

# CANADIAN UNILATERALISM IN THE ARCTIC: USING SCENARIO PLANNING TO HELP CANADA ACHIEVE ITS STRATEGIC GOALS IN THE NORTH

A Monograph

by

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## ABSTRACT

CANADIAN UNILATERALISM IN THE ARCTIC: USING SCENARIO PLANNING TO HELP CANADA ACHIEVE ITS STRATEGIC GOALS IN THE NORTH, by Major Sonny T. Hatton, 78 pages.

Climate change and global warming could open up the Arctic to unprecedented energy and resource development and maritime traffic as temperatures rise and the ice recedes. Each of the Arctic nations has made domestic and foreign policy statements on the Arctic, with each stating that they are prepared to do what is necessary to defend their interests in the region. The Arctic Council is instrumental in promoting dialogue and cooperation in the region and all of the Arctic nations have agreed to manage their differences under a spirit of cooperation. If the security situation in the region should deteriorate, however, can Canada act unilaterally to protect its sovereignty in the region? This paper examines current Canadian national security and defense strategy for the Arctic and uses scenario planning as a tool to evaluate the current strategy.

Three examples of scenario planning for the Arctic exist and are evaluated, but found to be lacking in their ability to comprehensively address the security question under study. Four new scenarios are developed and examined to further illustrate the security aspect of four plausible futures based on the critical uncertainties of Arctic cooperation and resource development. Considering current and planned capabilities, it was found that with the exception of inter-state armed conflict in the region, the Government of Canada and the Canadian Forces together with other government agencies, will more than likely be able to deal with an unconventional or transnational threat in the Arctic. The delivery of Arctic surveillance capabilities such as RADARSAT are critical to Canada's ability to monitor its vast Northern territories and respond to any menace to its sovereignty. Canada's participation in NATO and NORAD and its relationship with the U.S. allows it to accept considerable risk in the region regarding inter-state conflict. To mitigate this risk and balance tension with Russia, Canada's Arctic foreign policy rightfully emphasizes international cooperation through the Arctic Council and has as its first priority, the resolution of Arctic boundary disputes as quickly and peacefully as possible.

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## ACRONYMS

AOPS	Arctic Offshore Patrol Ship
CCG	Canadian Coast Guard
CF	Canadian Forces
CFD	Canadian Forces Development
CORA	Centre for Operational Research and Analysis
DND	Department of National Defence (Canada)
DoD	Department of Defense
DRDC	Defence Research & Development Canada
EEZ	Exclusive Economic Zone
EU	European Union
FSE	Future Security Environment
GBN	Global Business Network
GoC	Government of Canada
IMO	International Maritime Organization
NATO	North Atlantic Treaty Organization
NORAD	North American Aerospace Defense Command
NORDREG	Northern Canada Vessel Traffic Services
NSPS	National Shipbuilding Procurement Strategy
NWP	Northwest Passage
RCN	Royal Canadian Navy
SRI	Stanford Research Institute
STEEP	Society, Technology, Economics, Environment, and Politics
UN	United Nations
UNCLOS	United Nations Convention on the Law of the Sea
WoG	Whole of Government

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## INTRODUCTION

The Arctic is heating up, both literally and figuratively. Climate change and global warming are melting the Polar ice cap in the North at an unprecedented rate. The winter of 2011/12 set several Arctic climate records. It had the shortest winter in terms of snow cover duration and set an all-time record low Arctic sea ice extent with 18% less ice than the previous low recorded in 2007.<sup>1</sup> Warmer climates and decreasing sea ice mean that access to the once inhospitable environment, especially during the summer months, is becoming a reality. The Arctic is slowly heating up on the global stage as nations and private companies take advantage to tap new mineral, oil and gas resources and access shortened commercial navigation routes through Arctic waters. None of this is particularly new and each of the Arctic nations has made domestic and foreign policy statements on the Arctic in recent years.<sup>2</sup> All have stated that they are prepared to do what is necessary to defend their interests in the region.<sup>3</sup>

Within Canada, the Department of National Defence (DND) and its Canadian Forces (CF) are called upon by the Government of Canada (GoC) to perform three roles: protect Canada, Canadians and national sovereignty; defend North America in cooperation with the United States; and contribute to international peace and security.<sup>4</sup> To satisfy the first, DND/CF must be fully capable of protecting Canada and responding to domestic crises *on its own* in support of civilian

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<sup>1</sup> D. Perovich et al., "Sea Ice," in *Arctic Report Card 2012*, ed. M. O. Jeffries, J. A. Richter-Menge, and J. E. Overland (Washington: NOAA, 2012): 39, <http://www.arctic.noaa.gov/reportcard> (accessed January 10, 2012).

<sup>2</sup> Rob Huebert, *The Newly Emerging Arctic Security Environment* (Calgary: Canadian Defence and Foreign Affairs Institute, 2010), 4.

<sup>3</sup> Ibid.

<sup>4</sup> Director of Future Security Analysis, *The Future Security Environment 2008-2030* (Ottawa: Department of National Defence, 2009), 14.

first responders. It must also be able to defend its sovereign territory against foreign incursions.<sup>5</sup> With 40% of Canada's landmass located in the Arctic, Canada considers itself an Arctic Nation, but as interests, both foreign and domestic, begin to capitalize on improved access to resources and shipping routes in the Arctic, Canada's North has taken on renewed strategic importance.<sup>6</sup> The Arctic is, in some respects, the 'final frontier', with the prospect of shortened shipping routes and vast natural and mineral resources such as fish stocks, oil, gas, diamonds and precious metals drawing the attention of Arctic and non-Arctic nations around the world. A sharp increase in economic activity in the Arctic may challenge the CF's ability to act. As economic, political and military interest grows in the Arctic, Canada has suggested it is willing to act unilaterally to protect its sovereignty there.<sup>7</sup>

At a time of increasing interest, accessibility and investment, the current GoC has now placed more emphasis on the Arctic than any government since the end of the Cold War. Canada's *National Security Policy – Securing an Open Society*, and its *Canada First Defence Strategy* both address Arctic Sovereignty.<sup>8</sup> These documents were followed up by *Canada's Northern Strategy*, a comprehensive domestic policy document on the Arctic, which is duly supported by the broad and engaging *Statement on Canada's Arctic Foreign Policy*.<sup>9</sup> This

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<sup>5</sup> Ibid., 14.

<sup>6</sup> Minister of Indian Affairs and Northern Development, *Canada's Northern Strategy: Our North, our Heritage, our Future* (Ottawa: Government of Canada, 2009), 1.

<sup>7</sup> Huebert, *The Newly Emerging Arctic Security Environment*, 5.

<sup>8</sup> Privy Council Office, *Securing an Open Society: Canada's National Security Policy* (Ottawa: Government of Canada, 2004).; Department of National Defence, *Canada First Defence Strategy* (Ottawa: Government of Canada, 2008).

<sup>9</sup> Minister of Indian Affairs and Northern Development, *Canada's Northern Strategy: Our North, our Heritage, our Future*; Foreign Affairs and International Trade Canada, *Statement on Canada's Arctic Foreign Policy: Exercising Sovereignty and Promoting Canada's Northern Strategy Abroad* (Ottawa: Government of Canada, 2010).

monograph will study the security component of Canada's Arctic policy, and the factors that affect it. A number of issues are salient to any discussion about Arctic futures, specifically: climate change, resources and commercial maritime transit routes, environmental concerns, the potential for cooperation or conflict among Arctic nations, the influence of the North Atlantic Treaty Organization (NATO), China's growing interest, and Canadian capabilities. Using scenario planning to evaluate and develop plausible Arctic futures, the paper will use qualitative analysis to assess current Canadian Arctic policy and military capabilities to determine whether Canada can act on its own, or whether it should seek the support and assistance of its allies, most likely the United States or NATO. Today's security environment is complex and chaotic and it is expected to remain so through the coming decades.

Determining whether Canada will be able to act unilaterally in the Arctic to protect its sovereignty and secure its national interests from threats, both foreign and domestic, will highlight any shortfalls in Canada's policies and defense activities. Not only will it have a direct effect on how Canada interacts with its allies on Arctic issues, but it will also affect Canada's relationships with its Arctic neighbors and regional or international organizations such as the Arctic Council. Militarily, it will highlight any serious capability gaps for the CF and recommend ways these could be resolved or mitigated. The decision, therefore, that scenario planning is expected to help answer is: *can Canada act unilaterally to protect its sovereignty in the Arctic or should it pursue military allegiances to protect its sovereignty in the Arctic?*

## LITERATURE REVIEW

To answer the question, this paper will investigate Canada's national strategic policy and military strategy for the Arctic. The future is informed by the present and the strategic significance of the Arctic is centered on climate change, resources and sea routes. Aside from the five Arctic nations, there are many stakeholders interested in what transcends in the Arctic. Notwithstanding climate change, which is most often assumed to be a constant, it is primarily the

actions and interests of the stakeholders, made up of states and non-state actors, that will determine whether the Arctic becomes a region of conflict or one of peace and stability. Both viewpoints will be explored. NATO seeks to redefine its raison d'être and may find a role for itself in the Arctic. The GoC's actions in the present are informed by policy and reality. GoC procurement of security capabilities for the Arctic proceed, but at what cost? Does reality match policy and strategy? Most organizations, including government, engage in some form of strategic planning to plan for the future. In an uncertain future, scenario planning is one such tool used to develop alternative plausible futures to plan against. Done correctly, strategic planning should lead to regular policy and strategy reviews, which brings us full circle back to current Arctic policy.

#### Arctic Policy & Strategy Review

The GoC's policy on the Arctic can be found in four main documents. The 2004 national security review *Securing an Open Society: Canada's National Security Policy* is the umbrella document highlighting Canadian values, threats to Canada's national security, and six key security activities.<sup>10</sup> The *Canada First Defence Strategy* published by the GoC in 2008 presents a 20-year plan to rebuild the CF into a modern military capable of fulfilling its key national defense roles and six core missions, three of which relate directly to the Arctic.<sup>11</sup> *Canada's Northern Strategy* published by the Department of Aboriginal Affairs and Northern Development in 2009 presents a clear vision and integrated strategy to manage the challenges and opportunities in Canada's North.<sup>12</sup> Finally, in 2010, the Department of Foreign Affairs and International Trade

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<sup>10</sup> Privy Council Office, *Securing an Open Society: Canada's National Security Policy*.

<sup>11</sup> Department of National Defence, *Canada First Defence Strategy*.

<sup>12</sup> Minister of Indian Affairs and Northern Development, *Canada's Northern Strategy: Our North, our Heritage, our Future*.

published Canada's *Statement on Canada's Arctic Foreign Policy*, which emphasizes cooperation and respect for International Law among the Arctic states to resolve disputes, create vibrant and sustainable communities, and enable dynamic economic growth while maintaining healthy ecosystems.<sup>13</sup> Collectively, these overarching policy and strategy guidance documents will be referred to as 'Canada's Arctic policy documents' throughout this paper.

*Securing an Open Society: Canada's National Security Policy*

Canada's first-ever comprehensive national security policy directive, *Securing an Open Society*, was published in 2004. It calls for an integrated comprehensive approach inside the GoC and with key partners to more effectively prevent and respond to future security threats.<sup>14</sup> The policy is largely threat-oriented and focused on strengthening existing institutions, creating new ones and improving domestic and international communication and diplomacy in order to identify, anticipate and counter threats to Canada's national security. The policy recognizes that the CF must be flexible, responsive and combat capable in order to conduct a wide range of operations domestically and abroad that contribute to Canada's national security objectives.<sup>15</sup> *Securing an Open Society* takes a pro-active stance that places the "highest priority on countering international terrorism, preventing the proliferation of weapons of mass destruction, assisting failed and failing states, and defusing intra- and inter-state conflicts that threaten our national security."<sup>16</sup> In the international security arena, the CF's limited capacity means that deployment of the CF must be selective, strategic and meaningful and will likely be in conjunction with like-

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<sup>13</sup> Foreign Affairs and International Trade Canada, *Statement on Canada's Arctic Foreign Policy: Exercising Sovereignty and Promoting Canada's Northern Strategy Abroad*.

<sup>14</sup> Privy Council Office, *Securing an Open Society: Canada's National Security Policy*, iii.

<sup>15</sup> *Ibid.*, 50.

