete action been so limited to date?

From an interests and values perspective, Canadians have an emotional attachment to the North. The majority of Canadians live in an urban setting within one hundred kilometres of the US border. Canadians, however, look to their wilderness as a source of pride and reserve a sentimental place for the North in their hearts. Rugged and austere conditions define Canadians. Any engagements over the North with the Americans are generally values-driven, ensuring that sovereignty debates result in strong and assertive responses from Ottawa. For example, Prime Minister Harper made strong comments to the US Ambassador when he took office in 2006. "The United

[28] http://www.northernstrategy.ca/index_e.html accessed 30 March 2007.
[29] www.northernstrategy.ca/index_e.html accessed 5 May 2008.

States defends its sovereignty and the Canadian government will defend our sovereignty," Harper told reporters in Ottawa a few days after he was elected. "It is the Canadian people we get our mandate from, not the Ambassador of the United States."[30] These comments were a direct response to the US ambassador's relatively benign comments at a student gathering in London, Ontario, on Americans' disagreement with the Canadian government on the status of the Northwest Passage.

Core national interests with the respect to the United States are important given they are Canada's largest and most significant trading partner. Some eighty-five per cent of Canada's exports flow to or through the United States. Maintaining cordial relations and an open border is essential to Canada's economic livelihood and quality of life. For the politician, gaining electoral support while not antagonizing the Americans is a delicate balancing act. American national interests compel them to argue for the Northwest Passage to be recognized as international waters, so that international straits around the world remain open as viable shipping lanes. The passage of the *Arctic Waters Pollution Prevention Act* resulted in the US reducing its demand for Alberta oil by twenty per cent in the 1970s.[31] Given today's supply considerations and the greater US reliance on Canadian oil and gas, this response tactic may no longer be viable. No doubt they could employ other economic levers with a direct impact on the manufacturing industries of Ontario and Quebec. After all, Canada has a minority government in parliament and, in order to form a majority, a party needs to secure sufficient seats in Ontario and Quebec. Prime Minister Harper needs to increase support in these provinces and can ill afford to take chances with how they may vote if

[30] http://www.cbc.ca/story/canada/national/2006/01/26/wilkins-harper060126.html accessed 5 May 2008.
[31] Charron, "The Northwest Passage Shipping Channel," p. 3.

their economic livelihood is at stake. Given this conundrum, what policy alternatives are available to Canada to balance everyone's diverse needs?

If the Northwest Passage is recognized internationally as internal waters, Canada would have unfettered authority to put in place enforceable legislation to secure them. Article 234 of UNCLOS has created rules for ice-covered waters,[32] providing nations with the right to adopt and enforce non-discriminatory laws and regulations for the prevention, reduction and control of marine pollution from vessels in ice-covered areas within the limits of the exclusive economic zone, where particularly severe climatic conditions and the presence of ice covering such areas for most of the year create obstructions or exceptional hazards to navigation, and pollution of the marine environment could cause major harm to or irreversible disturbance of the ecological balance.[33] Legal scholar Donald McRae explains "the exercise of such a right must consider navigation interests. However, the protective jurisdiction that Article 234 provides has been interpreted as not giving jurisdiction to coastal states in relation to foreign warships or other government ships."[34] Security is an all-encompassing concept including environmental protection, authority over who may or may not transit in those waters, and authority over vessels in those waters. If the waters are not recognized as internal, it is in Canada's interest to have regulations or legislation, either domestic or international, in place that meet its' security requirements. Canada's policy options must achieve at least this much to give us the control over the Northwest Passage. What policy options can and should be pursued?

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[32] http://www.parl.gc.ca/information/library/PRBpubs/prb0739-e.htm accessed 8 May, 2008.
[33] http://www.un.org/Depts/los/convention_agreements/texts/unclos/closindx.htm, accessed 8 May 2008.
[34] McRae, "Arctic Sovereignty?," p. 9.

International regulations for vessels are generally mandated through the International Maritime Organization (IMO). Over time this organization has put in place a regulatory framework to enhance the design of merchant ships. Significantly, these regulations do not as of yet recognize the hazardous nature of operating in the north.[35] Although the shipping season in the Northwest Passage is increasing, for the foreseeable future the waters will not be entirely ice-free and will require constant attention by ship's crews and superior ship handling skills to get through them safely. A mistake could mean a collision with ice; possibly super hard multi-year ice, which will have catastrophic effects because the oil spill response in the North is fundamentally different from open water situations. The arctic eco-system is particularly sensitive to pollution.[36] Transport Canada working with Coast Guard and Foreign Affairs has the lead to influence the IMO in this regard.

The International Maritime Organization is the United Nations organization responsible for developing and maintaining a comprehensive regulatory framework for shipping. Its mandate includes safety, environmental concerns, legal matters, technical co-operation, maritime security and the efficiency of shipping.[37] Since the organization sets the design and build standards for ships and vessels, Canada should lobby for and influence the design requirements of vessels permitted to navigate within arctic waters. The extreme cold also imposes its own effects on fuel spills, hampering the personnel who are performing the clean up, but also making bunker fuel highly viscous, it sinks below the surface of the water making it harder to isolate and recover. Response, therefore, must be immediate, and on scene commanders must have the authority to

[35] http://www.imo.org/ accessed 15 March 2007.
[36] NOAA Arctic Background, http://www.arctic.noaa.gov/essay_wadhams.html accessed 6 May 2007.
[37] http://www.imo.org/ accessed 15 March 2007.

act. Oil behaves differently in ice; it may pool on melt-water ponds; it can migrate up brine channels in sea ice; it can become encapsulated in ice over the winter; it can also be trapped and pool under the ice; and it can be absorbed by snow.[38] Furthermore, in the High Arctic, a recovery action may not be complete when winter closes in. This can have disastrous impacts the next spring. New technology to cope with a spill in these waters will need to be developed so that recovery operations can be quick and effective. Options exist but the single most limiting factor is having enough people available in a timely fashion to contain and commence recovery operations. There are some that say there is no way to respond to oil under ice.

