

## ***A Canadian Maritime Approach to the Arctic: Passion and Practicality***

Rear-Admiral N.S. Greenwood, CMM, CD<sup>1</sup>  
Commander, Maritime Forces Pacific

### **Introduction**

I am very pleased to have been asked to contribute to this discussion on potential sources of conflict and cooperation in the South China Sea (SCS) and the Arctic. One might be justified in asking, however, what does a serving naval officer have to add to such a distinguished group of academics and legal experts?

To answer this question first from a personal perspective, I must admit up-front that I am an immigrant to this country; and as a newly arrived five-year-old, I was told there would be polar bears in the back-yard – it was some time before I realized that this was merely metaphorical for us “southern” Canadians! We should keep in mind, though, that what constitutes a notional space for most of us, a domain of imagination, conjecture and debate, is very real for Canada’s northern inhabitants – not a backyard, but a front-yard, or even a living-room.

Later, as a junior naval officer and navigator, my idols were the tragic heroes of the Royal Navy’s post-Napoleonic polar adventures. If not captured by the tales of deprivation, I was at least fired by the example of independent action, of professional expertise and perseverance, which contributed so much to the cartography and hydrography of the North West Passage (NWP). Today, as a qualified Master Mariner, I remain inspired by the activities of my colleagues in the Canadian Coast Guard, the Nautical Institute and other practitioners in the marine industry, as they work for safer and sustainable maritime traffic in Canada’s northern waters. Indeed, as the Commander for Search and Rescue (SAR) operations in the Pacific Region (British Columbia and the Yukon, including the Pacific maritime approaches), I can easily recognize the abundant risks in our more remote and austere neighbouring SAR region.

One additional experience informs my approach to this topic: my attendance at the Royal College of Defence Studies in London, as one among 85 members of the 2006 course of International Studies representing together some 41 countries, convinced me of the value of free discussion and honest attempts to understand apparently opposing views. I believe that engagement is always better than isolation, and thus I am delighted to express my appreciation of the Arctic in this forum. I should hasten to add that the views I will express are my own and do not represent an official position. All the same, I will suggest that these thoughts are indicative of a generalized Canadian regard and approach to the Arctic, which I would characterize as a blend of Passion and Practicality.

---

<sup>1</sup> I would like to acknowledge the generous support of my colleagues, Dr James Boutilier, Captain(N) Serge Bertrand, RCN, and Captain Duke Snider, CCG, in reviewing the draft of this paper.

## Passion

Canadians exhibit a visceral attachment to the North. “The Great White North,”<sup>2</sup> a dismissive term akin to a cross between Voltaire’s “a few acres of snow”<sup>3</sup> and modern American weather maps which until recently showed totally uncharted space above the 49<sup>th</sup> parallel, is actually embraced by many Canadians as an apt descriptor. And yet most Canadians have never been north of 55DegN, and more than 75% of us live within 100 miles of the USA.<sup>4</sup> Nonetheless, the stories of Franklin’s doomed expedition to find the NWP and the extended grief of the resulting search parties, early experiences which gave rise to the dire iconography of the “Rime of the Ancient Mariner”<sup>5</sup> and the story of “The Man Who Ate His Boots”<sup>6</sup>, all contribute to a national self-image of frontier toughness and survivability.

Our passion for the north also connects with the national mythology of opening up the west (conveniently ignoring the presence of the aboriginal inhabitants) that is represented by Gordon Lightfoot’s song “Canadian Railroad Trilogy.” More particularly relevant to our topic is Stan Roger’s sea-shanty “Northwest Passage,” in which he fantasizes:

“Ah, for just one time I would take the Northwest Passage  
To find the hand of Franklin reaching for the Beaufort Sea;  
Tracing one warm line through a land so wide and savage...”<sup>7</sup>

Today, this “one warm line” through the Arctic is becoming too much of a reality with the effects of climate change, inviting many people to convert their passion to action. In seeming emulation of Capt. James Cook’s ambition to go “further than any man,”<sup>8</sup> many adventurers in recent years have attempted to test themselves against Canada’s vacant spaces by ever-more-

---

<sup>2</sup> “The Great White North,” the title of a 1981 comedy recording featuring Bob and Doug McKenzie (actually Rick Moranis and Dave Thomas) is widely recognized as a nickname for Canada.

<[http://en.wikipedia.org/wiki/The\\_Great\\_White\\_North\\_\(album\)](http://en.wikipedia.org/wiki/The_Great_White_North_(album))> (24 October 2011).

<sup>3</sup> In Chapter 23 of Voltaire’s “Candide”, the hero learns how mad England and France are to be fighting over “a few acres of snow” on the borders of Canada, and spending more on this war than the whole of Canada is worth. Voltaire expresses a similarly dismissive regard for Canada in “Essai sur les mœurs et esprit des nations” in portraying it as “a country covered by ices for eight months a year and inhabited by bears, barbarians and beavers.”

<[http://en.wikipedia.org/wiki/A\\_few\\_acres\\_of\\_snow](http://en.wikipedia.org/wiki/A_few_acres_of_snow)> (24 October 2011).