<sup>16</sup> *Ibid.*, 48.

minded allies.<sup>17</sup> In true neoliberal Canadian spirit, this leaves most objectives to be pursued diplomatically through international organizations and bi-lateral or multi-lateral agreements with like-minded countries.<sup>18</sup>

### *Canada First Defence Strategy*

The *Canada First Defence Strategy* published in 2008 represents the first review of Canada's defense policy since the *1994 White Paper on Defence*.<sup>19</sup> The policy recognizes that the cuts of the previous government from 1994-2006 severely reduced the CF's readiness and ability to fulfill its mandate, to include protection of Canada, Canada-U.S. defense cooperation, and meaningful contributions to international security. The *Canada First Defence Strategy* draws heavily on the post-Cold War experience of the CF to rebuild the CF into a modern first-class military. According to the document, by investing in personnel, equipment, infrastructure and training to improve readiness over the next twenty years, the CF will be able to fulfill the Government's ambitions and meet the complex security challenges of the 21<sup>st</sup> Century. The strategy takes a whole-of-government approach to detect, deter and respond to threats to Canada's sovereignty and security at home and abroad. At home, "the Canadian Forces must work closely with federal government partners to ensure the constant monitoring of Canada's territory and air

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<sup>17</sup> *Ibid.*, 50.

<sup>18</sup> Joseph S. Nye and David A. Welch, *Understanding Global Conflict and Cooperation*, 8th ed. (Boston: Longman, 2011), 59-60. Neoliberal institutionalism is a political form of liberalism that emphasizes the role of institutions as a way to resolve conflicts by providing a sense of continuity, reciprocity, and a steady flow of information.

<sup>19</sup> Department of National Defence, *1994 White Paper on Defence* (Ottawa: Government of Canada, 1994). A review of national defence policy following the end of the Cold War resulted in this document. With an assessment that future conflict will be far from Canada's shores, the White Paper called for modest reductions in capability in favor of deficit and debt reduction. By maintaining a multi-purpose, combat-capable force, Canada would retain the capability to make a significant and responsible contribution to international peace and stability, whether within a UN framework, through NATO, or in coalitions of like-minded countries.

and maritime approaches, including in the Arctic, in order to detect threats to Canadian security as early as possible.”<sup>20</sup>

### *Canada’s Northern Strategy*

The changing environment in the Arctic and the implications for Canadian sovereignty and security weighs heavily in the current Government’s policy and funding decisions. In 2009, the Canadian Government released *Canada’s Northern Strategy*, which establishes a clear vision and integrated strategy to preserve and protect Canada’s Northern heritage. It accomplishes these aims by strengthening domestic and international partnerships in order to seize opportunities and address challenges in the Arctic region.<sup>21</sup> The strategy focuses on four priority areas to secure Canada’s vital national interests in the region: promoting social and economic development, improving and devolving northern governance, protecting the North’s environmental heritage, and exercising Canada’s Arctic sovereignty.<sup>22</sup>

Exercising Canada’s sovereignty means maintaining a strong presence, enhancing stewardship, defining the domain and enhancing knowledge of the region.<sup>23</sup> The CF has a very small role to play in the first three priority areas, but it is very active with regards to sovereignty. By improving the CF’s capability and capacity to operate in the Arctic on land, sea or in the sky, *Canada’s Northern Strategy* calls on the CF to firmly assert its presence in the North.<sup>24</sup> The CF and Canadian Coast Guard (CCG) are mandated to conduct operations in the Arctic, including

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<sup>20</sup> Department of National Defence, *Canada First Defence Strategy*, 7.

<sup>21</sup> Minister of Indian Affairs and Northern Development, *Canada's Northern Strategy: Our North, our Heritage, our Future*, 36-39.

<sup>22</sup> *Ibid.*, Intro.

<sup>23</sup> *Ibid.*, 9.

<sup>24</sup> *Ibid.*, 9.



control of Northern airspace.<sup>25</sup> Together, they exercise Canadian sovereignty through regular patrols by the Canadian Rangers, North American Aerospace Defense Command (NORAD) surveillance and response operations, and annual sovereignty operations by the CF in concert with the Royal Canadian Mounted Police and other government departments. The strategy also calls for a number of capital investments in order to strengthen the ability of the CF and CCG to project force into Canada's North. New Arctic Offshore Patrol Ships (AOPS), icebreakers and an Arctic Training Centre are among the planned upgrades to CF and CCG capability. Aside from stewardship and ongoing diplomacy to define Canada's Arctic domain, these enhanced capabilities will be the primary means with which Canada will exercise its Arctic sovereignty over the next twenty years.

*Statement on Canada's Arctic Foreign Policy*

Canada's faith in diplomacy and international institutions is at the root of its Arctic strategy and foreign policy as made clear by the statement, "Canada does not anticipate any military challenges in the Arctic and believes that the region is well managed through existing institutions, particularly the Arctic Council."<sup>26</sup> Canada is set to assume the chair of the Arctic Council in 2013 and has signaled that it is willing to pursue reform for the high-level, consensus-based, international forum in order to make it more relevant for the future challenges of the Arctic. Canada advocates that cooperation among the Arctic states must be founded upon mutual respect and acceptance of the sovereignty of Arctic nations. Its foreign policy takes an integrated whole of government approach to send a clear message: "Canada is in control of its Arctic lands

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<sup>25</sup> Ibid., 10.

<sup>26</sup> Foreign Affairs and International Trade Canada, *Statement on Canada's Arctic Foreign Policy: Exercising Sovereignty and Promoting Canada's Northern Strategy Abroad*, 26.

and waters and takes its stewardship role and responsibilities seriously.”<sup>27</sup> Exercising Canada’s sovereignty is the GoC’s number one Arctic foreign policy priority and is to be accomplished by resolving boundary issues, securing international recognition for the full extent of its extended continental shelf, and promoting effective Arctic governance at all levels within the region.<sup>28</sup>

Canada’s Arctic policy documents make it clear that Canada’s strategy for the Arctic is to act through the three D’s - defense, diplomacy and development. Doing so will support the people of the North, strengthen the various levels of Government, grow the economy, protect the environment, and improve its understanding through Arctic scientific research. By doing so, Canada is letting the world know that it takes its Arctic responsibilities seriously and has a strategy to prevent Canada’s North from becoming a vast ungoverned space vulnerable to the myriad of threats facing all arctic nations. Perhaps the clearest definition of an ungoverned space is from RAND Project Air Force who use the term ungoverned territories:

Ungoverned territories are areas in which a state faces significant challenges in establishing control. They can be failed or failing states, poorly controlled land or maritime borders, or areas within otherwise viable states to which the central government’s authority does not extend.<sup>29</sup>

Ungoverned spaces are ripe for exploitation by opportunistic state and non-state actors. The latter category comprising of enterprising criminals and terrorists who tend to thrive in a security vacuum. The sparsely populated Arctic makes up almost 40% of Canada’s land mass and has the potential to become an ungoverned space in a warming climate if not managed properly.

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<sup>27</sup> Ibid.

<sup>28</sup> Ibid., 4-9.

<sup>29</sup> Angel Rabasa et al., *Ungoverned Territories: Understanding and Reducing Terrorism Risks* (Santa Monica, CA: RAND Corporation, 2007), xv.

## The Arctic Operating Environment

### Resources, Sea Routes & Strategic Significance

According to Canada's Northern Strategy, "the North is a fundamental part of our heritage and our national identity, and it is vital to our future."<sup>30</sup> Canada points to the enormous economic potential due to rapid climate change as a requirement for urgent attention.<sup>31</sup> The lure of the North is due to world-class diamond mines, massive oil and gas reserves, commercial fisheries, tourism potential and new transportation routes.<sup>32</sup> Canada is already the world's third largest diamond producer.<sup>33</sup> According to the U.S. Geological Survey, the Arctic Circle accounts for roughly 13 percent of the world's undiscovered oil and 30 percent of its undiscovered natural gas, most of it offshore.<sup>34</sup> Fish is a key export of Norway, Iceland and Greenland. Arctic fisheries, if well managed, may continue to grow for Arctic nations as access increases due to global warming.<sup>35</sup> Increased access and development in the Arctic will continue to encourage the already growing tourism industry.<sup>36</sup> Each of the Arctic nations recognizes the huge potential that the Arctic holds. Four of the five nations bordering the Arctic Sea are submitting claims for the

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<sup>30</sup> Minister of Indian Affairs and Northern Development, *Canada's Northern Strategy: Our North, our Heritage, our Future*, Introduction.

<sup>31</sup> *Ibid.*, 5.

<sup>32</sup> *Ibid.*, 5.

<sup>33</sup> "Canada: A Diamond-Producing Nation." Natural Resources Canada, <http://www.nrcan.gc.ca/minerals-metals/business-market/3630> (accessed January 14, 2013). Canada ranks 3rd behind Botswana and Russia and employs 30-40% aboriginals.

<sup>34</sup> U.S. Geological Survey, *90 Billion Barrels of Oil and 1,670 Trillion Cubic Feet of Natural Gas Assessed in the Arctic*, ed. USGS Newsroom (Washington, D.C.: U.S. Geological Survey, 2008).

<sup>35</sup> Charles Emmerson and Glada Lahn, *Arctic Opening: Opportunity and Risk in the High North* (London: Chatham House, 2012), 27.

<sup>36</sup> *Ibid.*, 31.

extension of their continental shelves under the United Nations Convention on the Law of the Sea (UNCLOS) in order to extend their Economic Exclusion Zones (EEZ) beyond the 200 nautical mile limit. They include Canada, Russia, Denmark (on behalf of Greenland) and Norway. UNCLOS is the primary international legal framework for the Arctic, providing a comprehensive constitution for the oceans covering 25 subjects and issues.<sup>37</sup> The original 1982 agreement, since ratified by 165 countries, is the internationally recognized law regarding the management of international waters, maritime boundary disputes and territorial claims. The U.S. is not a signatory to UNCLOS and cannot, therefore, submit a claim to extend its EEZ under the provisions of UNCLOS. It is the economic potential of the extended EEZs that makes the region strategically significant.

In addition to resources, Arctic shipping routes are expected to reduce the travel distance and time from Asia to Europe by 40% compared to the traditional shipping routes. Arctic shipping offers the potential for improved security when one considers the potential for piracy or political instability along traditional routes.<sup>38</sup> Navigation through Arctic waters via the Northwest Passage (NWP) or the Northern Sea Route is near impossible in winter and fraught with challenges in the summer months when the ice pack melts sufficiently to permit navigation. During the 2012 navigation season, 46 commercial ships, primarily carrying petroleum and energy commodities, transited the Northern Sea Route, up from just four in 2010.<sup>39</sup> Large tankers transiting the route from Northern Europe to Asia can save an average of 21.4 days and \$8.3

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<sup>37</sup> United Nations Convention on the Law of the Sea of 10 December 1982, "Overview and Full Text," United Nations - Office of Legal Affairs, [http://www.un.org/depts/los/convention\\_agreements/convention\\_overview\\_convention.htm](http://www.un.org/depts/los/convention_agreements/convention_overview_convention.htm) (accessed February 28, 2013).

<sup>38</sup> Jeppe Kofod, *Arctic Economic Opportunities, Environmental Obligations and Security Stakes* (Brussels: NATO Parliamentary Assembly, 2012), 10.

<sup>39</sup> Trude Pettersen, "46 Vessels through Northern Sea Route," *Barents Observer*, November 23, 2013.

million round trip.<sup>40</sup> China is especially interested in the Arctic as it recognizes the strategic importance of the Arctic in terms of resources and trade routes.<sup>41</sup>

### Global Interest in the Arctic

Notwithstanding the obvious national interests of the Arctic nations, several non-Arctic countries are “taking an acute interest in the region and want to be seen as legitimate players in these waters.”<sup>42</sup> China, Japan, S. Korea, India, Germany and the European Union (EU) each have significant interests in the Arctic, predominantly tied to resources and sea routes. Asian export countries and the consumer countries of the EU stand to benefit considerably from shortened commercial shipping routes. China and India, both with growing populations and economies, also seek access to the vast oil, gas and mineral deposits and new fisheries that the Arctic promises. It is no surprise then, that these countries, led by China and the EU, claim that the sea routes and natural resources of the Arctic should be open to the entire world.<sup>43</sup>

The EU knows that the Arctic is an area of growing strategic importance and holds the belief that there is room for improvement with regards to Arctic governance.<sup>44</sup> Arctic Nations on the other hand, hold the position that the International Maritime Organization (IMO), the United Nations (UN) and UNCLOS and the Arctic Council are sufficiently adequate to provide for

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<sup>40</sup> Centre for High North Logistics, "CHNL's Workshops," , <http://www.chnl.no/?page=4&show=90&news=47&title=CHNL%27s+Workshops> (accessed March 1, 2013).

<sup>41</sup> David Curtis Wright, *The Dragon Eyes the Top of the World* (Newport, Rhode Island: China Maritime Studies Institute U.S. Naval War College, 2011), 4.

<sup>42</sup> Kofod, *Arctic Economic Opportunities, Environmental Obligations and Security Stakes*, 5.

<sup>43</sup> Wright, *The Dragon Eyes the Top of the World*, 7.