Will an oil spill occur in the future? Arctic waters are certainly dangerous. Multi-year ice is hard and will do extreme damage to ship's hull regardless of the protection measures taken. Internationally, the worldwide numbers reflect that on average there are 2.3 spills per month, with at least 10,000 gallons of oil being spilled. In American waters, the US Coast Guard expects just over two per month.[39] Although these statistics come from busy waters where collision with other vessels is an ever-present risk, one can reasonably expect another *Exxon Valdez*-type spill in the Arctic at some point once the tempo of activity in Canadian arctic waters increases. Since preparedness and risk mitigation prior to the event are options available now, it is best to recognize the inevitable and prepare for it. The government's preparations need not be limited to spill reaction teams and pre-positioning of kits. It also must take the necessary steps to reduce the possibility of incidents by managing the ships in the Passage and influencing

[38] George B. Newton, "Coming to the Arctic: Oil, Ships and UNCLOS Plus Risk and Research," in *International Energy Policy, the Arctic and the Law of the Sea* ed. Myron H. Nordquist, John Norton Moore and Alexander S. Skaridov (Boston: Martinus Nijhoff, 2004), p. 332.
[39] Newton, "Coming to the Arctic," p. 327.

their designs. Influencing the design ensures that when an incident occurs the ship itself, is capable of mitigating the impact and the resulting spill can be quickly and effectively cleaned up.

Developing a comprehensive mitigation plan is an important policy step. The mitigation plan needs to tackle the major risks in a comprehensive manner that is consistent with proper stewardship of any waterway. Design and construction of ships for Polar waters are not a unique Canadian requirement. Nations in close proximity to both poles have similar needs. Managing the traffic in these waters is a responsible thing to do and, if nothing else, provides those in the search and rescue business with a last known position from which to start a search. Furthermore, establishment of a pilotage authority and vessel management system would enable the government to control the vessels in these waters. These concrete vessel management actions should be done as a matter of course to reduce risk of collision and subsequent environmental damage. Currently, in the spring, when the passage becomes navigable, the shallow shore side channels open up first, thus exacerbating the navigation challenge when transiting through the Northwest Passage. Furthermore, given the fragile nature of the ecosystem the clean up of any environmental damage will be a monumental undertaking. The Canadian Coast Guard has already taken steps as the lead agency in this area to be prepared.[40] If an oil spill, however minor, occurs towards the end of the shipping season, in all likelihood it would not get cleaned up prior to the onset of winter. Therefore, additional regulations protecting the environment are needed.

In order to develop trained troops, the Arctic Training Centre is needed. This is supported by the Army so that it can establish a stronger presence in the North.

[40] Author interview with G. Lick & J. Redican, Canadian Coast Guard managers, 22 February 2007.

Regular Force personnel will develop a more comprehensive training programme for both the Canadian Rangers and military units stationed in the south who will attend the centre.[41] The Centre will also provide northern Aboriginal people with a career option in the Canadian Army. The development of a well-trained cadre of troops in the north will offer a significant support capability to the various departments responsible for enforcing Canadian laws and regulations.

The Navy has recognized the need for an enhanced naval presence in the North during the "ice-free" shipping season and has stepped up its exercise regimen, deploying both its reserve manned coastal patrol vessels and patrol frigates to the North over the past few years. Currently, the Navy's vision involves developing an Arctic Offshore Patrol Ship (APS) with a limited capability for operating in ice infested waters: more than is in place today but still considerably less than an icebreaker. The APS platform is potentially a successor platform to the Maritime Coastal Defence Vessel, which may have seven to ten years of operational life remaining; only time will tell. A project team has been assembled to move forward the concept of the Arctic Patrol Ship. These ships are expected to be capable of conducting armed sea surveillance of Canada's coastal waters including the arctic, and have sufficient command and control capability to generate situational awareness and interoperate with other federal departments operating in the area. Furthermore, the ship must be ice capable so as to cope with medium first-year ice in the Arctic and the St. Lawrence Seaway, although this capability will not permit it to act as an icebreaker (which is a coast guard mission).[42] Preliminary project approval has been granted by Treasury Board, and DND

[41] Chief of the Land Staff Brief to National Security Studies Programme IX, 21 March 2007.
[42] http://www.forces.gc.ca/admmat/dgmpd/aops/index_e.asp accessed 9 May 2008.

has selected a partner to support design definition, engineering and management support contract phase. This key phase will produce a ship design and a more concrete set of capabilities, and will identify crewing, training and engineering requirements. Implementation of the actual build plans is not expected until January 2010. Although detailed costs, capabilities and staffing requirements are not yet known, the Navy is in a manning crisis today with challenges manning the technical trades in all classes of warships. What then is the plan to generate crew for six to eight Arctic patrol ships?