<sup>4</sup> The actual figure is variously reported as between 75 and 90%.

<<http://travel.nationalgeographic.com/travel/countries/canada-facts/>>(24 October 2011),

<<http://www.nationsencyclopedia.com/economies/Americas/Canada.html>> (24 October 2011)

<sup>5</sup> Samuel Hearne, who walked 5,000 miles in exploring 250,000 sq miles of Canada in 1770-72, was thought to be the model for Samuel Taylor Colridge’s Ancient Mariner. This case is made by Ken McGoogan in his book “Ancient Mariner.” <[http://www.quillandquire.com/reviews/review.cfm?review\\_id=3282](http://www.quillandquire.com/reviews/review.cfm?review_id=3282)> (24 October 2011)

<sup>6</sup> This is the title of a book by Anthony Brandt about the search for the NWP. However, this was earlier applied to John Franklin himself in relating his disastrous 1819-22 Coppermine expedition, an epic tale of starvation (as well as alleged murder and cannibalism!)

<[http://en.wikipedia.org/wiki/Coppermine\\_Expedition\\_of\\_1819%E2%80%9322](http://en.wikipedia.org/wiki/Coppermine_Expedition_of_1819%E2%80%9322)> (24 October 2011)

<sup>7</sup> <<http://www.elyrics.net/read/s/stan-rogers-lyrics/northwest-passage-lyrics.html>> (26 October 2011)

<sup>8</sup> The quote, correctly remembered as “I whose ambition leads me not only further than any other man as been before me, but as far as I think it is possible for a man to go,” is often taken out of context as an inspirational guide to impossible goals, and thus inspired the second pilot of the eventually “astronomically” successful Star Trek series. More appropriately for our area of study, it was actually an ironic statement by Cook himself in welcoming the impediment of ice in relieving him of further suffering in pursuing a more southerly course during his 1774 approach to the Antarctic. J.C. Beaglehole, *The Life of Captain James Cook* (Stanford, Stanford University Press, 1974) 365.

novel means of approach.<sup>9</sup> Alarming, some of these are ill-conceived or executed with a casual, even complacent, expectation of rescue in case of mishap. The case of Tim Smitheringale is exemplary in the most negative way: on an unassisted trek to the North Pole, he conveniently activated his EPIRB just as an Arctic exercise was concluding at Canadian Forces Station Alert, the most northerly occupied place in Canada, some 200 km to the south of him. The merely fortuitous presence of a helicopter and Twin Otter aircraft made for a happy ending that could not have happened except for this remarkable coincidence<sup>10</sup>. Even relatively well-found vessels with professional crews have suffered accidents in the Canadian Arctic, with the consequence of significant operational/logistic challenges to evacuate large numbers of passengers great distances out of the north. The MV Hanseatic, of 8378 gross tons and drawing 4.8m, a frequent voyager in the Canadian Arctic, ran aground in Simpson Strait on 29 August 1996 with 150 passengers onboard. They enjoyed the next week of fine weather for tourist visits ashore until the ship was refloated 10 days later<sup>11</sup>. As the passion for eco-tours (not only among Canadians) feeds the rapidly increasing cruise-ship traffic in the Arctic Archipelago, risk of this sort of accident, with potentially greater environmental consequences, stands to increase.

Notwithstanding that for many years after Britain transferred the Arctic islands to Canada in 1880, the continuing job of charting northern waters fell to sealers, foreign explorers, the RCMP and the Canadian Hydrographic Service<sup>12</sup>, the Royal Canadian Navy (RCN) has always felt itself to be natural heir to the RN traditions of Franklin et al. In 1957, Captain T.C. Pullen, Commanding Officer of the navy's first and only icebreaker, HMCS LABRADOR<sup>13</sup>, while submitting proposals to the Geographic Board of Canada reflected on his own namesake great-uncle, who had served in HMS NORTH STAR in search of Franklin. Passionate familiarity with the history of exploration in the Arctic is still a common interest among those who voyage to the Arctic.

But this kind of passion was not enough to sustain a presence. After the LABRADOR was turned over to the Department of Transport in 1958, having contributed significantly to the combined effort (with the US) of establishing the Cold War system of Distant Early Warning radar sites, the RCN had at best an intermittent presence. During the late 60's to mid-70's the navy undertook a series of Northern Patrols (NORPAT) and Northern Deployments (NORPLOY) in response to another passion. The passage of the SS MANHATTAN, a modified and ice-capable super-tanker, through the NWP in 1969 excited Canadian interests in both sovereignty and environmental protection, resulting in the 1970 declaration of the Arctic Waters Pollution Prevention Act (AWPPA).<sup>14</sup> Such passions were again inflamed by the publicity surrounding the 1985 passage of the USCGC POLAR STAR, but the end of the Cold War in

---

<sup>9</sup> Recent examples having completed the NWP are small yachts, catamaran sailboats, and a rigid-hull inflatable boat. < [http://en.wikipedia.org/wiki/Northwest\\_Passage](http://en.wikipedia.org/wiki/Northwest_Passage)> (24 October 2011)