<sup>44</sup> The European Union Commission, *Developing a European Union Policy Towards the Arctic Region: Progress since 2008 and Next Steps, Joint Communication to the European Parliament and the Council* (Brussels, 2012), 3.

peaceful governance in the Arctic. To the EU, however, the main problems are, “the fragmentation of the legal framework, the lack of effective instruments, the absence of an overall policy-setting process, and gaps in participation, implementation and geographic scope.”<sup>45</sup> The EU also recognizes that the geo-strategic dynamics of the Arctic will have potential consequences for international stability and European security interests.<sup>46</sup> By working with its Arctic partners, the EU seeks to play a role in supporting cooperation in order to meet the challenges of the region. Due to the potentially adverse impact that climate change or environmental catastrophe might have on Europe, EU policy is also focused on safeguarding the environment while ensuring the sustainable development of the Arctic region.<sup>47</sup> The EU is currently an ad-hoc observer to the Arctic Council and in 2009, had its application for permanent observer status denied by member states that were angered over the EU’s ban on seal product imports. Arctic nations saw the ban as evidence that the EU was insensitive to Arctic matters.<sup>48</sup> Most recently, the EU’s actions have been primarily reserved to lobbying for its re-application for observer status submitted in December 2011, scientific research in the region, and financially supporting some initiatives of its own Arctic member states.<sup>49</sup>

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<sup>45</sup> The European Union Commission, *The European Union and the Arctic Region, Communication from the Commission to the European Parliament and the Council* (Brussels, 2008), 9.

<sup>46</sup> *Ibid.*, 10.

<sup>47</sup> The European Union Commission, *Developing a European Union Policy Towards the Arctic Region: Progress since 2008 and Next Steps, Joint Communication to the European Parliament and the Council*, 2-3.

<sup>48</sup> Kevin Dias and James Manicom, *Canada and the Arctic Council: What Will Change in 2013-2015?* (Waterloo, ON: The Centre for International Governance Innovation, 2012), <http://www.cigionline.org/articles/2012/08/canada-and-arctic-council-what-will-change-2013-2015> (accessed January 16, 2013).

<sup>49</sup> The European Union Commission, *Developing a European Union Policy Towards the Arctic Region: Progress since 2008 and Next Steps, Joint Communication to the European Parliament and the Council*, 11-12.

China has been actively involved in Arctic research. The icebreaker Xuelong completed its fifth Arctic research expedition in September, 2012.<sup>50</sup> According to Li Zhenfu, scientific activity in the Arctic is, “clearly tributary to the nation’s geopolitical considerations and regional strategic posturing.”<sup>51</sup> Chinese foreign policy on the Arctic is still being debated, but, it is clear that China sees a role for itself in Arctic affairs and prefers a cooperative international approach, if only to secure access to the vast resource potential and valuable sea routes. The following statement highlights their reasoning:

China is a northern hemisphere country, and changes in the cold air activity of the Arctic region and the atmospheric circulation of high-latitude climates have direct influences on China’s weather and climate and obvious effects on China’s ecological and environmental system and its agricultural production and other social and economic activities. The melting of Arctic ice quickly raises global sea levels and influences the economic and social development of China’s eastern coastal regions. Arctic matters do, therefore, have multiple bearings on China’s natural environment, economy, and society. They influence the sustainability of China’s development. The government of China is, therefore, greatly concerned about them.<sup>52</sup>

On September 9<sup>th</sup>, 2012, China and Canada signed a Foreign Investment Promotion and Protection Agreement (FIPA) to facilitate investment flows between Canada and China.<sup>53</sup> On December 7<sup>th</sup>, 2012, Canada approved the \$15-billion takeover of Nexen by the China National Offshore Oil Corporation (CNOOC), a state-owned Chinese oil company.<sup>54</sup> China has also been

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<sup>50</sup> "Chinese Icebreaker Concludes Arctic Expedition." *Xinhua*, September 27, 2012.

<sup>51</sup> Wright, *The Dragon Eyes the Top of the World*, 9. Li Zhenfu is one of the most emphatic Chinese commentators on the Arctic.

<sup>52</sup> *Ibid.*, 28-29. Spoken by Hu Zhengyue, China's assistant minister of foreign affairs in 2009.

<sup>53</sup> Foreign Affairs and International Trade Canada, "Canada-China Foreign Investment Promotion and Protection Agreement (FIPA) Negotiations," , <http://www.international.gc.ca/trade-agreements-accords-commerciaux/agr-acc/fipa-apie/china-chine.aspx?lang=eng&view=d> (accessed December 21, 2012).

<sup>54</sup> Ian Austen, "Canada Clears \$15 Billion Chinese Takeover of an Energy Company," *NY Times*, December 7, 2012.

an ad-hoc observer to the Arctic Council since 2007 and is actively seeking status as a permanent observer.<sup>55</sup> As a permanent observer, China can attempt to influence decisions and future policy to ensure they are in China's national interests. In Ambassador Lan's statement to the Council, he refers to China as a near-Arctic country and points out that many Arctic issues, such as natural changes and economic development, are trans-regional due to their impact on non-Arctic nations.<sup>56</sup> This is very similar to the position taken by the EU. China's actions appear to be in line with Li Zhenfu's position that, "China should, at the national level, rely on real strengths in the formulation of international law, scientific investigations, and jurisdiction over resources and sea routes and do its utmost in the Arctic to make its own voice heard and strengthen its own right to speak up. Only those who become owners of resources will be able to obtain their rightful value."<sup>57</sup> China and the EU both appear to be taking a very pragmatic and strategic approach to the Arctic, emphasizing cooperation and the rule of international law to secure their interests.

There are varying opinions and debates about how the future of the Arctic will unfold. There exists the potential that the Arctic may become an area of strategic rivalry and the object of a new "great game", while others believe that a spirit of cooperation will ensue.<sup>58</sup> There are many factors at play that in the end, will determine whether the Arctic will trend towards conflict or cooperation.

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<sup>55</sup> Lan Lijun, *Statement by H.E. Ambassador Lan Lijun at the Meeting between the Swedish Chairmanship of the Arctic Council and Observers* (Stockholm: Arctic Council, 2012). The meeting was held in Stockholm, Sweden on November 6, 2012.

<sup>56</sup> *Ibid.*

<sup>57</sup> Wright, *The Dragon Eyes the Top of the World*, 15.

<sup>58</sup> Kofod, *Arctic Economic Opportunities, Environmental Obligations and Security Stakes*, 4.



## Cooperation

Dr. Michael Byers holds a Canada Research Chair in Global Politics and International Law and is one of the leading political scientists and government advisors on Arctic issues. Dr. Byers is among those that do not believe that the Arctic will be characterized by military conflict. He points out that 75% of the Arctic is made up of uncontested land and sea claims by the five coastal Arctic nations. These claims include the sovereign land masses of each respective country and the 200-mile economic exclusion zone allowed under UNCLOS. There are some managed disputes between Canada and the U.S. over the maritime boundary of the Beaufort Sea, and between Canada and Denmark over Hans Island and the Lincoln Sea boundary. Dr. Byers believes that, notwithstanding the occasional political rhetoric, peaceful resolution of these conflicts is inevitable and likely to follow the example of the recent dispute resolution between Finland and Russia over the maritime boundary in the Barents Sea.<sup>59</sup>

Canada faces two other disputes. First, under UNCLOS, each of the Arctic nations can claim an extension to their economic exclusion zones if scientific evidence can demonstrate that the seabed is a natural prolongation of the continental shelf closer to their shore.<sup>60</sup> So far, the Arctic nations have been working together and cooperating on the scientific mapping of the seabed floor, but overlapping claims will require resolution through UNCLOS.<sup>61</sup> Perhaps the biggest dispute concerning Canada is its assertion that, “the Northwest Passage is ‘Canadian internal waters’ to which access is not permitted without Canada’s consent.”<sup>62</sup> The U.S. and

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<sup>59</sup> Jess Worth and Michael Byers, "Who Owns the Arctic?" *New Internationalist*, no. 424 (July, 2009), 17.

<sup>60</sup> *Ibid.*

<sup>61</sup> *Ibid.* Canada and the US are partnering with two icebreakers (one each) to map the Beaufort Sea. Canada and Denmark have cooperated in chartering a Russian icebreaker north of Greenland. There have been regular technical meetings between scientists from all five countries.

<sup>62</sup> *Ibid.*

China claim the NWP should be an ‘international strait’ open to shipping with minimal restriction.<sup>63</sup> The position of the GoC is that each of these disagreements is well managed and they do not pose a defense challenge, nor do they diminish Canada’s ability to work collaboratively with its neighbors.<sup>64</sup> Resolving these disputes is currently a priority for the GoC.<sup>65</sup> In June 2010, the Standing Committee on National Defence stated, “We strongly believe that we need to do all that we can to prevent the militarization of the Arctic.”<sup>66</sup>

The Arctic Council is a high-level intergovernmental forum to provide a means for promoting cooperation, coordination and interaction among the Arctic States, in particular issues of sustainable development and environmental protection in the Arctic.<sup>67</sup> While the Arctic Council deliberately excluded security issues from its mandate in 1996, it has been a successful forum for cooperation among the Arctic nations.<sup>68</sup> In 2008, the members of the Arctic Council signed the Ilulissat Declaration, which commits the Arctic nations to follow the existing international legal framework that applies to the Arctic Ocean and to the orderly settlement of any overlapping claims.<sup>69</sup> As one scholar noted, the Arctic Council “relies on consensus and repeated

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<sup>63</sup> Matthew Carnaghan and Allison Goody, *Canadian Arctic Sovereignty* (Ottawa: Parliamentary Information and Research Service, 2006), 4-5.

<sup>64</sup> Foreign Affairs and International Trade Canada, *Statement on Canada's Arctic Foreign Policy: Exercising Sovereignty and Promoting Canada's Northern Strategy Abroad*, 7.

<sup>65</sup> *Ibid.*, 7.

<sup>66</sup> Anneta Lytvynenko, *Arctic Sovereignty Policy Review* (Ottawa: Government of Canada, 2011), 1.

<sup>67</sup> Arctic Council, "About the Arctic Council," , <http://www.arctic-council.org/index.php/en/about> (accessed January 10, 2012).

<sup>68</sup> Anneta Lytvynenko, *Arctic Sovereignty Policy Review*, 4. At the insistence of the U.S., security was not added to the mandate when the forum was created in 1996.

<sup>69</sup> Arctic Council, "The Ilulissat Declaration - Arctic Ocean Conference" (Ilulissat, Greenland, May 28, 2008).

interaction to increase the benefits of cooperation on Arctic issues and create an incentive to comply with established rules.”<sup>70</sup> In 2011, the Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic represented the Arctic Council’s first legally binding agreement signed by all eight Arctic nations. The Agreement demonstrates a commitment to cooperation among the Arctic nations on emerging issues in the region.<sup>71</sup> As Canada assumes the chair of the Arctic Council in 2013 it is expected to encourage the Arctic Council to expand its mandate to include security.<sup>72</sup>

In addition to the Arctic Council, there are other international bodies such as the UN, IMO, and the North American Treaty Organization (NATO) that may provide other avenues for peace and cooperation in the Arctic. Several thinkers point to UNCLOS and the Ilulissat Declaration as the chief reasons to believe that cooperation and peace will prevail in the Arctic. While the U.S. is not a signatory to UNCLOS, they observe its regulations as customary law. As already stated, China is currently a strong advocate for peace and desires a role in order to pursue its own national interests. Even Russia, commonly portrayed as the state most likely to behave in an aggressive nature to secure its interests, negotiated a treaty with Norway over the Barents Sea dispute.<sup>73</sup> Russia’s actions in the Arctic generally reflect an attitude of cooperation and even the Norwegian Government felt no concern over Russia’s plans to improve its military capabilities in

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<sup>70</sup> Darrin D. Davis, "Arctic Sovereignty Disputes: International Relations Theory in the High North" (U.S. Naval Postgraduate School, 2011), 69.

<sup>71</sup> Arctic Council, "Task Force on Search and Rescue," <http://www.arctic-council.org/index.php/en/about-us/task-forces/282-task-force-on-search-and-rescue> (accessed January 10, 2012).

<sup>72</sup> Anneta Lytvynenko, *Arctic Sovereignty Policy Review*, 4.

<sup>73</sup> Davis, *Arctic Sovereignty Disputes: International Relations Theory in the High North*, 68-69.

the North.<sup>74</sup> Michael Byers points out that, “You have to stretch a bit to find a security threat! But they are not inconceivable.”<sup>75</sup> To him, the chief concerns are safeguarding the environment and policing non-state actors such as intrepid pirates, criminal organizations who traffic in drugs or humans and terrorists who seek to utilize the Arctic in some way.<sup>76</sup> Addressing these mutual threats is likely to lead to more cooperation, not less.