Canada's APS may be modeled after Norway's *K/V Svalbard*, the characteristics of which can serve as a benchmark for analysis. It has a compliment of 48, increasing to 52 when a helicopter is deployed with it. It also relies on azimuth thrusters, has a Bofors 57mm main gun, and has space for *Mistral* anti-aircraft missile launcher.[43] By comparison, the Kingston Class vessels have a crew of 35 to 37 depending on their mission, operate with azimuth thrusters (z-drive) and carry a 40mm Bofors gun. The Kingston class ships conduct sovereignty patrols in Canadian waters, have no ice capability whatsoever, and are predominantly engaged in officer training. Typically the navy operates ten of theses vessels manned entirely with reservists with the exception of two billets (trades not produced by the naval reserve). With the recent introduction of the ORCA class vessel, officer training could be transferred from the Kingston class vessels or at least reduced by offloading the training to the ORCA. The navy could reduce the number of active Kingston Class to six and redeploy those crews, augmented with other personnel (more than likely regular force), to accomplish the mission of coastal sovereignty patrol.

[43] http://www.sfu.ca/casr/bg-icebreaker-svalbard.htm accessed 9 May 2008.

This is the type of difficult decision that the Navy must make in order to satisfy internal force generation requirements as well mandated missions. Certainly the naval reserve has demonstrated the capacity to operate the Kingston class with the professionalism and technical competence required to deliver on the domestic operations these Arctic patrols ships will be mandated to do. Training in Arctic operations should commence shortly so as to develop the necessary competencies for Arctic ship handling and navigation. This could be accomplished by placing selected personnel in Coast Guard ships.

The Navy's aging destroyers and frigates are in dire need of replacement and life-extension respectively. Therefore, the funding of these projects is a high priority to the Navy, as these ships offer Canada the ability to project sea power and defend our maritime interests abroad. The Navy's perspective is at odds with the Conservative platform, which at one time included icebreakers for the Navy, clearly a role performed by the Canadian Coast Guard. There was much discussion in Ottawa to advocate a compromise solution, which delivers icebreakers for the Coast Guard and an Arctic patrol ship capability for the Navy. This compromise solution builds upon the respective competencies of the two services. Most significantly, the APS stands third in line after Navy ships and the Coast Guard's needs. The Coast Guard operates in the North annually and has received money for ship replacement projects in the last federal budget. Who better than the Canadian Coast Guard to assist the Navy in growing its northern water ice navigation competencies?

The Coast Guard is Canada's ice breaking service. It has the experience and competence, and operates in the North with some six to seven icebreakers of varying

size and capability.[44] The Coast Guard fleet is in serious need of recapitalization and needs an investment plan immediately. Although the recent federal budget provided relief for mid-shore patrol and offshore science vessels, the government has only committed to replace CCGS *St. Laurent*, its heavy icebreaker. What of the others? Another aspect of ice breaking is the human dimension. The development of a skilled and competent master for an ice beaker currently takes a minimum of 10 years, with the norm being 15 years. Any investment in icebreaking capability for the Coast Guard bodes well for the North, but it should be undertaken sooner rather than later given the inherent timeframe involved in capital procurement and training.

Finally, policy options must recognize the global context and ever-present yet undefined asymmetric threat to our continent. Canada's American neighbour has adopted a comprehensive framework to secure its perimeter. This may provide Canadians with an opportunity to put forward a security plan for the Northwest Passage that equates to sovereignty over the passage without such a controversial label and does not preclude further negotiation related to border disputes. By recognizing the Northwest Passage as internal waters to the North American Continent and making adequate provisions to that end, Canada will implement a security regimen for these waters. This step would enable Canada to put in place a comprehensive framework that provides for continental security interests and domestic environmental and economic security. What else is required for a security framework for the Northwest Passage to be achieved given Canada's situation?

The Whole of Government Approach

[44] Interview with Lick & Redican.

A sovereignty strategy for the Arctic must take into account Canada's system of government and legislative framework. The role of the military, as affirmed in the 2005 Defence Policy Statement (DPS), is protecting Canadians, defending North America in cooperation with the United States, and contributing to international peace and security.[45] With the change of Government, DPS 2005 has been archived from the DND website; although a valid reference document it is not current government policy. The recent emphasis is on military capabilities in support of security initiatives at home and abroad. Although much can be read into these messages, in Canada the CF operates in support of other government departments who enforce national laws. Only when the threat is military does the CF take a lead role.

Canada has in the past introduced grandiose and expensive investment strategies for asserting our sovereignty interests in the North. A coherent strategy that builds on existing activities, departmental mandates, and interests will be more successful and financially feasible. In October 2007, the speech from the throne amplified the Harper government's position for the North:

> Our Government will bring forward an integrated northern strategy focused on strengthening Canada's sovereignty, protecting our environmental heritage, promoting economic and social development, and improving and devolving governance, so that northerners have greater control over their destinies.[46]

The speech went on to delineate a number of different investments such as a world-class Arctic research station, comprehensive mapping of the arctic seabed, confirmed the six Arctic patrol ships, expanded aerial surveillance and an enhanced role for the

[45] Defence Policy Statement, http://www.forces.gc.ca/site/reports/dps/main/toc_e.asp, accessed 3 May 2007.
[46] http://www.sft-ddt.gc.ca/eng/media.asp?id=1364 accessed 5 May 2008.

Canadian Rangers.[47] The Federal budget for 2008 announced an icebreaker for the Canadian Coast Guard. This broad based plan invokes a whole of government response; the truth will lie in how or how much of the plan gets implemented.