<sup>10</sup> < <http://www.cbc.ca/news/canada/north/story/2010/04/16/arctic-rescue.html>> (24 October 2011)

<<http://www.heraldsun.com.au/opinion/another-polar-rescue-must-send/story-e6frfhqf-1225856131380>> (24 October 2011)

<sup>11</sup> < <http://www.tsb.gc.ca/eng/rappports-reports/marine/1996/m96h0016/m96h0016.asp>> (24 October 2011)

<sup>12</sup> Founded in 1883. < <http://www.charts.gc.ca/about-awppos/wwa-qsn-eng.asp>> (24 October 2011)

<sup>13</sup> A member of the Wind-Class, of which 8 were built for the USN, USCG and RCN, and 3 of which served briefly for the Soviet Navy during WWII. They were said to be capable of breaking 13 feet of ice.

< [http://en.wikipedia.org/wiki/Wind\\_class\\_icebreaker](http://en.wikipedia.org/wiki/Wind_class_icebreaker)> (24 October 2011)

<sup>14</sup> The introduction of this bill and the concurrent extension of Canada's territorial sea from 3 to 12 nm, was not only prompted by the announced second voyage of the SS MANHATTAN, but by public concern over the breakup of the Liberian tanker ARROW that year off Nova Scotia. Shelagh Grant, *Polar Imperative*, (Vancouver, Douglas and MacIntyre, 2010) 353-54

1989, followed by Canada's naval involvement in the First Gulf War (OP FRICTION) in 1991, put an end to NORLOYs for some time. Henceforth, Canada's naval approach to the Arctic would have to carefully balance passion with practicality.

## Practicality

Practicality is the great leveller of ambition in the north. In military terms, this means recognizing that there is no conventional sovereign threat in our Arctic domains.<sup>15</sup> Sovereignty over the Arctic Archipelago was transferred from Britain to Canada in 1880, and any claims attendant on Norwegian explorers' claims were relinquished in 1930.<sup>16</sup> There is not likely therefore to be a military threat or contest for Canada's northern territory. The real threats in the north pertain to the "triple tyranny" of distance, of climate, and of austerity. Nonetheless, there are several sources of potential friction.

There remain some differing interpretations as to the legal definition of the waters of the NWP, and this is at the heart of most common conceptions of conflict in the north. The US recognizes Canada's sovereignty over these waters, but also considers them "an international strait." Canada views these as "internal waters." The difference in these terms has to do with the strict definition in terms of the UN Convention on Law of the Sea (1982 ... hereafter referred to as UNCLOS) and the consequences for permissive regimes/modes of access. For example, in the first case, warships may access without notification or permission, and may transit in their normal mode of operation (ie: for submarines, submerged); in the latter case, warships must ask and be granted permission and transit directly, visibly (ie: surfaced) and without conducting any military activities.<sup>17</sup> Significantly, the issue of disagreement between Canada and the US is not only about the Arctic, but it has importance as establishing precedents for other countries' ships, and for our own ships, in other parts of the world.

And this is where practicality intervenes to mitigate the source of friction between neighbours: recognizing our joint interests in continental defence and security, Canada and the US signed in 1988 an Agreement on Arctic Cooperation, effectively agreeing to disagree and setting up a protocol by which future transits of US ships such as POLAR STAR would proceed after notification of the Canadian Government, but without prejudice to our mutually exclusive views of the navigational regime of the NWP<sup>18</sup>. In fact, this agreement merely formalized what

---

<sup>15</sup> P. Whitney Lackebauer makes a good case for this in his paper for the Canadian International Council, "From Polar Race to Polar Saga: An Integrated Strategy for Canada and the Circumpolar World."

<<http://www.opencanada.org/wp-content/uploads/2011/05/From-Polar-Race-to-Polar-Saga-Whitney-Lackenbauer1.pdf>> (24 October 2011)

The statement is explicit in the House of Commons Committee on Canada's Arctic Sovereignty (NDDN 40-3) presented on 17 June 2010.

<<http://www.parl.gc.ca/HousePublications/Publication.aspx?DocId=4486644&File=36&Language=E&Mode=1&Parl=40&Ses=3>> (24 October 2011)

Canada's Chief of the Defence Staff is reported similarly saying, "There is no conventional threat to the Arctic," while on OP NANOOK 2009.

<[http://www.nunatsiaqonline.ca/stories/article/924\\_operation\\_nanook\\_the\\_most\\_expensive\\_photo-op\\_youll\\_ever\\_see\\_2/](http://www.nunatsiaqonline.ca/stories/article/924_operation_nanook_the_most_expensive_photo-op_youll_ever_see_2/)> (24 October 2011)

<sup>16</sup> Grant, 238.