### Conflict

While each of the Arctic nations publicly calls for greater cooperation in the region, skeptics such as Heather Conley from the Center for Strategic and International Studies, point out that there is currently no single regional or international organization that can address security concerns.<sup>77</sup> Russia is not a member of NATO and, as previously discussed; the Arctic Council’s mandate does not include security. The U.S. is not a signatory to UNCLOS and some authors believe that if they do not ratify in the very near future it may undermine the legal foundations for cooperation between Arctic nations.<sup>78</sup> Finally, there are a number of disputes in the region surrounding possession of islands, maritime boundaries, continental shelves and EEZs, the legal interpretation of UNCLOS, and the right of naval commerce to transit through Arctic waters. Avoiding conflict means nations must work together in a spirit of cooperation to resolve their differences. Despite policy statements among Arctic and non-Arctic nations and institutions calling for greater diplomacy and cooperation in the region, increasing militarization, posturing,

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<sup>74</sup> Worth and Byers, *Who Owns the Arctic?*, 16-17

<sup>75</sup> *Ibid.*, 17.

<sup>76</sup> *Ibid.*, 17.

<sup>77</sup> Heather A. Conley, Terry Toland and Jamie Kraut, *A New Security Architecture for the Arctic* (Washington, D.C.: Center for Strategic & International Studies, 2012), 13.

<sup>78</sup> Packard C. Trent, "An Evaluation of the Arctic - Will it Become an Area of Cooperation Or Conflict" (U.S. Naval Postgraduate School, 2011), 84-85.

NATO exercises, and renewed Russian intrusions into North American and Northern European airspace highlight the potential for state conflict.<sup>79</sup>

Dr. Robert Huebert is the associate director of the Centre for Military and Strategic Studies at the University of Calgary and an expert on Canadian security and Arctic issues. He believes that as the strategic importance in the region rises, the continued militarization of the Arctic poses a very real threat that conflict may ensue.<sup>80</sup> Dr. Huebert warns that increasing defense expenditures and posturing of each of the Arctic nations will lead to conflict. Canada, Denmark, Norway, Russia and the United States are all rebuilding their Arctic capabilities and investing in the Arctic, some more than others.<sup>81</sup> Although none of the nations have expressed a need to confront their neighbors in their national Arctic policy or national security strategy, they are all seeking to expand their ability to operate in the Arctic as the sea ice gradually recedes. With four of the five Arctic nations belonging to NATO, the potential for conflict between NATO allies is slim, but NATO's tenuous relationship with Russia is cause for concern.

Russia, by far the most aggressive and unpredictable of the Arctic nations, has the potential for the greatest threat to peace in the region. To Dr. Huebert, Russia is a recovering world power and the rejuvenation of its military is directly linked to the state-owned energy resource sector in the Arctic.<sup>82</sup> Russia's policy objectives include protecting their natural resources and sea routes in the Arctic while deterring non-Arctic states and potential terrorists from inflicting undue influence in the region.<sup>83</sup> Arctic-based carrier groups and nuclear-capable

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<sup>79</sup> Huebert, *The Newly Emerging Arctic Security Environment*, 17.

<sup>80</sup> *Ibid.*, 22.

<sup>81</sup> *Ibid.*, 4.

<sup>82</sup> *Ibid.*, 15.

<sup>83</sup> Charles Emmerson, *The Future History of the Arctic* (New York: Public Affairs, 2010), 203.

submarine fleets are part of Russia's plan to protect their vital national interests and to project power abroad. This is far from the constabulary missions most other Arctic nations are preparing for.<sup>84</sup>

It is natural that, as Arctic traffic increases, each nation must be able to respond to natural or man-made disasters, emergencies, and external threats in the Arctic. To do so requires military capabilities such as: Arctic icebreakers and naval vessels capable of operating in Northern waters; submarines; search and rescue aircraft; drones and aircraft for remote monitoring of coastlines and waterways; deep-water seaports to support domestic naval operations; and satellites for GPS navigation, communication and surveillance. Since 2009, all of the Arctic nations have issued public policy statements advocating peace and stability for the Arctic while building up their militaries; ostensibly for constabulary duties as the Arctic Ocean warms or to guard against aggressive actions by non-Arctic nations. Regardless of the reasons, as the Arctic nations improve their military means in the Arctic, so improves the probability that one or more of the nations may choose to use those means to pursue their national interests and achieve their policy objectives unilaterally. This is especially true if realist ideologies take hold and states seek to consolidate economic, military and political power in the Arctic in an attempt to establish a regional hegemony. Presently, Russia and the U.S. are the only two Arctic states with global aspirations and capabilities.<sup>85</sup>

It is conceivable that as China's size and power status grows, Beijing will become even more dependent on international shipping and Arctic resources for its economic, social and political stability.<sup>86</sup> If China determines that the geo-political situation in the Arctic is moving

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<sup>84</sup> Huebert, *The Newly Emerging Arctic Security Environment*, 16.

<sup>85</sup> Davis, *Arctic Sovereignty Disputes: International Relations Theory in the High North*, 66.

<sup>86</sup> Wright, *The Dragon Eyes the Top of the World*, 38.

counter to its vital national interests, then Beijing may become much more assertive. This is especially likely as its military capabilities increase while growing debts force Western militaries to shrink. China is cautious in its approach to the Arctic while an atmosphere of cooperation reigns, but it may not always be so. “At a minimum it is in the interest of the United States and the other [Arctic] NATO democracies to maintain defensive capabilities for safeguarding the security of the Arctic Region.”<sup>87</sup> The Arctic nations need not only contend with each other on matters of Arctic security, but with non-Arctic states as well.

#### NATO's Role in the Arctic

NATO would like to carve out a role for itself in the Arctic as part of its renewed attention to its collective defense mandate. The future strategic concept for NATO asserts that the Alliance’s ability to deter and defend member states against any threat of aggression “should be reaffirmed in unmistakable terms.”<sup>88</sup> Historically, “NATO has long played a role in security matters in the High North and considered the region a front line of defense against the Soviet Union during the Cold War.”<sup>89</sup> As a minimum, the Alliance must account for the region in its planning.<sup>90</sup>

With the exception of the NATO-Russia Council, Russia stands outside NATO and is vehemently opposed to any role by NATO in the region. They believe the region is a zone of

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<sup>87</sup> Ibid.

<sup>88</sup> NATO, *NATO 2020: Assured Security; Dynamic Engagement: Analysis and Recommendations of the Group of Experts on a New Strategic Concept for NATO* (Brussels: NATO Public Diplomacy Division, 2010), 19. As embodied in Article 5.

<sup>89</sup> Kofod, *Arctic Economic Opportunities, Environmental Obligations and Security Stakes*, 16.

<sup>90</sup> Ibid., 16.

peaceful and economic cooperation and that NATO has no part to play there.<sup>91</sup> Russia's policy of cooperation highlights that the Arctic Council and the Ilulissat Declaration represent clear reasons for cooperation and keeping NATO out of the Arctic.<sup>92</sup> Tensions between NATO and Russia exist for a myriad of reasons that are outside the scope of this paper. In the Arctic, however, they are manifested primarily in the Russian long-range bomber flights and Russia's negative perception of NATO involvement in Arctic exercises. Despite Russia's objection, NATO countries continue to participate in a number of bi-lateral or multi-lateral exercises in order to improve preparedness, joint training, transparency and collaboration.<sup>93</sup>

There is no consensus among NATO allies on the role of NATO in the Arctic outside of NATO's Article 5 commitment, whereby "an attack against one is an attack against all. This extends to the Arctic and factors into the general defense and security strategies of Canada, Denmark, Norway and to a lesser extent, the United States."<sup>94</sup>

Canada is strongly opposed to the involvement of the Alliance in the Arctic on sovereignty grounds, but also because it has an ally in Russia who echoes Canada's position that the Arctic straits within its EEZ are internal waters.<sup>95</sup> Canada, therefore, sees Russia as an Arctic ally since both share the same interpretation of international maritime law regarding marine traffic in the sensitive Arctic. As such, both declare Arctic waters within their EEZ as domestic waters subject to national law, collectively controlling trade along the Northern Sea Route and the NWP. Canada and Russia also have the most to gain or lose as countries submit competing bids

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<sup>91</sup> Conley, Toland, and Kraut, *A New Security Architecture for the Arctic*, 33-34.

<sup>92</sup> *Ibid.*, 33-34.

<sup>93</sup> *Ibid.*, 30.

<sup>94</sup> *Ibid.*, 30.

<sup>95</sup> Kofod, *Arctic Economic Opportunities, Environmental Obligations and Security Stakes*, 12.



for their extended continental shelf, especially over the potentially resource-rich Lomonosov Ridge.

Cooperation will be key to managing the dispute until a decision is announced sometime in the future. Canada, therefore, believes it can protect its Arctic interests and provide for its sovereign security without the active participation of the Alliance. Involving the Alliance in more than its traditional Article 5 defense role has the potential to harm Canada's relationship with Russia. Advocates of NATO involvement, however, believe the Alliance could fill the role of the non-existent regional security forum for the Arctic and that NATO can be instrumental in providing a forum for dialogue, information sharing, contingency planning, disaster relief and air/sea search and rescue.<sup>96</sup>

#### Canadian Arctic Security Initiatives

Canada has said that it will act unilaterally to protect its sovereignty if it must and that “we will never waiver in our commitment to protect our North.”<sup>97</sup> In *Canada's Northern Strategy*, the government listed a number of military capabilities it planned to invest in to improve its capabilities in the North. All are in some form of design or development, however, most now have delivery dates significantly delayed from their original timeframes. Fiscal reality and shrinking budgets following the 2008 financial crisis is one reason, but so is the GoC's assessment that a military threat in the near to mid-term is unlikely.<sup>98</sup>

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<sup>96</sup> Conley, Toland, and Kraut, *A New Security Architecture for the Arctic*, 30-35.

<sup>97</sup> Foreign Affairs and International Trade Canada, *Statement on Canada's Arctic Foreign Policy: Exercising Sovereignty and Promoting Canada's Northern Strategy Abroad*, 26-27.

<sup>98</sup> Canadian Forces, *Canadian Forces Northern Employment and Support Plan* (Ottawa: Government of Canada, 2012), 6 and 31.

Canada's National Shipbuilding Procurement Strategy (NSPS) is a long-term plan to replace the CF's and the CCG's ageing fleet of ships.<sup>99</sup> Canada's Arctic strategy initially called for up to three new Icebreakers to augment or replace Canada's existing and ageing fleet of six icebreakers. The oldest icebreaker, the Louis St. Laurent was commissioned in 1969 and is scheduled for decommissioning in 2017. The rest of the icebreakers are at least 25-years old with an average of 10-years remaining until they are retired.<sup>100</sup> The Canadian Coast Guard Ship John D. Diefenbaker is set to replace the Louis St. Laurent and is in the design phase with contract award of up to \$720-million expected in Fall 2013 for delivery in 2017.<sup>101</sup> The NSPS includes the procurement of six to eight Arctic/Offshore Patrol Ships with a definition contract awarded in January 2013.<sup>102</sup> Due to a reduced threat and budgetary constraints, the specifications for the vessels have been scaled back significantly from what was initially envisioned and it is questionable whether they will even be armed.<sup>103</sup> Construction is slated to begin in 2015 with the first ship delivered in 2018 and all ships fully operational by 2023.<sup>104</sup> The contract awarded in

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<sup>99</sup> Public Works and Government Services Canada, "Government of Canada Announces National Shipbuilding Procurement Strategy," Government of Canada, <http://news.gc.ca/web/article-eng.do?ctr.sj1D=&mthd=advSrch&ctr.mnthndV1=12&nid=537299> (accessed January 20, 2013).

<sup>100</sup> Brian Leblanc, *Powerpoint Presentation: State and Outlook of the Canadian Icebreaker Fleet*: Canadian Coast Guard, 2011).

<sup>101</sup> Ibid.

<sup>102</sup> Public Works and Government Services Canada, "Briefing for Nova Scotia Government Delegation," Government of Canada, <http://www.tpsgc-pwgsc.gc.ca/app-acq/sammps/nouinfor-novadel-eng.html> (accessed January 20, 2013).

<sup>103</sup> Michael Byers, "You Can't Replace Real Icebreakers," *Globe and Mail*, March 27, 2012, <http://www.theglobeandmail.com/commentary/you-cant-replace-real-icebreakers/article534351/> (accessed January 20, 2013).

<sup>104</sup> Canada's Economic Action Plan, "Accomplishments in the North," Government of Canada, <http://actionplan.gc.ca/page/accomplishments-north> (accessed January 20, 2013).