By engaging various departments -- Transport Canada, Environment Canada, RCMP, Fisheries & Oceans and Indian and Northern Affairs -- in the plan, each can move forward at a pace that is consistent with departmental capabilities and capacity. By articulating funding allocation through the budgetary process, an important milestone has been achieved. This also implies, however, that much more will be done. Incrementally adding to each department's mandate and leveraging its core competencies will create a deeper and more comprehensive solution by leveraging existing capacity and mandates. This is a far more effective and efficient use of resources. If the goal is sovereignty, erecting "Fortress Igloo," operated and staffed by the Canadian Forces personnel, over the Northwest Passage is not the way to achieve this objective. A more feasible approach is to aim for *de facto* sovereignty. This can be achieved with presence: either on-site or remote, but *persistent*. Above all, the Canadian government must have the capacity to respond to incidents virtually immediately. Using the common framework of social, environmental and economic pillars, Canada can create a multifaceted and layered strategy that provides stewardship and achieves Canada's national interests.

The social, environmental and economic pillars form the core elements of a coherent strategy for the Arctic. Typically, federal departments use these pillars as an analytical framework to ensure that their plans and actions deliver value for Canadians. The whole of government is a concept that represents a holistic approach to enable a

[47] http://www.sft-ddt.gc.ca/eng/media.asp?id=1364 accessed 5 May 2008.

given government strategy. That is to say a network of departments and their respective regulations come together to provide a fabric that delivers service and represents government policy to a given constituency. For the North, the federal departments that provide services in the region must cooperate and coordinate efforts to create maximum effect in the region. Those initiatives that focus on the inhabitants of the North will not be sufficient on their own to satisfy all legal considerations and perspectives on the Northwest Passage; the ability to monitor and respond to situations in a direct manner with complementary elements shall establish Canadian control. Broadly speaking, the lead agency to affect surveillance over the greater Arctic region is the Department of National Defence.

The social element recognizes the unique aspects of living in the North. Despite Canada's orientation to the south, various federal departments are fully engaged in operating in the North and are focused on the people. These departments include Indian and Northern Affairs Canada, Environment Canada (EC), RCMP, Health and Welfare Canada, Industry Canada and DND. They operate with the territorial governments to bring government services to the North and ensure that Aboriginal and Inuit culture and practices are preserved.

A renewed area of focus is scientific research, particularly in the International Polar Year.[48] Canada assumed a global leadership role by supporting multi-national research collaborations focused on scientific research on issues of consequence for the North, particularly climate change. Furthermore, many of the significant steps that need to be undertaken in order to both mitigate and alleviate these effects on the people and their environment will be identified. Canada's objectives for IPY are:

[48] www.ipy-api.gc.ca/index_e.html accessed 3 April 2007.

- Explore new scientific frontiers.
- Deepen our understanding of polar processes and their global linkages.
- Increase our ability to detect environmental and societal changes.
- More fully involve Arctic residents with research activities.
- Attract and develop the next generation of polar scientists, engineers and logistics experts.
- Capture the interest of school children, the public and decision-makers.[49]

In support of IPY, Canada has created some 44 different scientific projects, and mid-way through the program reports are surfacing from the various initiatives. The Canadian Ice Service website[50] provides linkages to major Canadian and international sites. A quick glance shows that a lot of activity is underway, although detailed status reports are not yet publicly available. Most projects are ongoing and also have a need to have the final results peer reviewed prior to public release, hence the lack of interim detail. The various newsletters purport that much is being learned and that communication of results is critical to inform Canadians, governments and scientists of the myriad of findings. The results should be made public in the years ahead.

The environmental theme acknowledges the challenging Arctic environment and consequences for mismanagement of the region. The capacity to respond to environmental disasters must be flexible and reactive so as to mitigate and recover from an event quickly. The regulations governing ships in transit and resource exploitation operations must demand responsible actions so that these activities are undertaken

[49] http://www.ipy-api.ca/english/documents/general_ipy.ppt, slide 3, accessed 7 May 2008.
[50] http://ice.ec.gc.ca/App/WsvPageDsp.cfm?Id=11851&Lang=eng.

with as much risk mitigation effort beforehand, to reduce the possibility of an incident as well keeping any operation from becoming cost prohibitive.

Developing an understanding of climate change and its impact on the environment of the North is important. The future navigability of the Northwest Passage presents Canada with both risk and opportunity. The risk is that an environmental disaster could happen before checks and balances are in place. On the other hand, the opportunity is at hand to plan and begin executing against that plan, putting in place the necessary regulations and response capabilities to manage the Arctic waters for the future. Understanding and managing climate change science is within the prerogative of Environment Canada (EC), with its broad mandate for conservation of renewable resources including water, forecasting the weather and environmental change, and coordinating environmental policies and programs. The Canadian Ice Service (CIS), an EC entity, provides ice and iceberg information and is a global authority on ice, especially in Canada's navigable waters and surrounding regions such as north of Alaska. CIS publications report that the current, tidal stream and wind are all conspiring to ensure the Northwest Passage is clogged with bergy bits and ice floes in the open waters of the passages.[51] Even when the Passage is not ice-covered, it is lined with ice floes and bergs that are hazardous to shipping. Thus, CIS plays an important role in monitoring ice conditions and providing imagery of relevance that contributes to Canada's situational awareness for the region. EC's other divisions also have responsibilities for scientific research and environmental protection legislation in the North. By operating in and analyzing events on the Northern environment, these activities demonstrate Canadian stewardship over northern lands and waterways.

[51] Author interview with Mr. D Bancroft, Director of Canadian Ice Services, 20 December 2006.