<sup>17</sup> Section 3 of Part II of UNCLOS covers Innocent Passage, while Sections 1 and 2 of Part III deal with Transit Passage through International Straits. <[http://www.un.org/depts/los/convention\\_agreements/texts/unclos/UNCLOS-TOC.htm](http://www.un.org/depts/los/convention_agreements/texts/unclos/UNCLOS-TOC.htm)> (25 October 2011)

<sup>18</sup> Para 4 of the Treaty particularly deals with the intent to exclude this cooperation from setting precedent either in the Arctic or in third-party relations. <<http://www.treaty-accord.gc.ca/text-texte.asp?id=101701>> (25 October 2011)

had already existed as a matter of operational liaison; in both the MANHATTAN and POLAR STAR transits, as well as the 1958 submerged transit of USS SEADRAGON through the Arctic islands, Canadian authorities were well aware of the intended transits and they were accompanied either by CCG icebreaker escort and/or had naval and CCG observers embarked.<sup>19</sup>

A similar practicality has been shown in recent Canadian military activities in the north. The annual OP NANOOK deployment to the eastern Arctic has grown over the years from a deployment-exercise of several naval ships to Davis Strait and Lancaster Strait, to a significant joint exercise involving Army and Air Force units, CCG, and other government departments. The focus has expanded from logistical sustainment and ice-edge experience for the navy, to complex inter-agency scenarios covering the spectrum of safety (SAR and environmental protection) to security (surveillance and interception) tasks engaging multiple partners, not least of whom are our indigenous peoples<sup>20</sup>. Notwithstanding that our only jurisdictional disputes in the area are with our immediate neighbours (Canada-US maritime boundary dispute in the Beaufort Sea, Canada-Denmark maritime boundary dispute in the Lincoln Sea north of Ellesmere Is, and Canada-Denmark territorial dispute in Nares Strait over the miniscule Hans Is), both the US and Denmark have been invited players in recent OP NANOOK exercises.

There is good reason for practical approaches which minimize friction in the north: it is too vast and unforgiving a domain to be without friends. Accordingly, Canada has been in the forefront of promoting increased Arctic cooperation for SAR. This is demonstrated by the recent signing of the Arctic SAR Agreement, and the holding of a multinational SAR table-top exercise in Whitehorse in early October 2011<sup>21</sup>. And in regular deployments to the Arctic, Canada frequently accesses logistical support and operational collaboration with corresponding SAR agencies in Alaska and Greenland. This of course mirrors the close cooperation we enjoy and rely upon in the more temperate SAR regions of the east and west coasts.

The fundamental practicality of the north, however, has to do with the assessment and management of risk. Contrary to the popular notion of the NWP being “open”, it is neither perfectly clear nor offering unimpeded passage for significant periods throughout its entire length<sup>22</sup>. Rather than talk of an ice-free Arctic, some have suggested the correct term is a

---

<sup>19</sup> Jason Delaney and Michael Whitby, “The Very Image of a Man of the Arctic: Commodore O.C.S. Robertson”. Canadian Naval Review, Vol 4 No 4 (Winter 2009) <<http://naval.review.cfps.dal.ca/archive/1928859-6427241/vol4num4art6.pdf>> (26 October 2011). Also, Graham Rowley, “Captain T.C. Pullen, Polar Navigator”. The Northern Mariner. Vol II, No 2 (April 1992) <[http://www.cnrs-scrn.org/northern\\_mariner/vol02/tnm\\_2\\_2\\_29-49.pdf](http://www.cnrs-scrn.org/northern_mariner/vol02/tnm_2_2_29-49.pdf)> (26 October 2011)

<sup>20</sup> Despite advances in technical means of surveillance, utilizing federated arrays of space-based, terrestrial and under-water sensors, the human factor is vital and so we still rely significantly on reports of our Canadian Rangers, an organization of localized Aboriginal patrols spread throughout Canada’s north.

<sup>21</sup> <[http://arctic-council.org/filearchive/Arctic\\_SAR\\_Agreement\\_EN\\_FINAL\\_for\\_signature\\_21-Apr-2011.pdf](http://arctic-council.org/filearchive/Arctic_SAR_Agreement_EN_FINAL_for_signature_21-Apr-2011.pdf)> (25 October 2011). It is noted that this is the first treaty negotiated under the auspices of the Arctic Council. <[http://en.wikipedia.org/wiki/Arctic\\_Search\\_and\\_Rescue\\_Agreement](http://en.wikipedia.org/wiki/Arctic_Search_and_Rescue_Agreement)> 25 October 2011). <[http://www.nunatsiaqonline.ca/stories/article/65674whitehorse\\_table-top\\_exercise\\_brings\\_arctic\\_sar\\_experts\\_together/](http://www.nunatsiaqonline.ca/stories/article/65674whitehorse_table-top_exercise_brings_arctic_sar_experts_together/)> (25 October 2011)

<sup>22</sup> “Open” for navigation means <4/10 ice coverage, which may still include enough ice (some of it hard and dangerous) to require slower speeds, good lookout, and ice-avoidance manoeuvres. Note the difference between “open water” (<1/10 ice) and “open ice” (4-6/10 ice). <[http://www.ccg-gcc.gc.ca/Ice\\_home/Ice\\_Publications/Ice-Navigation-in-Canadian-Waters](http://www.ccg-gcc.gc.ca/Ice_home/Ice_Publications/Ice-Navigation-in-Canadian-Waters)> (25 October 2011)