2010 under the NSPS for the delivery of two Joint Support Ships is also delayed until 2018, but at 7% inflation per year in the shipbuilding industry, a design-to-cost initiative is underway to determine what capability can be cut to remain within the \$2.6-billion budget.<sup>105</sup>

In addition to ships, a \$706-million contract for the RADARSAT Constellation was awarded in January 2013 for delivery in 2018 and will boost Canada's surveillance capability in the Arctic considerably.<sup>106</sup> The Canadian Forces Arctic Training Centre is currently undergoing construction in Resolute Bay, Nunavut and is expected to be complete by Fall 2013.<sup>107</sup> In 2009, the contract was awarded for the deep-water docking and refueling facility in Nanisivik, Nunavut; however, a new design phase was initiated in 2012 to account for a reduction in funding for the project. The project is slated for completion in 2017.<sup>108</sup> The Canadian Rangers expansion from 4,000 to 5,000 and the requisite equipment update is underway and is expected to be completed by 2018 at a cost of \$12-million per year.<sup>109</sup>

As mentioned throughout Canada's Arctic policy documents, the GoC is committed to a whole of government (WoG) approach to the Arctic across a spectrum of operations that include

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<sup>105</sup> Murray Brewster, "Navy Supply Ships Set to Join F-35 as Political Lightning Rod in 2013," *Ottawa Citizen*, January 6, 2013, <http://www.ottawacitizen.com/technology/Navy+supply+ships+join+political+lightning+2013/7781490/story.html> (accessed January 20, 2013).

<sup>106</sup> Brent Jang, "Contract Gives MacDonald Dettwiler a \$706-Million Arctic View," *Globe and Mail*, January 9, 2013, <http://www.theglobeandmail.com/globe-investor/contract-gives-macdonald-dettwiler-a-706-million-arctic-view/article7138167/> (accessed January 20, 2012).

<sup>107</sup> Canada's Economic Action Plan, *Accomplishments in the North*.

<sup>108</sup> *Ibid.*

<sup>109</sup> *Ibid.*; Prime Minister's Office, "Expanding Canadian Forces Operations in the Arctic," Government of Canada, <http://www.pm.gc.ca/eng/media.asp?id=1785> (accessed January 20, 2013).

safety, security and defense.<sup>110</sup> In 2010, Canada made the unilateral declaration that all waterways within the Canadian Archipelago are internal waterways and subject to mandatory reporting under NORDREG. According to the Arctic Institute, “states tend to resort to unilateral measures for environmental-related objectives. Yet environmental protection is seldom the only motive. The bigger picture clearly involves political, strategic and economic considerations.”<sup>111</sup> Originally implemented in 1977 as a voluntary reporting system, in 2010 Canada made compliance with the Arctic marine traffic system NORDREG mandatory.<sup>112</sup> NORDREG was implemented to safeguard the Canadian Arctic marine environment and is now enforced by the full weight of the law under the *Canada Shipping Act 2001*.<sup>113</sup> Although fully supported by UNCLOS Article 234, Canada’s unilateral action on the matter was immediately contested in the international arena.<sup>114</sup> Although NORDREG was implemented under the auspices of

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<sup>110</sup> Canadian Forces, *Canadian Forces Northern Employment and Support Plan*, 12. The Canadian Forces is not the lead agency for safety and security missions, but must be prepared to provide assistance to other government departments and agencies in accordance with the Federal Emergency Response Plan.

<sup>111</sup> Andreas Raspotnik, "Positive Unilateralism – an Effective Strategy to Protect the Canadian Arctic Environment Or a Subtle Approach to Establish Sovereignty?" The Arctic Institute | Center for Circumpolar Security Studies, <http://www.thearcticinstitute.org/2011/12/92743-positive-unilateralism-effective.html> (accessed January 20, 2013).

<sup>112</sup> Christopher P. Knight, "Canada: NORDREG Now Mandatory within the Northwest Passage," Mondaq, <http://www.mondaq.com/canada/x/114788/Marine+Shipping/NORDREG+now+Mandatory+Wit+hin+the+Northwest+Passage> (accessed January 20, 2013).

<sup>113</sup> Ibid.

<sup>114</sup> Raspotnik, *Positive Unilateralism – an Effective Strategy to Protect the Canadian Arctic Environment Or a Subtle Approach to Establish Sovereignty?* Article 234 stipulates the right of coastal states to adopt laws and regulations for the prevention, reduction and control of marine pollution from vessels in ice-covered areas.

environmental protection, it has a positive impact on Canada's ability to strengthen its case and enforce its sovereignty in the Arctic, specifically over the NWP.<sup>115</sup>

The complex strategic environment of the Arctic and limited means available to the GoC demonstrates that protecting Canadian sovereignty in the Arctic requires a coordinated WoG approach to strategic planning. In light of the current global economy and major cuts to government programs in order to eliminate deficit spending by 2015, the GoC has admitted that it cannot afford to implement its 2008 *Canada First Defense Strategy*.<sup>116</sup> While a new national defense strategy is being formulated to incorporate the current fiscal reality and changes to the strategic environment in the past 5 years, let us now look at the value of strategic planning.

### Strategic Planning

Long-term strategic planning in an uncertain environment can be a daunting endeavor. Even when considerable effort is expended to try to get it right, uncertainty prevails in a complex world and quite often the situation changes. Any method adopted by an organization to guide its strategic planning must address the problems associated with operating in an uncertain future. On a global scale, some current trends that must be accounted for include: the rapid advance of technology, increased globalization and economic instability, climate change, and a rise in failed and failing states coupled with religious extremism. For the GoC, a wide variety of factors and variables, both internal and external, affect its strategic and policy-making decisions. Even in the security arena, social, economic, environmental, political, legal and technological considerations

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<sup>115</sup> Ibid.

<sup>116</sup> Lee Berthiaume, "New Armed Arctic Vessel Slowed to Meet Budget: Officials," *National Post*, February 27, 2013. "[DND] is coming up with a new, long-term vision for the Canadian Forces after its initial 20-year plan, launched in 2008, was found to be unaffordable in 2011."

must be considered. Strategic planning for DND begins with an examination of the relevant government policy and a study of the global strategic environment.

The Chief of Force Development (CFD) within the CF has the mission to, “harmonize, synchronize and integrate the force development activities of the Canadian Forces in order to develop the capabilities required to produce strategically relevant, operationally responsive, and tactically decisive military forces.”<sup>117</sup> The main input concerning the future operating environment is a document entitled the *Future Security Environment (FSE) 2008-2030*. According to the document, its purpose is, “to provide the Defence Institution with an authoritative analysis of current and emerging geopolitical, socio-economic, environmental, technological and military trends that affect the future security environment.” Produced using the Delphi method of strategic planning, *FSE 2030* is an extensive document that is well researched, and was reviewed by both academia and the global defense and security community.<sup>118</sup> It includes 45 key deductions about the future strategic environment. The Delphi method seeks to achieve consensus among dispersed stakeholders by using iterative questionnaires and anonymous communications. It is especially useful for long-range forecasting 20 to 30 years out where diverse expert opinions are the primary source of information.<sup>119</sup> Where the Delphi method focuses on gaining consensus on key trends, another method known as scenario planning seeks to understand the strategic uncertainties most relevant to the organization or the decisions they are seeking in order to guide strategic plans that account for alternative possible outcomes that result from those uncertainties.

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<sup>117</sup> "Chief of Force Development." Department of National Defence, <http://www.cfd-cdf.forces.gc.ca/sites/page-eng.asp?page=5180> (accessed 11/12, 2012).

<sup>118</sup> Director of Future Security Analysis, *The Future Security Environment 2008-2030*, 99. Appendix 2: Methodology.

<sup>119</sup> Kerstin Cuhls, "The Delphi Method," *Foresight Methodologies, Seminar Paper Prague* (2004), 93.

## Scenario Planning

In terms of dealing with the uncertain future of the Arctic, Scenario planning is well suited to the task because of the vast uncertainty manifest in the Arctic. Uncertainties that are due to the unknown long-term effects of climate change on the environment, the economic viability of the region, and the myriad of interested parties or stakeholders, including government, business and indigenous peoples. Scenario planning seeks to create separate and distinct alternate futures to help decision-makers focus their thinking in order to make decisions today with an understanding of how they might turn out.<sup>120</sup> The goal is to provide a clearer sense of future possibilities for the decision-maker operating in the context of uncertainty and continual change.<sup>121</sup> In scenario planning, a number of alternate future scenarios, each with its own story or narrative, are developed to accentuate the differences between possible futures. Each scenario illustrates the different choices based on internal and external forces influencing the plot. The underlying assumptions and critical uncertainties relevant to each scenario can then be monitored to detect when one scenario might be coming to fruition or another falling out of favor. Scenarios are not predictions about the future and it would be unwise to plan for only a single future. The aim of scenario planning is to create a range of scenarios sufficient to cover the envelope of uncertainty and act as test beds for strategy development.<sup>122</sup> Global Business Network asserts that, “decisions that have been pre-tested against a range of what fate may offer are more likely to stand the test of time.”<sup>123</sup>

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<sup>120</sup> Peter Schwartz, *The Art of the Long View: Planning for the Future in an Uncertain World* (New York: Doubleday, 1991), 4.

<sup>121</sup> Bill Ralston and Ian Wilson, *The Scenario-Planning Handbook: A Practitioner's Guide to Developing and using Scenarios to Direct Strategy in Today's Uncertain Times* (Crawfordsville, Indiana: Thomson/South-Western, 2006), 12.

<sup>122</sup> *Ibid.*, 17.

<sup>123</sup> Global Business Network, *The Future of Arctic Marine Navigation in Mid-Century*

Two organizations have been instrumental in the teaching, development and implementation of scenario planning: Global Business Network (GBN) led by Peter Schwartz and the Stanford Research Institute (SRI), led by William Ralston and Ian Wilson. Both advocate a structured “intuitive logics approach” that builds on mental models, “soft” inputs, and assessments of uncertainty.<sup>124</sup> Business, government, academia and other competitive organizations that need to make informed decisions and operate in an increasingly unknowable future have adopted scenario planning as a form of strategic decision-making. It provides a structured process for organizations that would normally resort to single-point forecasting or minor tweaking of the current strategy to formulate their long-term strategy. Scenario planning forces stakeholders to embrace uncertainty and formulate a strategy that accounts for future change.

#### Steps to Scenario Planning

According to GBN, there are eight key steps to developing useful scenarios.<sup>125</sup> The first step is critical and requires identifying the focal issue or decision driving the scenario development forward. In this case, the focal issue is sovereignty and security in Canada’s North, but more importantly, the strategic decision seems to be, what must Canada do to be able to act unilaterally to protect its sovereignty in the Arctic? Does the GoC focus on military capability, local governance and emergency response, or strengthening international organizations? The second step includes the identification of key decision factors in the local environment that

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(San Francisco: Global Business Network, 2008), 4.

<sup>124</sup> Ralston and Wilson, *The Scenario-Planning Handbook: A Practitioner's Guide to Developing and using Scenarios to Direct Strategy in Today's Uncertain Times*, 8.

<sup>125</sup> Schwartz, *The Art of the Long View: Planning for the Future in an Uncertain World*, Appendix.



influence the success or failure of the decision.<sup>126</sup> Key decision factors are those external influences over which the decision-makers have no control, but will significantly impact the decision. They include events or outcomes about the future we would like to know more about to improve the quality and relevance of the decision and must be incorporated into the scenarios. They all relate to external, largely uncontrollable conditions and serve to focus attention on what is truly important about the future for the decision in question.<sup>127</sup>

The selection of driving forces and trends that influence the key decision factors is the third step. What are the forces behind the key factors identified in step two? Some of the driving forces will be more or less certain or predetermined while others will be highly uncertain. Identifying the relevant driving forces during scenario planning is normally the subject of intense research.<sup>128</sup> Schwartz proposes the STEEP framework for analyzing driving forces, where STEEP stands for: Society, Technology, Economics, Environment, and Politics.<sup>129</sup> According to Peter Schwartz, “It is very useful to know what is inevitable and necessary and what is unpredictable and still a matter of choice.”<sup>130</sup> Predetermined elements are trends/continuities that are assumed will not change in the future and will be common across all scenarios. Critical uncertainties are those driving forces that are the most uncertain and most important in terms of their affect on the focal issue/decision. Critical uncertainties are absolutely necessary to know where each of the

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<sup>126</sup> Ibid., 227.

<sup>127</sup> Ralston and Wilson, *The Scenario-Planning Handbook: A Practitioner's Guide to Developing and using Scenarios to Direct Strategy in Today's Uncertain Times*, 82-85.

<sup>128</sup> Schwartz, *The Art of the Long View: Planning for the Future in an Uncertain World*, 228.

<sup>129</sup> Ibid., 110.