As the North opens up for greater economic development, it is important to recognize that this environment reacts differently than other regions of the world to exploitation techniques and pollution. There are also serious financial issues at play. Salary and operating costs are greater, and exploitation and risk mitigation techniques to access the natural resources are very expensive. These factors have stalled northern development in the past. However, as access to the region improves, the conduct of business will become more financially feasible. For instance, diamond mining is well underway, the search for accessible oil and gas wells is ongoing, and tourism and fisheries provide employment options. This region is now a viable destination. This has implications for federal organizations; they must be able to enforce Canadian regulations and laws. As development increases the need for monitoring and enforcement will grow. Canada must have the capacity to respond quickly and effectively to protect the environment, as well as the people of the North and their economic prosperity.

Enforcement capability is driven by many factors, which include monitoring of ongoing northern operations, and ultimately enforcing sanctions on those whose operations do not comply with the rules and regulations. In order to discharge these responsibilities effectively, a country must be able to certify operators and monitor their activities to ensure compliance. Gathering evidence and enforcing rules requires a substantive policing capability in the North, with a reaction capability to get to the scene of action in a timely fashion. The RCMP provides law enforcement capability in many regions and enforces Canadian legislation on behalf of many federal departments. Typically the RCMP provides this service in those regions where a given federal

department has insufficient personnel in the region to enforce its own regulations. Thus, as the North opens up, the RCMP must be ready to expand their presence. This expansion will be expensive but must be undertaken to demonstrate continued stewardship of this region, and to demonstrate that what goes on in the North is important and consequential in Ottawa.

An effective enforcement capability depends on a surveillance and monitoring capability that truly and effectively monitors the area. Surveillance has three facets: air, land, and maritime. The air domain is monitored jointly by NORAD, which continues to monitor North American aerospace for intrusions. In May 2006, the agreement was extended to include a maritime warning mission, which provides situational awareness for the coastal approaches and inland waterways of Canada and the US. [52] The revised NORAD agreement reflects the greater importance the US is placing on maritime security and continental security in general. This focus demonstrates that security is of vital interest to the US and anything that Canada can do that provides the US with greater security is a strategic move for Canada. In general, US interests are biased towards security. Therefore, Canada's actions in the North, such as an enhanced presence or an overall improvement in surveillance, will contribute to a US perception that their overall security has improved. This will, in turn, benefit the overall relationship between the two nations. The maritime domain awareness mission is a work in progress, although the intent is that NORAD would provide warning of threat to the respective national authority depending on whose airspace was being violated. In Canada the national authority is Canada Command, who would then assign forces to

[52] www.Norad.mil/about_us.htm accessed 3 April 2007.

respond.[53] Depending on the nature of the threat, it would be determined at the Government of Canada Operations centre how best to respond. For criminal activity, the lead would be the RCMP, potentially supported by military assets.

Maritime surveillance is handled by the Maritime Surveillance Operations Centres (MSOC) which are staffed with representatives from Canadian Border Services Agency, the Coast Guard, RCMP, Transport Canada and DND. The MSOC in Halifax supports Joint Task Force North by monitoring the northern maritime waters. In all emergencies, a lead department coordinates the response. This maritime event management is facilitated within the MSOC through inter-agency participation. The lead department facilitates the handling of the crisis and draws upon support from other departments as necessary to contain, respond and resolve the crisis.

Although the MSOC provide a means to coordinate a response, the surveillance network to monitor the arctic waters needs additional investment. The Conservative Party, in its 2005 election campaign, advocated for sensors at various chokepoints in the Arctic Archipelago to monitor both surface and sub-surface traffic.[54] Concurrently, the mandating of AIS responders in all ships operating in the North will allow Canada to collect the positional information about shipping activity, thereby improving the overall maritime domain awareness.[55] The network of sensors, complemented with aerial and space-based observation platforms, will provide a comprehensive picture of what is

[53] www.mdn.ca/site/newsroom/view_news_e_asp?id=1922 accessed 3 April 2007.
[54] http://www.conservative.ca/media/20060113-Platform.pdf accessed 7 May 2008.
[55] AIS is a shipboard broadcast system that acts like a transponder, operating in the VHF maritime band, that is capable of handling well over 4,500 reports per minute and updates as often as every two seconds. It uses Self-Organizing Time Division Multiple Access (SOTDMA) technology to meet this high broadcast rate and ensure reliable ship-to-ship operation.

happening in the North. Therefore, when an event occurs, it will be recognized and an appropriate response action can be initiated.

The final element in a layered strategy is establishing a capability to respond to security or environmental incidents. The response must be consistent with the size and scope of the event. National security events would typically involve both RCMP and DND, whereas environmental events would involve Coast Guard, Environment Canada, and Transport Canada responses. The essential implication is that the various federal agencies must have the capacity to respond with adequate resources. Urban centres are few, small and dispersed across the North. Therefore, airlift capability must be able to move personnel quickly to any site. A maritime response capability for the 'summer' period can be a combination of icebreakers, arctic patrol ships as well as rigid hull inflatable boats suitable for boarding parties. The land-based response is in place already and consists of the Canadian Rangers. They are permanently resident in the coastal and remote communities.[56]

The proposed Arctic Warfare Centre also contributes to increasing the Canadian military footprint in the North by adding a new capability at Resolute Bay. This facility will be a multi-purpose facility supporting training, provide a staging facility for operations, as well as serving as command and control centre for operations.[57] This site will initially use existing Government of Canada facilities to support winter warfare training, sovereignty operations, SAR training, and Canadian Rangers training. The centre is geared at raising awareness and experience of Arctic operations in Canada's

[56] P. Whitney Lackenbauer, "The Canadian Rangers: A 'Postmodern' Militia that Works," *Canadian Military Journal* 6/4 (Winter 2005/06), pp. 49-60.
[57] http://pm.gc.ca/includes/send_friend_eMail_print.asp?URL=/eng/media.asp&id=1785&langFlg=e accessed 7 May 2007.