“navigable Arctic with ice-infested waters.”<sup>23</sup> This remains an area of difficult and dangerous passage, promising complexity and unpredictability.<sup>24</sup> The general break-up and retreat of the ice in summer still allows that a large amount of ice (some of it hard, multi-year ice) will filter through the Canadian archipelago and drift in the various channels of the NWP. Those most likely still to be encumbered are the more direct, deep-draft passages of McClure and Prince of Wales Straits<sup>25</sup>. The more southerly straits of Dolphin and Union Strait to Dease Strait will be free of multi-year ice but more fraught with navigational challenges of more conventional degree: these areas are rife with shallows, are not well-charted aside from isolated sounding-lines of previous ships’ tracks<sup>26</sup>, and in any case have a limiting depth of 10m. Further east, Simpson Strait is more constrained, with limiting depths of 5-18m. Clearly, these winding passages will not be accessible to the largest, modern, and economically viable fast container ships, nor the deep-draft carriers of bulk cargoes. Many knowledgeable experts expect that the trans-polar route will be a seasonally-viable commercial route before the NWP.<sup>27</sup>

Canada’s practical response to these navigational risks, in consideration of the environmental vulnerability of the area, has been to institute a rigorous programme of ice-forecasting married to a scheme of classification of ship-suitability for anticipated conditions. Vessels indicating to NORDREG their intent to transit the NWP are constrained by their ice-classification to the opening dates for various areas through which they will transit, or guided to alternate options appropriate to actual conditions through the Arctic Ice Regime Shipping System (AIRSS)<sup>28</sup>. To a very large degree, this practice has been successful. Both the absolute and relative incident of navigational incidents in the Arctic has dropped, even as traffic has increased. But as much as there have been no serious ice-incidents or sinkings, there has been an increased incidence of groundings<sup>29</sup>. The dual groundings of the MV CLIPPER ADVENTURER<sup>30</sup> and the MV NANNY in summer 2010 were two examples in which the outcome may well have been worse. In the first, the evacuation of 148 passengers was effected in calms seas even as the vessel sat on a 4-m ledge with her stern in 100m of water. Luckily, the nearest local community had an airfield and did not long have to sustain a visiting population of significant proportion. In the second case, the vessel was refloated without environmental consequence, and without losing a cargo of oil critical to the winter sustainment of the destination community. And in both cases, the proximity of rescue and salvage vessels was fortuitous and not representative of the response available throughout the Arctic.

---

<sup>23</sup> Mark Meza, USCG, at “Breaking the Ice”, a conference on Arctic Development and Maritime Transportation, 2007. <[http://www.mfa.is/media/Utgafa/Breaking\\_The\\_Ice\\_Conference\\_Report.pdf](http://www.mfa.is/media/Utgafa/Breaking_The_Ice_Conference_Report.pdf)> (25 October 2011)

<sup>24</sup> Charles Emmerson, *The Future History of the Arctic*, (New York; Public Affairs, 2010) 162.

<sup>25</sup> For details about different routes of the NWP, see the Arctic Marine Shipping Assessment 2009, Table 2.3. <[http://www.pame.is/images/stories/PDF\\_Files/AMSA\\_2009\\_Report\\_2nd\\_print.pdf](http://www.pame.is/images/stories/PDF_Files/AMSA_2009_Report_2nd_print.pdf)> (25 October 2011)

<sup>26</sup> Only about 10% of the Canadian Arctic is charted to modern standards. 2009 Arctic Marine Shipping Assessment, 158.

<sup>27</sup> For example, Jose Femenia proposes trans-Arctic shipment by nuclear powered vessels to minimize emissions, leveraging Iceland as a transshipment point to redefine global container patterns. “Breaking the Ice”, 17

<sup>28</sup> Transport Canada, Arctic Ice Regime Shipping System (AIRSS) Standards, TP 12259 <<http://www.tc.gc.ca/eng/marinesafety/tp-tp12259-menu-605.htm>> (25 October 2011)

<sup>29</sup> Brad Judson, “Trends in Arctic Shipping Traffic – Myths and Rumours”

<<http://members.shaw.ca/cjudson/arctictraffic.doc>> (24 October 2011)

<sup>30</sup> The MV Clipper Adventurer, of 4000 tons and drawing 4.72m, ran aground in Coronation Gulf in 3.3m. Good weather allowed Coast Guard relief two days to come from 500 miles away to evacuate passengers to a nearby village from whence they could be flown out of the Arctic. In this case, as in the earlier Hanseatic grounding, significant loss was prevented by benign weather and quickly available rescue resources.