<sup>130</sup> Ibid., 227.

scenarios must differ.<sup>131</sup> When developing scenarios, driving forces hold the key to the scenario logic. Both predetermined elements and critical uncertainties are necessary to develop a good set of scenarios.

Step four involves ranking the driving forces based on two criteria: their degree of importance or impact on the decision and their degree of uncertainty.<sup>132</sup> Since scenarios are developed to deal with uncertainty in a complex environment, the key is to identify those forces that have the most impact and are also the most uncertain. These critical uncertainties will form the basis for the scenario logic in step five.

In step five, the scenario logics are developed by selecting the main axes of uncertainty that identifies the key difference between the scenarios. The goal for strategic planners is to create just a few scenarios that capture the key differences for the decision-makers. The logic of the scenarios is driven by their place on the major axes of uncertainty, but should include other important, but often more subtle uncertainties that also have an impact on the decision factors.<sup>133</sup> When fleshing out the scenarios in step six, the key factors and trends from steps two and three find their way into the different scenario logics to form a complete narrative.<sup>134</sup>

Step seven uses the completed narratives to rehearse the future and determine the impact that each future has on the issue or decision identified in step one.<sup>135</sup> This step is the ultimate reason scenarios are developed. By looking at the decision in each plausible future, it is possible to discern whether it is a good decision or not. If a decision is good in just one of many scenarios,

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<sup>131</sup> Ibid., 228-229.

<sup>132</sup> Ibid., 228.

<sup>133</sup> Ibid., 230.

<sup>134</sup> Ibid., 231.

<sup>135</sup> Ibid., 231.

then it is a high-risk gamble and not a very wise decision.<sup>136</sup> If done correctly, the scenarios address the key factors affecting the decision and strategic planners can then use the scenarios to develop strategies that are successful in each plausible future and therefore are more resilient to the inherent uncertainty of a complex strategic environment.

In the final step, indicators and signposts are identified in order to identify as soon as possible which one of the scenarios is closest to coming to fruition. This step requires time and imagination in order to identify true indicators that are indicative of a particular scenario unfolding. According to Peter Schwartz, “The logical coherence built into the scenarios will allow logical implications of leading indicators to be drawn out of the scenarios.” Of course, selecting the indicators is merely a mental exercise. Thereafter, time, energy and resources must be allocated to monitor the indicators, thereby allowing informed timely decisions to be made in accordance with strategy. Without these last two steps, the advantages of scenario planning are lost.

#### Arctic Scenarios

There are three examples of scenario planning in the Arctic that this paper will evaluate. The first is two scenarios created by Defence Research and Development Canada (DRDC) Centre for Operational Research & Analysis (CORA). The second a single scenario published in the *Canadian Army Journal*, and finally, four scenarios created by GBN for the Arctic Council.

In 2011, CORA developed two Arctic Planning Scenarios in order “to test a range of capabilities required for Canada to be able to meet its strategy and policy objectives.”<sup>137</sup> These scenarios were developed using a hybrid scenario development methodology intended to create

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<sup>136</sup> Ibid., 231.

<sup>137</sup> David Mudridge et al., *Arctic Planning Scenarios: Scenario #1 - Defence Scenario* (Ottawa, ON: Defence R&D Canada - Centre for Operational Research and Analysis, 2011), i.

scenarios against which the capabilities of the CF could be measured.<sup>138</sup> CORA uses the hybrid methodology and Arctic scenarios to “frame the context required to assess capabilities and gaps (e.g., legislation, policy, equipment, etc.) related to Arctic security initiatives.”<sup>139</sup> While the two scenarios were not built with the specific question posed by this paper in mind, CORA used current Canadian law, policy, strategy, and CF doctrine as its foundation. Contrary to the other scenarios studied here, the two DRDC scenarios are set in the near-to-mid term rather than the long-term.

A scenario written by some strategic analysts within DND/CF paints a very plausible future operating environment in the Arctic for the CF in 2040 and was published in the Summer 2009 issue of the *Canadian Army Journal*.<sup>140</sup> The insightful article titled, *Canada’s Arctic Sovereignty Under Siege: The Prince Patrick Incident of 2040* was “written as a historical account from the perspective of a strategic analyst living in 2040.”<sup>141</sup> The article studies the interconnectedness of global trends across a broad range of disciplines in order to provide an assessment of the possible security threats against which effective defense capabilities can be developed. Following an analysis of security, economics, demographics, technology, natural resources and geopolitical factors, the authors deliver a single scenario for evaluation. It is

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<sup>138</sup> David Mudridge et al., *Hybrid Scenario Development Methodology and Tool: An Arctic-Oriented Scenario Example* (Ottawa, ON: Defence R&D Canada - Centre for Operational Research and Analysis, 2011), 1. The authors rightfully contend that scenario planning proper is a much more comprehensive activity, but that scenario development can be done independent of scenario planning using many of the same criteria.

<sup>139</sup> *Ibid.*, 14.

<sup>140</sup> J. Sheehan, Nancy Teeple, and Peter Gizewski, "Canada’s Arctic Sovereignty Under Siege: The Prince Patrick Incident of 2040—An Alternative Security Future," *Canadian Army Journal* 12, no. 2 (2009), 37-49.

<sup>141</sup> *Ibid.*, 37.

relevant because it presents a truly international context wherein Canada's North becomes a largely ungoverned space occupied by hostile non-state actors acting on foreign interests.

Finally, in 2007 GBN was contracted by the Arctic Council to help develop scenarios for the Arctic Marine Shipping Assessment. The aim was to create "four different scenarios that are plausible and relevant to the full range of Arctic stakeholders."<sup>142</sup> While the set of scenarios is focused on marine navigation and the published work does not provide a thorough assessment of the security implications, they provide the most diverse assessment yet of the future Arctic operating environment out to 2050. The narratives provide a comprehensive picture of the strategic elements influencing the Arctic from which the impact on Canada's Arctic sovereignty can be assessed.

### Summary

Canada's national security policy recognizes the need for both diplomacy and a flexible, responsive and combat capable CF in order to defuse intra- and inter-state conflict in the international security arena. The current fiscal reality has forced the GoC to cut spending across the board and is affecting the CF's ability to deliver on some equipment and infrastructure projects, necessitating tradeoffs in either production time and/or capability.<sup>143</sup> A WoG approach remains a key tenet of Canada's national defense strategy and intra-governmental cooperation will be as important as international government cooperation to deal with the complexities of the Arctic operating environment. To secure Canada's national interests in the region, the GoC will continue to promote northern governance as well as social and economic development in an environmentally sustainable manner. Done correctly, these efforts have the potential to strengthen northern communities and enhance regional security by reducing the potential for criminal

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<sup>142</sup> Global Business Network, *The Future of Arctic Marine Navigation in Mid-Century*, 5.

<sup>143</sup> Berthiaume, *New Armed Arctic Vessel Slowed to Meet Budget: Officials*.

organizations to operate freely. Canada's foreign policy is a critical aspect to securing the Arctic and the GoC remains focused on international diplomacy through the Arctic Council and support for international legal frameworks such as UNCLOS.

Due to its huge economic potential, there are a number of stakeholders or interested parties in the Arctic, many of them outside of the region. The promise of oil, gas and mineral deposits, as well as lucrative maritime trade routes is driving interest in the Arctic and forcing governments to plan for a more permissive Arctic environment as a result of climate change. Boundary disputes in the region are currently well managed and the Arctic Council serves a valuable function in promoting dialogue between Arctic nations and indigenous peoples in the region. The EU and China both desperately want a voice as permanent observers on the Council in order to shape policy and serve their own, primarily economic interests. Presently, their primary strategic tools to serve those interests are diplomacy, scientific research and environmental advocacy and stewardship.

The region has the potential for sustained cooperation and peace, thereby providing an environment for sustained social and economic development and environmental stewardship. It also has the potential to decline into conflict if border disputes continue to go unresolved and if UNCLOS fails to settle conflicting claims over the extended continental shelves. All of the Arctic countries are upgrading their defense capabilities in order to be able to operate in the region, primarily for the inevitable increased constabulary role required as the sea ice melts and improves access to the region. Russia's economy is tied closely to the expansion of its Arctic oil and gas and the Northern Sea Route is already showing promise with a major increase in commercial transits in 2012. Its designs for an increased Arctic military capability go beyond simple constabulary capabilities, and are seen by many to be offensive in nature. Russia on the other hand claims it must protect its vital interests in the region.

NATO has taken notice and member countries continue to intercept Russian over-flights into their airspace. Meanwhile NATO countries continue to conduct Arctic exercises seen as offensive to Russia. The tensions between Russia and NATO represent the greatest potential for state conflict in the region, although it is not inconceivable that a growing China could attempt to exert its influence in the region if its national interests are not being served. It is in this uncertain environment that Canada must reformulate its national defense strategy, especially as it pertains to the Arctic. Scenario planning offers perhaps one of the best tools for long-range planning in an uncertain environment such as the Arctic. Fortunately, there has already been significant work done with scenarios by both the CF and the Arctic Council.

## RESEARCH METHODOLOGY

The DRDC scenarios, the Prince Patrick Incident scenario, and GBN's Arctic navigation scenarios provide three useful case studies for analysis. In fact, following an extensive search, they are the only three cases of scenario planning that have been conducted on the Arctic. All three will, therefore, be assessed using case study analysis. This paper uses a qualitative method of exploration to assess the three case studies of the Arctic. According to Stephen van Evera, there are three types of analytical studies: large-*n* analysis, small-*n* analysis and case studies.<sup>144</sup> Scenario planning is an intuitive exercise that lends itself well to qualitative analysis.

Since scenarios are not meant to be predictive, the aim of this paper is to determine if the available body of scenarios adequately capture the uncertainty relevant to the GoC and DND and are useful in determining Arctic Strategy. Specifically, do the scenarios help strategic planners understand the complex interactions between actors and whether Canada's defense policies and capabilities will allow it to act unilaterally to protect its sovereignty?

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<sup>144</sup> Stephen Van Evera, *Guide to Methods for Students of Political Science* (Ithaca, NY: Cornell University Press, 1997), 29.

The case study analysis will focus on the purpose of each scenario and the corresponding framework used to determine the driving forces in each instance. An attempt to discern the predetermined elements and critical uncertainties from the scenarios and supporting documentation will enable a discussion of the merits of each scenario and/or scenario set as they pertain to current reality and the major factors driving arctic security policy, namely regional geopolitics, climate change, resources and maritime commerce. Following an assessment of the available scenarios, the paper proposes a new set of scenarios for the GoC and DND to use in formulating their future national defense strategy.

*Canada's National Security Policy* calls for an integrated security system that addresses the myriad of possible threats while remaining true to Canada's values of democracy, pluralism, rule of law and human rights.<sup>145</sup> The CF's core missions are spelled out in the *Defence Strategy* and it has a strong role to play in both the national and international security spheres, including the Arctic.<sup>146</sup> By evaluating existing scenario planning efforts for the Arctic and proposing new ones, this study will answer whether the GoC's strategy, policies and investment decisions will enable Canada to act unilaterally to protect its Arctic sovereignty across a range of future scenarios.

## ANALYSIS

### Case Study: Scenario Assessment

The DRDC scenarios, the Prince Patrick Incident scenario, and GBN's Arctic Navigation scenarios provide three case studies and a grand total of seven scenarios for analysis. In each case, the authors put a great deal of research, thought and effort into their scenario creation. By

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<sup>145</sup> Privy Council Office, *Securing an Open Society: Canada's National Security Policy*, 1.

<sup>146</sup> Department of National Defence, *Canada First Defence Strategy*.



analyzing each case using its own framework to identify driving forces, it is possible to discover whether the planning scenarios are a useful tool for determining if Canada can act unilaterally to protect its Arctic sovereignty or not.

Identifying the driving forces and critical uncertainties the authors chose to ‘drive’ their narratives is the first step in uncovering their logic. Each of the chosen cases used a slightly different framework to evaluate the strategic environment and determine the driving forces for their scenarios. Of course, GBN’s *Arctic Marine Navigation* scenarios used Schwartz’s STEEP analysis.<sup>147</sup> Indeed, there is no right or wrong framework here; what matters is that the thought has been done to consider as many factors as possible. The frameworks serve to guide thought and discussion among the stakeholders and strategic planners. Despite their differences, there is significant overlap in frameworks as demonstrated in Table 1. Some of the differences can be accounted for by the disparate purposes driving the need for scenarios by each of the authors.

<b>FSE 2030 Framework</b>	<b>DRDC SLEEPS Framework</b>	<b>Prince Patrick Incident Framework</b>	<b>GBN Marine Navigation Framework</b>
Economic & Social	Sociological	Demographics	Society
Science & Technology		Technology	Technology
Economic & Social	Economics	Economics	Economics
Environment & Resources	Environment	Natural Resources	Environment
Geopolitical	Politics	Geopolitics	Politics
Military & Security	Security	Security	
	Legal		

Table 1. Driving Forces Framework Analysis

The purpose of each scenario case study and the chosen methodology, as well as any gaps in addressing the the question under studay are discussed with each case below.