Army, and will increase knowledge and capacity to act, thereby giving the regional military authorities greater confidence to support lead government departments in their enforcement mandates.

Canadian Ranger expansion supplements these new initiatives. Rangers are 4100 part-time reservists located in Canada's remote and coastal communities. The goal is to grow the Rangers to 5000, as well deliver additional resources in equipment and locations to expand their capabilities. The Army has launched a Ranger modernization project to effect these changes.[58] Little of their mission -- to report unusual activities and sightings in their local area – is expected to change. The Rangers have detailed knowledge of their own territory and have the skills to survive in the harsh Canadian wilderness. Their limited knowledge beyond their home area, however, must be kept in mind when developing strategies for Ranger employment in the North.

Canada's system of government relies on federal departments to operate within their mandates. As situations develop lead agencies will step forward and will coordinate the response. In order to respond effectively, a comprehensive arctic domain awareness picture needs to be created and monitored. Although pieces exist (NORAD for the air and the MSOC managing the maritime view), a full Arctic picture has yet to be compiled. This is essential to develop an efficient response network. Given the economic and environmental realities present in the Arctic, and considering what the future may hold for the region, Canada should formulate a coherent whole of government strategy and put in place the missing components while enhancing those components already in place. Ultimately, the social pillar must be tied into this strategy

[58] http://pm.gc.ca/includes/send_friend_eMail_print.asp?URL=/eng/media.asp&id=1785&langFlg=e accessed 7 May 2008.

for the North. Resource exploitation will occur regardless. Therefore, Canada must act and put in place the rules and regulations that ensure development of the North occurs without incident, that is to say development is guided by the steady hand of government with an eye to environmental stewardship.

A Coherent Strategy for Arctic Sovereignty

Any coherent plan for Arctic sovereignty must recognize that the issue is complicated and requires a series of small but substantive actions. The government's strategy must be multi-faceted. It must include direct action in Canada as well as influence abroad in multilateral fora such as IMO. At home, the capabilities of specific government departments (DND, Transport Canada, Fisheries and Oceans, as well as Indian and Northern Affairs) must be brought to bear to make a difference. Furthermore, Canada must recognize the concerns of international allies who have interests at stake, namely the US. Appeasing their interests will assure a successful outcome for these initiatives. American concerns will serve as the litmus test to the plan; if the plan satisfies their needs then that the plan will be effective.

Overall, the US has the same needs as Canada for environmental protection in these waters. Fortunately, the state of Alaska makes the US an Arctic nation and therefore the consequences of environmental damage are a shared concern. The impact of climate change in Alaska has already reduced the number of oil exploration days from over 200 in 1970 to just over 100 in 2002.[59] National and continental security is a greater concern given events of September 11th, 2001, and situational awareness for the Arctic Waters is a necessity. With situational awareness comes the requirement

[59] "Explorers take advantage of the frozen terrain to minimize the damage to the Arctic tundra," http://www.worldviewofglobalwarming.org/pages/alaska2.html, accessed 2 May 2007.

to respond to threats. If free transit were permitted through the Northwest Passage, it would not be limited to just US flagged vessels but to all vessels. Thus, the US opposition to Canada's internal waters claim is somewhat at odds with the national security requirement for control within the continental waters of North America. This paradox can be resolved through skillful diplomacy. On one hand, Canadians must recognize that the US is a major trading partner and the major insurer of Canada's national security. On the other hand, there is a need to manage the vessels operating in the Arctic waters to reduce the security risk as well the environmental mishap risk. Thus Canada's actions on the international stage and domestic front must seek to resolve this paradox: achieving sovereignty while protecting trade and security interests with the US.

A plan to achieve *de facto* Arctic sovereignty requires actions on the world stage as well as a coherent exercise of the whole of government approach within the North. Canada must work with the IMO to establish the design, build and safety standards for ships that will operate in Arctic and Antarctic waters. Furthermore, Canada needs to become a leader in the science and technology for the containment, recovery and clean up of environmental accidents in the North. This would allow Canada to provide continued leadership in setting the environmental agenda for the Arctic regions. By working with the other circumpolar nations and cooperating with nations like Australia and New Zealand, Canada can realize that there is mutual advantage in establishing standards and regulations for vessels and commercial operations wanting to carry out business in Arctic and Antarctic waters. [60]

[60] International Polar year consists of activities that are taking place at both poles. The like-minded nations have already begun to understand the differences as well as the similarities of the Polar Regions.

Canada's internal actions must be coherent and demonstrate concerted resolve to achieve the desired goal. Political commitments must be followed up by actual deeds; therefore, all actions must be realistic, achievable, and fiscally prudent. A coherent domestic plan needs to satisfy the following elements: surveillance, presence, persistence and response supported by the appropriate mix of regulation and legislation. Establishing presence in the North is well underway. The Canadian Rangers are being increased and the addition of an arctic warfare-training centre will generate a greater Army capacity to operate in the North. The government has selected Nanisivik as the site for an Arctic deep-water port, the Arctic patrol ships project is moving forward, and Coast Guard has received budget commitment to replace its heavy icebreaker.

Other departments will need to increase presence in the North to facilitate monitoring and enforcement activities. These activities would include Transport Canada's marine safety and security inspectors, as well as environmental protection officers from Environment Canada. Given the vast distances and the remoteness of the communities in the North, the challenge will be to establish sufficient presence to demonstrate resolve. A token presence will not be effective; the capacity to respond must be dispersed to sufficient sites to ensure a timely and effective response to the situation. Scenarios will need to be developed to validate the capability and capacity to mean reasonable response targets.