<[http://www.nunatsiaqonline.ca/stories/article/0409102\\_clipper\\_adventurer\\_ran\\_into\\_a\\_charted\\_hazard\\_expert\\_says/](http://www.nunatsiaqonline.ca/stories/article/0409102_clipper_adventurer_ran_into_a_charted_hazard_expert_says/)> (24 October 2011)

In fact, the economic considerations become paramount in considering the potential for increased traffic in the Arctic. The requirement to operate within the parameters of one's insurance creates a powerful constraint for commercial operators.; a NWP transit which saves \$500 in fuel between Yokohama and Rotterdam means little advantage if it incurs additional liability coverage of \$1M, and takes as long as the Panama-canal route due to ice delays and (even minor) navigational diversions. Another important issue is that traffic from Yokohama to Rotterdam (just for example) is overwhelmingly containerized. It consists not of unitary loads from port-to-port; rather it is a load made up of packages for an itinerary of different ports enroute. The economics of this shipping is based on frequent and regular departures (ie: a "liner" service) as well as the overall rapidity of transit. A less-frequent, though direct, origin-to-final destination passage through the NWP looks attractive, but it carries much higher economic risks due to lost time in cargo assembly and potential delays.<sup>31</sup>

All of this underlines the practical reality, that the NWP is not (yet, nor realistically for some time) a super-highway but more like a rough back-country road.

### **"The Arctic as a Parable for Change"<sup>32</sup>**

The Commander of the Royal Canadian Navy has for the past two years referred to the Arctic as a harbinger of change in the sphere of maritime affairs. There are several ways in which this is a potent message for this audience.

Firstly, climate change is an undeniable fact in the Arctic. We have seen recently historic minimums in the seasonal waxing and waning of ice-cover. Not only will this bring more traffic to the Arctic, but the environmental effects of greater variability, diminished predictability and increasingly violent weather will be felt in the Arctic as elsewhere. This will not only affect warm season travel but will shorten the season and impede the vital supply routes which depend on frozen surfaces (ie: terrestrial ice-roads across water-logged terrain). Deeper, more lasting effects on the permafrost<sup>33</sup> will have serious implications for major construction and engineering projects. And many of the low-lying areas of the Arctic coastline will suffer from the incursions of rising sea-level as in the (more) populated estuarial areas around the world. Whereas the reality of "global warming" can be debated academically in safe urban areas of the globe, the increasing visibility of its effects in the Arctic serve as an urgent wake-up call.

Energy issues, more than the supposed "shortcut to the Europe" for Asian manufactured goods, is the most likely source of potential negative human impacts on the Arctic. The draw of the Arctic is more for what is in it, than as a route to somewhere else. This is reflected in

---

<sup>31</sup> A recent simulation suggests presently liner-service between Yokohama and St-Johns NFLD in fast, ice-capable ships could be economically viable, but that the alternate route of Yokohama-New York is not. However, this study does not properly consider the navigational difficulties or limiting depths for economically-sized container ships on the chosen Coronation Gulf – Victoria Strait route. Saran Somanathan, Peter C. Flynn, Jozef Szysmanski; "The Northwest Passage; A Simulation." Proceedings of the 2006 Winter Simulation Conference. IEEE, <[citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.134.5586.pdf](http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.134.5586.pdf)> (25 October 2011). Personal communication with Captain D. Snider, Martech Polar Consulting Ltd, 25 October 2011. (25 October 2011)

<sup>32</sup> Captain(N) S. Bertrand. "Navies, the Law of the Sea and the Global System in the 21<sup>st</sup> Century." Unpublished paper prepared for the Ocean Yearbook (International Ocean Institute and the Schulich School of Law, Dalhousie University). Personal communication. 9

<sup>33</sup> This is soil which has been maintained at temperatures below the freezing point of water for two years or more.

increasing ecotourism, but the renewed search for oil and gas and minerals stands to bring much more heat and light, and more potentially harmful traffic. The fear of environmental degradation (ie: beyond climate change itself) is a real concern, but mirrored in all areas of global resource exploitation. What makes it special in the Arctic is the very sensitivity and vulnerability of the ecosystem. Oil spills will not dissipate as readily, and major remediation assistance is neither immediately available nor sustainable for very long. The very increase in traffic also brings with it geographic effects in both social and physical domains: the offer of work will bring more people and could stimulate the migration of local populations; the influx of money and external non-native cultures in turn might exacerbate the already rising social ills of drugs, alcohol abuse and crime; and the traffic itself could be a serious impediment to the movement of indigenous people and wildlife during the shoulder-season periods of passable (ie: for Inuit and animals, on the frozen surface) but still breakable ice. This is a particular concern with the Mary River development of high-concentration iron ore on Baffin Island. The expense of developing this lode can only be justified by year-round shipping directly to smelters and markets in Europe. Accordingly, a fleet of ice-breaking bulk carriers could disturb ice-travel routes across Hudson Strait and Foxe Basin throughout the winter<sup>34</sup>.

We see in the Arctic, as in other areas, that ocean politics is increasingly “energized.” This is not to say merely intensified, but increasingly about energy. This is not just related to the continuing search for cleaner fuels, but driven more substantially by rapidly increasing demand in the modernizing world. The coincident evolution of ocean engineering to enable deeper and deeper submarine extraction projects means that this exploration activity is moving offshore into areas not previously claimed. The deadline under UNCLOS to register claims for continental shelf/seabed extensions<sup>35</sup> is adding additional incentive to coastal states to undertake accelerated geophysical surveys. This has also been accompanied by some theatrical grandstanding such as the Russian placement of a flag on the sea-bottom in 2007<sup>36</sup>. While this latter activity is not taken seriously as a stake of territory, it does serve to further inflame passions. Nor is this passion limited to the coastal states; the global demand and quest for energy creates in the emerging major users (eg: China and India) a powerful need to engage. For China particularly, this means a desire to preserve some “white space” in the Arctic for outside access, while in the South China Sea their national interests dictate a contrary path. Such conflicting approaches to the Law of the Sea to resolve potential conflict is another salient warning we can take from the Arctic.