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<sup>147</sup> Global Business Network, *The Future of Arctic Marine Navigation in Mid-Century*, 3.

## Case 1 – DRDC Arctic Planning Scenarios

DRDC’s Hybrid Scenario Development Methodology was created to facilitate the CORA-sponsored strategic/operational level planning, training and analysis across the GoC. The authors make a key distinction between scenario planning and scenario development. In their own words, “scenario planning requires a complete and thorough foresight study, whereas scenario development is specifically concerned with solely the development of actual stories about the future.”<sup>148</sup> In CORA’s scenario development, the scenarios serve as a context for characterizing the operating environment, shaping planning, and conducting training.<sup>149</sup>

The Hybrid Scenario Development Methodology was created for the specific purpose of developing scenarios that, through plan development and assessment by DRDC researchers and defense scientists, can help yield operational lessons and establish emergent priorities regarding capabilities.<sup>150</sup> Because the methodology supports strategic and operational planning efforts and is designed to facilitate plan development, it is necessarily constrained to a 5-10 year future timeframe. The DRDC *Arctic Planning Scenario #1 – Defence Scenario* is set in 2015, while *Scenario #2 – Safety and Security Scenario* is set in 2020.

The DRDC Arctic Planning Scenarios, by virtue of there being only two, represent a single axis of uncertainty. The title of each scenario provides the best clue as to the most important critical uncertainty: *Scenario #1 – Defence* and *Scenario #2 – Safety and Security*, represent opposite ends of the CF operations continuum depicted in Figure 1.<sup>151</sup> DND is the

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<sup>148</sup> Mudridge et al., *Hybrid Scenario Development Methodology and Tool: An Arctic-Oriented Scenario Example*, 1, Footnote 1.

<sup>149</sup> Mudridge et al., *Arctic Planning Scenarios: Scenario #1 - Defence Scenario*, 1.

<sup>150</sup> Mudridge et al., *Hybrid Scenario Development Methodology and Tool: An Arctic-Oriented Scenario Example*, 10, Annex A.

<sup>151</sup> Canadian Forces, *Canadian Forces Northern Employment and Support Plan*, 11-13.

government department responsible for defense, but it has an important and significant supporting role to play in safety and security. The key axis of uncertainty is, therefore, the threat. The competing logics of the scenarios can be described as, ‘Will the threat in the Arctic be predominantly environmental and asymmetric or will inter-state conflict dominate the arctic?’ This axis places organized crime, non-state actors and asymmetric threats factoring prominently at one end of the axis and state-sponsored conventional military threats on the other. The CF Operations Continuum is introduced at Figure 1.<sup>152</sup> The logics of the two scenarios, informed by the aptly descriptive titles plot the defense scenario with CF lead at the far right and the safety and security scenario with CF providing support at the middle and far left of the spectrum. The choice of scenarios supports the GoC’s WoG approach and satisfies DRDC’s need to test capabilities across the entire operations continuum.

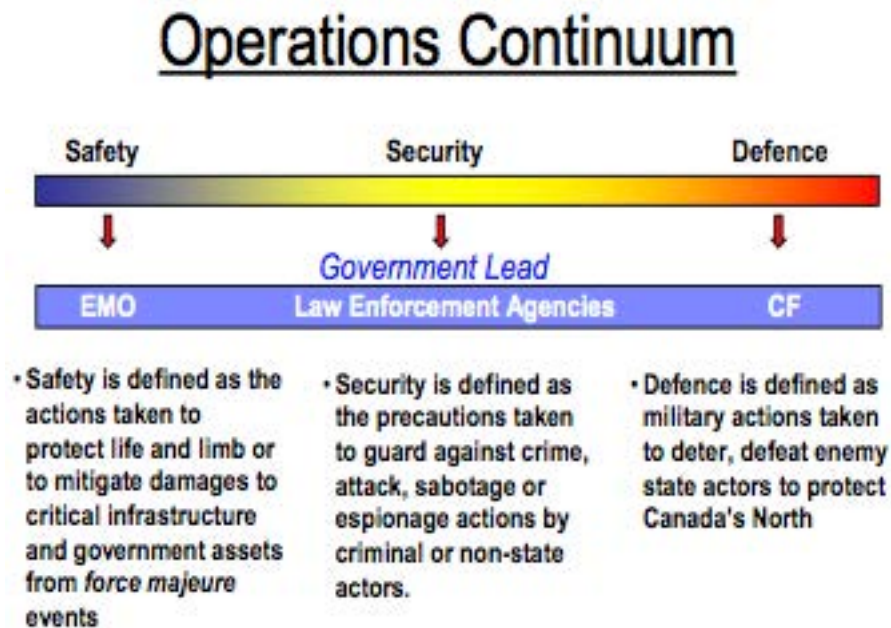


Figure 1. Canadian Forces Operations Continuum for the Arctic

<sup>152</sup> Ibid.

From the case study, Table 2 presents are a number of driving forces that factor into the competing scenario logics. The driving forces identified include both predetermined elements such as the Canada-U.S. relationship and the role of NORAD, and critical uncertainties such as the global economic situation, energy/resource prices, government debt, international cooperation, extended EEZ dispute resolution, and the role of NATO. Since they factor prominently in the logic of the two scenarios, the driving forces listed in Table 2 are either predetermined elements or critical uncertainties.<sup>153</sup> The driving forces are interrelated and most figure into the scenario narratives, supporting the logic of the key axis of uncertainty in order to make the scenarios distinctly different from one another.<sup>154</sup>

	<i>Pre-Determined Elements</i>	<i>Critical Uncertainties</i>
<b>Society</b>	- First Nations sensitivity to Arctic growth	- First Nations radicalism. - Sustainable growth and development of Arctic. - Organized crime.
<b>Technology</b>		
<b>Economics</b>	- Globalization. - Inter-connected economies. - Arctic resource exploitation.	- Global economic stability. - Energy/resource prices. - Northern growth.
<b>Environment</b>	- Constant climate change. - Fragile Arctic environment.	- Resource exploitation. - Environmental activism. - Emergency response.
<b>Geopolitical (incl. legal)</b>	- Strong Canada-U.S. relationship.	- Role of UN & UN agencies. - International cooperation. - Whole of Government cooperation - UNCLOS dispute resolution. - Boundary dispute resolution.
<b>Security &amp; Defense</b>	- Role of NORAD.	- Role of NATO. - Russian military investment in military power. - U.S. military hegemony.

Table 2. Driving Forces to DRDC's Arctic Planning Scenarios

<sup>153</sup> Ralston and Wilson, *The Scenario-Planning Handbook: A Practitioner's Guide to Developing and using Scenarios to Direct Strategy in Today's Uncertain Times*, 103-109.

<sup>154</sup> *Ibid.*, 112.

*In Arctic Planning Scenario #1 – Defence*, international institutionalism is ineffective in the Arctic. Mistrust between Russia and NATO leads to increased tensions in the region as Russia moves to secure strategic oil and gas reserves off the disputed Lomonosov Ridge. The scenario foresees an Arctic future that is plagued by Cold War-era militarism between Russia and NATO. American hegemony is challenged when China liquidates \$1 trillion in U.S. debt, collapsing the U.S. economy and ushering in a new era of U.S. isolationism. China and Russia recognize the Arctic as key to their economic success and partner together to grow their economic and military influence in the region. International institutions such as the UN and the Arctic Council are ineffective at resolving disputes in the Arctic and competing EEZ claims based on an extended continental shelf lead to increased tension between Russia, Canada and Denmark. NATO members resolve their own maritime boundary disputes in order to declare their Arctic boundaries as NATO boundaries for the purpose of collective defense.

The scenario introduces conflict under the backdrop of the Operation Nanook 2015 sovereignty operation, a well-coordinated joint, inter-agency, multinational exercise of 10,000-plus government, non-government organization, and military (including NATO) personnel. The Russians, perceiving the NATO operation as aggressive, step up their covert and overt surveillance, forcing NORAD to respond in kind. During the operation, a CF-18 and an armed Russian TU-95 Bear collide over Hans Island resulting in an international melee. Meanwhile an armed Russian Auxiliary General Intelligence Vessel runs aground in Canadian Territorial Waters where it was operating without Canadian authority and results in an oil slick with environmental consequences. Canada appeals to the UN Security Council to impose immediate sanctions on Russia for its clear violation of Canadian sovereignty. The U.S. and U.K. support the motion, but it is vetoed by both Russia and China while France abstains.

*Arctic Planning Scenario #2 – Safety and Security* paints a future free of international state conflict as Arctic nations work together to resolve their disputes and harness the economic

potential of the Arctic. A warming Arctic and high energy prices present a security threat as marine traffic and resource exploration and extraction increase. Fiscal constraint due to a global recession ensures government investment in the Arctic is unable to keep pace with the socio-economic growth in the region, leaving it ripe for organized crime and terrorism. A secondary effect of the reduced funding is a complete lack of cooperation between government departments. A move to local governance and policing sees a decreased federal presence in the region. As a result, drug trafficking and illegal immigration are rampant and smuggling vessels carry weapons for the crew who have demonstrated the intent to use them. This scenario highlights the risks of underfunding government activities in the North.

The scenario “provide[s] clear and irrefutable sources of jurisdictional friction [between agencies and governments].”<sup>155</sup> DND/CF is not the lead agency in safety and security scenarios, but it is recognized that the CF may have the majority of the resources.<sup>156</sup> In the scenario, NORAD and Canada’s Joint Task Force North track a large cargo vessel of interest suspected of human trafficking into Canadian territorial waters where it runs aground. Fertilizer (60% Nitrogen) and 1820 tons of oil begin to leak out. The crew and 36 un-manifested refugees are recovered, but three South Asian men who are well equipped for the Arctic climate are reported missing by the crew. One is a trafficker in drugs and humans, one is a known war criminal, and one is an Al Qaeda operative with a North American accent. U.S. intelligence indicates that the three are believed to be planning a multi-target terrorist campaign against critical infrastructure in Canada and the U.S. The initial GoC response is wanting due to poor training, inadequate

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<sup>155</sup> David Mudridge et al., *Arctic Planning Scenarios: Scenario #2 - Safety and Security Scenario* (Ottawa, ON: Defence R&D Canada - Centre for Operational Research and Analysis, 2011), 22.

<sup>156</sup> Canadian Forces, *Canadian Forces Northern Employment and Support Plan*, 11.

infrastructure; lack of personnel and resources; and non-existent command, communication, and coordination among government departments. Negative media coverage exacerbates the situation.

In conflict, security is the primary role of the armed forces and other government departments. In peacetime, sovereignty concerns yield to surveillance and constabulary duties for the armed forces. In the scenarios, inter-departmental cooperation is a function of policy, parliamentary budgets, and available resources. Where there is a focused policy supported by a budget that gives the departments the resources they need to conduct their missions and tasks, then the authors infer that good cooperation will ensue. Where there is a policy, but there is no focus, budget or resources to support it, then stove-piping and poor cooperation are likely to result. Interestingly, poor cooperation is not just the result of economics, but of shifting priorities, scarce resources, and the second or third order effects of political decisions, such as the diminished role of the Royal Canadian Mounted Police in policing the North due to land claims treaties. In Scenario #2, this led to poor police integration across the territories, decreased intelligence collection at the national level, and local government collusion with organized crime. The authors chose to place the critical uncertainty of poor inter-governmental cooperation with the conflict narrative in Scenario #1 and poor inter-governmental cooperation with the safety and security narrative in Scenario #2, perhaps to highlight that, historically, a nation at peace tends to neglect its security institutions.

If, indeed, a government tends to man, train, and equip its forces completely differently for peace than for war, then Scenario #2 should serve as a warning against under-funding Canada's security organizations. Canada withdrew its combat forces from Afghanistan as of the summer of 2011 and the Government is facing a period of fiscal constraint after several years of deficit spending following the 2008 financial crisis. In fiscal year 2012/13, the GoC is cutting back spending to reduce the deficit. The DND budget was cut by more than 10% over the

previous year and more cuts are expected.<sup>157</sup> Many of the projects such as new icebreakers, the AOPS, and the deep-water port at Nanisivik have already been scaled back or delayed, with the potential that they could be delayed further, especially if there appears to be no threat, and therefore, no sense of urgency.