An important consideration for asserting national will in the North is persistence. During the off- or winter season fewer resources will be required, and remote monitoring will enable the tracking of activity. What will be of prime importance is growing the

resource footprint over time as demand for services grows. The least resource intensive activities are the preventive measures, hence the need to enhance regulation domestically, articulate the requirement for enhanced international regulation, and follow these up with well-trained safety inspectors. Complementary knowledge of whom, where and why someone is operating in the North will go a long way to reduce the risk of an adverse event taking place. If such an event does occur, a response effort commensurate with the event will need to be both rapid and effective.

Response capability demonstrates resolve and commitment to the North and the people who call this region home. As activity increases, the number of operators seeking quick fortunes will increase. Typically, these operators function on a shoestring budget so as to minimize costs and maximize their return on investment.[61] Therefore, all federal agencies operating in the North must have sufficient capacity to respond and to draw upon the services of other departments to enforce their relevant regulations. This capacity is equivalent to the role played by the North West Mounted Police during the Klondike Gold Rush, when the police asserted federal government authority and control, maintaining order and sovereignty during a chaotic time [62]

The Coast Guard has provisioned for the capability to respond to oil spills in the North. It can only deal with one spill at a time, however. As maritime traffic increases, capacity must grow apace. As in other regions, the Coast Guard will need to identify certified oil spill response partners. In the south, this capability has been outsourced to civilian firms who maintain the equipment and personnel in the event of a spill. In the

[61] See Rob Huebert, "The Shipping News Part II: How Canada's Arctic Sovereignty is on thinning ice," *International Journal* (Summer 2003), pp. 295-308.
[62] Ken Coates and William Morrison, *Land of the Midnight Sun: A History of the Yukon* (Montreal and Kingston: McGill-Queen's University Press, 2005), pp. 77-148.

case of large and extensive spills, volunteers have been trained to assist with the clean up. These volunteers are the force multipliers who permit an efficient yet effective response.

The approach must be one of harm mitigation. Regulations are a useful tool that provides guidance and direction to the ship designers and builders. If other vessels attempt to operate in these waters, resources to identify them and punish offenders must be in place.[63] The punishment must be an adequate deterrent to reduce environmental risks. An entire framework of regulation, enforcement and response is necessary to protect the overall northern environment. Nothing can be perfect, and despite the best intentions something terrible may happen, but an adequate response capability will help to ensure a major spill can be contained and cleaned up quickly.

Canada's regulatory framework must be reviewed to ensure that it provides for adequate coverage and is enforceable in the Arctic region. Courts may toss out regulatory enforcement cases simply because the relevant agency did not have the requisite authority to enforce its mandate. Regulations and rules for the North must be consistent with the statutory authorities and departmental prerogatives. Additional and more stringent rules may need to be put forward to recognize the unique environmental conditions in the North.

Ensuring vessels operating in the North are designed and built for the hazardous conditions and utilize pilotage services will be a core aspect of managing shipping in the Northwest Passage. Through Transport Canada, the government has the ability to introduce strict safety standards for vessels operating in the North. Northern marine safety inspectors will have to be trained and deployed to verify that shipping operating in

[63] Huebert, "Shipping News Part II."

the north complies with these directions. The inspectors must have the capability to refuse entry into the Arctic waters of any vessel that does not conform. Monitoring will verify that all vessels operating in the arctic watershed are known and comply with regulations. The most effective deterrent will be public knowledge that regulations are both enforceable and enforced. This can be accomplished through amendments to the *Canada Shipping Act*.[64] The consequences for offenders must be severe and actionable so as to mitigate any risk to the environment and national security. The review of legislation, rules and regulations cannot wait.

Today Northerners receive many services from their Territorial government. What roles can these governments play in affirming Canada's sovereignty? A check of Nunavut's ministerial portfolios indicates a focus on social, culture, education and resource exploitation. One would see these same portfolios in any one of the provinces (albeit the size and scope of responsibilities of ministers is contingent upon the province's population and the range of services offered).[65] A relevant subset of objectives is shown here:

- promote safety in marine transportation and recreational boating;
- protect the marine environment from damage due to navigation and shipping activities;
- develop a regulatory scheme that encourages viable, effective and economical marine transportation and commerce;
- promote an efficient marine transportation system.

[64] The Canada Shipping Act, http://www.tc.gc.ca/acts-regulations/GENERAL/C/csa2001/act/csa2001-part1.htm#1%20Objectives, accessed 13 May 2008.
[65] http://www.assembly.nu.ca/english/members/index.html accessed 10 May 2008.

The traditional enforcement and overarching imperatives are a federal responsibility. Presently, the major role the territorial governments can play is to lobby Ottawa to live up to its responsibilities and commitments by providing surveillance and resources to respond to situations. The territorial governments can play a vital role in educating southern Canadians about the complexities in the North, the risks and the range of solutions that should be in place, and the urgency for Canada to take steps now to protect its Northern regions. This type of education activity needs to be broad-based so that Canadians will insist that government rhetoric is followed by action.

Conclusion

Canada must take steps to assert its Arctic sovereignty. In the past Canada has implemented the *Arctic Waters Pollution Prevention Act*, declared straight baselines, and promised increased military presence to assert our sovereignty. Unfortunately, grand defence plans that caught the public eye were often cancelled while still on the drawing board, leaving a legacy of empty rhetoric. Canada asserts legal control over the Northwest Passage, but neither Canada nor the US has a clear case before international courts on the issue. Should Canada win, the Americans would likely launch successive court challenges and ignore unfavourable decisions until they had their way. These considerations point to a bilateral agreement rather than a court decision.