The Arctic is also a parable of change in more positive ways,. The need for cooperation between nations in this remote region has always been stark. The recognition of this is apparent in the recent conclusion of an Arctic SAR Agreement assisted by Canada. This is an excellent step toward an integrated regime of coverage and control of the Arctic. There is also an increasing sense that competing claims should be resolved, not contested. Recently we have seen resolution of long-standing disagreement between Russia and Norway over their maritime boundary in the Barents Sea. Similar movement seems probable between Canada-US and Canada-Denmark in our offshore estates. And even the occasionally dramatized tussle over Hans Island does not keep Canada from cordial relations with Denmark.<sup>37</sup> In these instances, the

---

<sup>34</sup> Note the Arctic Marine Shipping Assessment 2009, 126

<sup>35</sup> States have 10 years from the date upon which UNCLOS entered into effect for them. The deadline which applies to Canada is 2013. <<http://www.international.gc.ca/continental/faq.aspx?lang=eng&view=d> > (25 October 2011)

<sup>36</sup> <<http://www.cbc.ca/news/world/story/2007/08/02/russia-arctic.html>> (25 October 2011)

<sup>37</sup> This is reflected in the terms of the Canada-Denmark Joint Statement on Hans Island (2005) which bears language reminiscent of the CAN-US Agreement on Arctic Cooperation. <<http://byers.typepad.com/arctic/canadadenmark-joint-statement-on-hans-island.html>> (25 October 2011).



UNCLOS provides a solid basis for the definition and treatment of competing claims.<sup>38</sup> By defining consistently what is within coastal states' purview, it facilitates the joint exploitation of those resources with interested parties. This then allows fair and free access for external parties to the remaining areas of common heritage. In this way, the Arctic Ocean may serve as a helpful model of cooperation to solidify consistent interpretations in other areas such as the SCS, and engender peaceful resolutions. Canadians, with their national passion for "peace, order and good governance," believe they can thus play an exemplary leadership role in the Arctic.

Finally, the Arctic is a bell-weather for a change in how we conceive of security. As we anticipate increased traffic through the north, we have to ask what does this mean for our security? This is not a question just of defence but rather an issue across the spectrum of "Comprehensive Security." While I have covered some of the social, environmental and economic implications of this, the operational arms of government see this spectrum as running from safety (eg: SAR, navigation) through security (think criminality, law enforcement and customs/immigration control) to defence. Defence is not the largest part of this but nor can it be separated. An increasing realization that most issues in the north are a whole-of-government affair (in naval jargon, an "all-hands" event) forces us to look at problems or threats as situated on a continuous spectrum. It is not either-or (is it defence, security or safety? ...with assignment to the appropriate department) but where on the spectrum does it sit, and what is the balance of collaborative effort required to address it? We see in the future that military forces will be required to play a more flexible and responsive part in "civil" operations under the leadership of other government departments (OGD in Canadian parlance). This is another trend that we are seeing in the Arctic, and will increasingly see in the wider global context, usually involving complex conglomerations of military, paramilitary, civil and non-governmental agencies.

## **Responsibility**

In what ways, then, are the Royal Canadian Navy and our service colleagues addressing our responsibility to engage in the north?

Maritime SAR continues to be a major preoccupation for our coastal commanders, whose areas extend to Alaska and Labrador respectively. The Arctic coast is covered by air from the central SAR region based out of Trenton. In the navigational season, maritime SAR in Arctic waters is covered by the seasonal presence of the Canadian Coast Guard for navigational maintenance and hydrography, scientific research and northern resupply. Their capacity for this work stands to increase shortly with the Government's commitment to recapitalize federal fleets through the National Shipbuilding Procurement Strategy (NSPS). The NSPS aims to regenerate and sustain Canada's maritime construction industry through a 30-year \$33B programme of major ship deliveries to navy, coastguard, fisheries and federally-owned ferries.<sup>39</sup> The most immediate delivery for the coastguard will be a new flagship icebreaker, the CCGS Diefenbaker, to be delivered around 2017, and followed by a series of medium icebreakers.<sup>40</sup>

---

<sup>38</sup> This is expressed in the Statement of Canada's Arctic Foreign Policy.

<[http://www.international.gc.ca/polar-polaire/canada\\_arctic\\_foreign\\_policy\\_booklet-la\\_politique\\_etrangere\\_du\\_canada\\_pour\\_arctique\\_livret.aspx?lang=eng&view=d](http://www.international.gc.ca/polar-polaire/canada_arctic_foreign_policy_booklet-la_politique_etrangere_du_canada_pour_arctique_livret.aspx?lang=eng&view=d)> (25 October 2011)

<sup>39</sup> Note that minor ships, of less than 1000 tons, will be contracted to smaller shipyards outside the scope of the two major yards addressing combat and non-combat-ship packages under NSPS.

<sup>40</sup> See reporting of the Arctic Institute on this issue: <<http://www.thearcticinstitute.org/2011/10/canadas-5434-national-shipbuilding.html>> (25 October 2011)

Augmenting this capacity for defensive and security/safety roles will be a new class of ship for the RCN: the Arctic Offshore Patrol Ship (AOPS). These vessels (6 to 8 of them) will be self-sustaining for up to 120 days in the north, capable of making continuous progress through up to 1 metre of ice, and crewed by naval personnel in partnership with OGDs for maximum flexibility of roles. They will operate through lightly-iced areas of the Arctic during the navigational season, that is: at places and times in which we expect increased traffic implying safety-security or –defence tasks. Off-season the AOPS will supplement surveillance, SAR and training capacity in temperate coastal areas. What is significant about these ships is a requirement for sustained distant ops (ie: “expeditionary” operations) even in domestic waters. To put this in perspective: the NWP is as distant from Victoria as Tokyo. Thus, Canada’s naval approach to the Arctic confirms the requirement for ocean-going ships of robust self-sufficiency.

The AOPS is in fact just the first pillar of five in the Government’s “Canada First Defence Strategy” (CFDS) which address the north. Accompanying AOPS are plans to: (2) Establish a northern naval refuelling facility at Nanisivik, at the north end of Baffin Island; (3) Establish a Canadian Forces Arctic Training Centre at Resolute, near the mid-point of the main axis of the NWP; (4) Integrate RADARSAT II information into Canada’s wide-area national surveillance plan, including the Arctic; and (5) Improve the capability of the Canadian Rangers, the Canadian Forces component made up of indigenous inhabitants of our northern regions. These particular pillars of the CFDS will increase military capability in the north while significantly addressing the government’s Northern Strategy<sup>41</sup>, all the while underlining the essentially cooperative nature of northern ops.

## Conclusion

The Arctic is very easily seen as a region of immense contrasts: Austere and harsh, but environmentally fragile; “home waters,” but only approachable as an expeditionary endeavour; necessitating the greatest individual preparation and self-sufficiency, but demanding a facility for cooperation; and not subject to territorial disputes (of any significance), but still ripe for competition and potential conflict over watery claims.

This is an area in which passion and practicality meet, and not just for Canadians. Its mythical aura appeals to many people, and is drawing them increasing numbers. The more tangible, but still largely notional, expectations of easy and economical passage for trade needs to be tempered by the realities. The demand for navigational access will be moderated by both economic and physical risks. And the increasing interests in Arctic seabed resource claims are more driven by UNCLOS claims deadlines than by actual exploratory commitments.<sup>42</sup>

But if UNCLOS invites competing claims in the Arctic, as well as in the South China Sea, it also provides a solid framework for conflict resolution. As “the most comprehensive international treaty ever concluded”<sup>43</sup>, it is significantly responsible for the stability of the global system of trade which sustains the modern world. It provides for the interests of coastal states in fair balance with the interests of all trading states, even land-locked ones. It provides for

---

<sup>41</sup> Canada’s Northern Strategy. <<http://www.northernstrategy.gc.ca/cns/cns-eng.asp>> (25 October 2011)

<sup>42</sup> But note that Shell intends new drilling activities in the Chukchi Sea in 2012. <<http://www.nature.com/news/2011/111012/full/478174a.html>> (25 October 2011)

<sup>43</sup> See “A Constitution for the Seas” in the World Ocean Review: <<http://worldoceanreview.com/en/law-of-the-sea/a-constitution-for-the-seas/>> (25 October 2011)

navigational freedom (most notably for warships) while allowing coastal states scope for responsible stewardship over living resources and management of environmental threats in their areas. Yet, too-constrained an interpretation of UNCLOS occasioned by a coastal state perspective could be self-limiting when the same party wishes access as an external actor.<sup>44</sup> The differing contexts of the Arctic Ocean and the South China Sea will likely bring out the need for coastal and external states to compromise in order to fit a consistent interpretation of UNCLOS to both areas. Compromise and cooperation, therefore, are the possible dual benefits of working within the agreed convention to resolve competition through the global commons.

For Canada, the Arctic remains an area of deep and instinctive commitment. The national motto, “*Ad Mare Usque Mare*,” is widely understood today as implying: “From sea to sea *to sea*.”<sup>45</sup> As much as Canada’s past was defined by Atlantic relationships, and the Pacific dominates more and more our present immigration and trade, we are convinced that the Arctic is the sea of our future.

---

<sup>44</sup> Cdr J Kraska makes this point very strongly regarding the potential for China to be a “Zone-blocked” state if they insist too rigidly to their own EEZ control in the SCS. James Kraska, *Maritime Power and the Law of the Sea*, (USA, Oxford University Press, 2011) 428

<sup>45</sup> And Canada is bounded by a fourth, fresh-water sea ... upon which safety and security cooperation is also very well advanced with our continental neighbours.