Since it is known what the US is after and why the US wants free transit of the passage, Canada must recognize American needs and factor these into its strategic plan. The US is a commercial and economic superpower; the USN ensures the sea lines of communication on the oceans common are open for business. The US therefore

takes umbrage with Canada's claims that the Northwest Passage is internal waters and not an international strait, fearing that other nations could use it as a precedent to make similar assertions and essentially shut down the highways of ocean commerce and naval power around the world. Until the passage is actually easily navigable and the summer season is predictable, Canada has an opportunity to craft a solution that provides for security and environmental stewardship, with due respect for the strategic imperatives at play.

The US is concerned with national security issues and the potential to route commercial shipping through the Passage. Bilateral agreements are already in place with respect to national security. It is up to Canada to employ a sophisticated and nuanced approach in the North that supports our ally while ensuring control is retained over who transits through Canadian waters. In regard to commercial interests, no one gains if there is an accident and the Passage becomes blocked or closed. It is in the interests of all circumpolar nations to push for Arctic maritime standards in ship construction, design and on board safety equipment.

The government's grand strategy is clear: maintaining sovereignty and asserting control over its internal waters. The tactics employed to date have ranged from strategically brilliant *Arctic Waters Pollution Prevention Act* to benign, emotional, flag-waving political rhetoric. The time is nigh for the development of a plan that satisfies the needs of the many domestic and international stakeholders. This plan will require international diplomacy and tact to achieve the strategic outcome that Canada seeks. Many departments have roles to play; these will need to be orchestrated with a master campaign plan to achieve victory. On the international front Transport Canada and

Foreign Affairs need to effect change arctic shipping design requirements through the IMO. Foreign Affairs needs to work with the US to develop an Arctic waters security framework that achieves *de facto* Canadian sovereignty over these waters without impeding US freedom to maneuver globally. Bilateral agreements with Japan, China, Korea and the European Union for commercial access could follow over time. Domestically, the major arctic players like DND, Transport Canada, RCMP and Fisheries and Oceans need to get the resources and the program in place to provide a persistent presence so as to achieve control and demonstrate national resolve. A whole of government approach is not only pragmatic, it is essential.

Given the legislative mandates of the various federal departments, no one department can be singled out as the lead department for everything. Each has a significant role to play in the social, environmental and economic stewardship of this complex region. By incrementally bringing more resources to the Arctic, increasing the overall surveillance capabilities and developing effective response mechanisms, Canada will take control of its destiny. By increasing its presence and providing appropriate legal and technological tools, Canada can create a viable monitoring and response capacity. The net achievement of these actions will be enhanced security of the continent along Canada's northern coast.

Canada must allocate the right mix of resources to provide a persistent and capable presence. By incrementally growing the federal commitment in the North and ensuring that the regulations and rules for the North are consistent and applied with the same rigour and vigour as they are in the south, Canada will show the world that it is prepared to back up its claims. The government's long-term plan is credible, but it

requires leadership and a singleness of purpose to implement. Well-orchestrated, multi-department actions require clear coordination and guidance.

Goal attainment on this scale requires leadership and guidance from the Prime Minister. Achieving a favorable strategic outcome requires that the Arctic become one of Canada's top priorities. The realities of a minority government, as well as the competing priorities for any prime minister's time, make this unlikely until a crisis in the North actually occurs. In the meantime, individual organizations and departments must develop effective implementation strategies and focus on incremental gains. The plan is coming together and action is taking place, at least along the domestic line of operation.

The federal government has anted up the resources to move forward a number of significant projects which will improve Canada's position in the North. On the aerial surveillance front RADARSAT-2 has been deployed and is providing imagery for analysts. The Air Force is extending the serviceability of the Aurora aircraft; it will also bring forward a concept for a fixed wing SAR capability to replacing aging assets in use today. Furthermore, Transport Canada operates aircraft in the North for the Canadian Ice Services. These projects must be implemented and deployed. The public is paying attention and will hold the government to task so long as it remains convinced that Canada's strategy is appropriate and feasible. It is less obvious whether the government is moving forward with regulatory changes and the legislative teeth necessary to ensure long-term success.

The federal government must also recognize the need to effect International regulatory bodies such as the IMO. International leadership has the potential to positively influence all Arctic and Antarctic nations. Nations such as Russia, Denmark,

Norway, Australia, and the US have similar interests and could cooperate with Canada to achieve the goals of defining international standards for vessels operating in Arctic waters. Cooperating with the US in particular through a bilateral framework will open a door to help achieve continental security through joint management. This approach would get away from the potentially relationship-damaging postures of the past and foster a new era of cooperation on Arctic issues. With resources reaching a price-point where it is now cost effective to seek them out, the Northern frontier will become more hotly contested than ever before.

This is well understood by the three territorial governments who must also step up their activities. Although small and largely focused on their geographically dispersed communities, their social needs and managing resource exploitation, the territorial governments can play the additional role of Canada's conscience: they can educate southern Canadians and call upon the federal government to deliver on the various projects now underway. They can also assist by educating northern communities and developing a labour force to perform the pilotage, inspection and certifications roles needed to ensure vessels are equipped and prepared to operate in the Northern Arctic Waters.

In short, Canada is well underway to effect a positive change in the North, but much remains to be done to ensure that the various initiatives are implemented and other enablers, such as bilateral agreements and legislation, must be considered, debated, and ultimately implemented to assure a positive outcome.