To outward appearances, Canada appears to be hedging its bets and trending towards Scenario #2. At a speech in Washington, DC in 2010, the Chief of the Maritime Staff, Vice Admiral D. McFadden said, "Let me be clear. Canada does not see a conventional military threat in the Arctic in the foreseeable future. The real challenges in the region are, therefore, related to safety and security."<sup>158</sup> Relations with Russia are currently good as evidenced by the annual Russia-NORAD terrorist exercise and the Arctic Council SAR Treaty.<sup>159</sup> International institutions are nowhere near perfect, but they are working and Canada is set to assume leadership of the Arctic Council in 2013 for two years where they hope to open a dialogue on extending the mandate of the Arctic Council to include security matters. Unfortunately, planning against only one scenario such as the Safety and Security scenario assumes a great deal of risk because the future is uncertain, meaning that both scenarios are, in theory, still possible.

It is difficult to state whether Canada will have the resources readily available to respond to Scenario #1 in either the short or mid-term. It is telling that the authors chose to put the scenario in the context of NATO, since it is almost inconceivable that Canada would be able to respond to such an incident alone without putting its soldiers at great risk. Current plans call for

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<sup>157</sup> Bruce Champion-Smith, "Retirements of Senior Military Officers Mean 'extraordinary' Change for Canadian Forces," *Toronto Star*, February 7, 2013.

<sup>158</sup> P. Whitney Lackenbauer, *Powerpoint Presentation: Canada and the Circumpolar World - Sovereignty, Security, Stewardship* (Waterloo: University of Waterloo, 2011).

<sup>159</sup> Robert Beckhusen, "Russian Troops Welcomed into NORAD, America's Cold War HQ," *Wired*, <http://www.wired.com/dangerroom/2012/08/norad/> (accessed February 7, 2013). The 2012 Exercise Vigilant Eagle included Russian officers conducting a simulation exercise inside NORAD HQ.



the development of a Company-Group Task Force and a single AOPS to respond on 24-hrs notice to move with follow-on forces at 30-days notice to move.<sup>160</sup> Without the context of Op NANOOK, most CCG & Royal Canadian Navy (RCN) ships would be at least a 1.5 to 2-day sailing from their bases on the Pacific and Atlantic Coasts. Soldiers could be airlifted in during good weather, but would require considerable follow-on logistical support from sea or land given the unpredictableness of Arctic weather and its impact on air operations. Scenario #2 – *Defence* was set in 2015. With the first AOPS not operational until 2018 at the earliest, it is conceivable that Russian military forces responding to the incident could significantly outman and outgun CF personnel.

#### Case 2 – The Prince Patrick Incident 2040

The authors of the *Prince Patrick Incident*, Major Sheehan, Nancy Teeple and Peter Gizewski, produced a single alternative security future and published it in the *Canadian Army Journal* in 2009. It was written at a time when Canada was still very much engaged in Afghanistan, but was committed to withdraw combat forces in 2011. The global economic crisis had a profound effect on domestic economies and politics around the globe and many were wondering what was next for the CF. The GoC's renewed focus on the North and its 'use it or lose it' position provided strategists and analysts with an opportunity to analyze the security situation in the region. The remoteness and harsh climate of Canada's northern geography presents a complex challenge for the CF and necessitates a continuing requirement to equip, train and deploy CF troops in expeditionary capacities.<sup>161</sup> Alternative futures are used to assess

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<sup>160</sup> Canadian Forces, *Canadian Forces Northern Employment and Support Plan*, 41.

<sup>161</sup> Sheehan, Teeple, and Gizewski, *Canada's Arctic Sovereignty Under Siege: The Prince Patrick Incident of 2040—An Alternative Security Future*, 48.

potential security threats and develop effective defense capabilities.<sup>162</sup> The article is intended to generate discourse on the future of the CF in the Arctic.<sup>163</sup>

The authors conducted a thorough analysis of global trends across a broad range of disciplines to describe one set of possible changes affecting the security situation in Canada's North in 2040. The driving forces they chose to emphasize in creating their scenario are highlighted in Table 4. With only a single scenario, there is no axis of uncertainty to determine what the authors felt was the most important critical uncertainty. It is also difficult to determine which factors the authors determined to be predetermined elements or critical uncertainties since there is not a second narrative to provide contrast. The driving forces identified in the scenario have therefore been grouped subjectively based on consensus in the literature and previous analysis in the field. The 45 trends identified in *FSE 2030* provide some insight to the issues likely to affect the FSE.<sup>164</sup>

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<sup>162</sup> Ibid., 1.

<sup>163</sup> Ibid., 37.

<sup>164</sup> Director of Future Security Analysis, *The Future Security Environment 2008-2030*.

	<i>Pre-Determined Elements</i>	<i>Critical Uncertainties</i>
<b>Society</b>	- Growth of arctic communities	
<b>Technology</b>	- Nanotechnology advances.	- Availability of clean energy.
<b>Economics</b>	- Sustained growth of Brazil, Russia, India & China. - Growing Asia-Pacific thirst for resources.	- Multi-lateral agreements among Arctic nations to invest in oil & gas fields in North.
<b>Environment</b>	- Climate change & extreme weather patterns. - NWP remains commercially unviable.	- Peak oil & oil price volatility.
<b>Geopolitical (incl. legal)</b>	- American isolationism to trade and global engagement. - WoG and inter-agency teams critical to success.	- China, EU and South Korea involvement in Arctic. - Funding northern defense & security initiatives. - Asia-Pacific stability & organized crime.
<b>Security &amp; Defense</b>	- NORAD role and relevance. - Arctic = soft underbelly of otherwise secure North America. - Failed states & piracy.	- A global security order that is commitment adverse. - CF defense resource reductions.

Table 3. Driving Forces to The Prince Patrick Incident

In the scenario, competing interests between Canada and a foreign state-backed firm drilling for oil on Prince Patrick Island in Canada’s North leads to armed conflict. The Asian firm in question has links to organized crime and wishes to expand its drilling operations on the island, but the GoC has refused its requests pending a resource auction in 2041-2045 timeframe. Intelligence fails to identify the significance of a gradual increase in activity on the island throughout 2039-2040 until two ships arrive in September of 2040 and begin to offload supplies at an unauthorized port. Communications with the ships fails. Over the course of several weeks, surveillance indicates a ten-fold increase in personnel and illicit activity, including air traffic, defensive measures at the ports and airfields, and preparations for new drilling operations in an unauthorized area. It turns out the U.S. has been covertly monitoring their activity with two submarines operating off the coast of the island without Canada’s authority. Finally, a ranger patrol was confronted at a point 10 km south of the island by an armed patrol on snow machines.

As a defense scenario, the problem is fairly simple. The global economic and security environment, coupled with Canada's neglect of the North leads to a situation where a rogue international firm with criminal connections takes advantage of the security vacuum in Canada's North. The problem for Canada is how to defeat the militants and protect Canada's sovereignty from future incursions while ensuring the economic viability of the region. The scenario straddles the fuzzy line between security and defense on the CF operations continuum. The scenario emphasizes that, notwithstanding a comprehensive whole of government approach to the Arctic and robust surveillance capabilities, gaps potentially exist in Canada's ability to respond to a significant security threat in the North from armed militants that may or may not be state-sponsored.

It might seem surprising to some that the scenario has the U.S. acting unilaterally in Canadian waters. If Canada's North should become an 'ungoverned space' and a hub for organized crime and trafficking, then it should be no surprise that the U.S. might act unilaterally in its own interests. According to John Lewis Gaddis, the United States of America has a well-documented history of responding to security threats through preemption, unilateralism and hegemony.<sup>165</sup> This element of the scenario underscores the importance of positive relations between the U.S. and Canada and the need to work together to provide for the common defense of North America. The Beyond the Border initiative signed by Canada and the U.S. on 4 February 2011 is a long-term partnership built upon a perimeter approach to security and economic competitiveness.<sup>166</sup> The Tri-Command Framework for Arctic Cooperation signed in November 2012 will see the U.S., Canada and NORAD "collaborate more closely in a host of areas,

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<sup>165</sup> John Lewis Gaddis, *Surprise, Security and the American Experience* (Cambridge, Massachusetts: Harvard University Press, 2004), 16.

<sup>166</sup> Foreign Affairs and International Trade Canada, *Beyond the Border: A Shared Vision for Perimeter Security and Economic Competitiveness* (Ottawa: Government of Canada, 2011).

including training, capabilities, research and development, science and technology, domain awareness, communications and operations, all to promote a safe and secure Arctic region.”<sup>167</sup> These agreements demonstrate that the global and pervasive nature of future security threats facing North America require a coordinated security plan to protect the interests of the world’s two largest trading partners. In order to foster greater cooperation, both governments should work to settle the boundary dispute in the Beaufort Sea and come to an agreement on the international status of the NWP.

### Case 3 – GBN’s Future Arctic Navigation Mid-Century

The GBN scenarios were designed to assess the impacts of increased marine transport and access to resources in the Arctic due to reduced sea ice. Although the scenarios are not focused on security, they are still relevant because they are focused on two critical uncertainties hitherto unexplored in detail – governance and resources & trade. The case provides four distinct scenario logics as illustrated in Figure 2.<sup>168</sup> The Arctic Race scenario will be characterized by conflict and military activity to secure resources in a volatile political environment and will fall on the defense end of the CF operations continuum. Stable governance will dominate the Polar Preserve scenario placing it at the far left of the CF operations continuum under safety operations. The Polar Lows and Arctic Saga scenarios represent the low-low and high-high quadrants of governance and resources/trade. These scenarios fall in the center of the CF operations continuum as the threat is primarily asymmetric in nature.

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<sup>167</sup> Donna Miles, "U.S., Canada Expand Arctic Cooperation, Military Training," *American Forces Press Service*, December 11, 2012.

<sup>168</sup> Global Business Network, *The Future of Arctic Marine Navigation in Mid-Century*, 5

## Scenarios on the Future of Arctic Marine Navigation in 2050

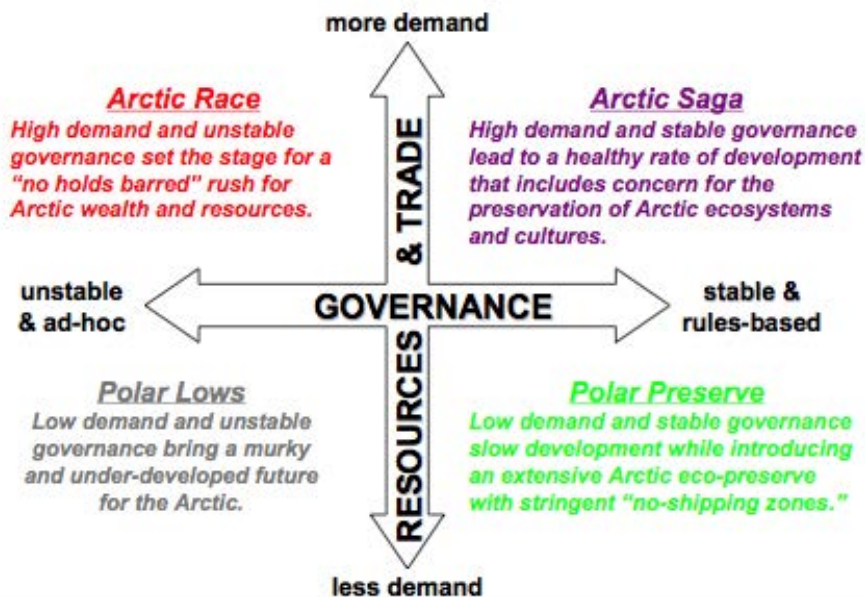


Figure 2. GBN Arctic Marine Navigation Axes of Uncertainty

The primary drivers of change for the complete scenario set are listed in Table 5. The Arctic Race scenario, based on high demand and unstable and ad-hoc governance, leads to a rush by Arctic and non-Arctic stakeholders for Arctic wealth and resources. A lack of consensus and uniform laws or governance in the region result in high political and military tensions. Rapid climate change has global effects environmentally, economically and politically. Asia, led by China, is active in the Arctic. In the scenario, predictions of state conflict in the region come true, but are not only confined to the Arctic nations. Boundary disputes fester and alliances such as NATO and the Canada-U.S. agreements could be threatened when allied countries act unilaterally to assert jurisdiction in disputed areas.

In the Polar Preserve scenario, environmental tragedies in the rush to tap into the natural resources lead to global environmental concerns in the arctic. Combined with disappointingly lower than expected oil and gas reserves, all Arctic nations cooperate to settle national claims and to create an eco-preserve with stringent shipping regulations enforced by a regional Arctic police

force. Climate change, environmentalism and a stable global economy lead to viable alternate energy solutions, further reducing global dependence on oil and gas. Scientific expeditions and Arctic tourism account for the majority of marine traffic, which is otherwise limited due to prohibitive expense.

The Polar Lows scenario is shaped by a faltering economy due to the effects of a global pandemic and U.S. isolationism, resulting in greater trade tariffs and regulation. Volatile energy markets and extremely high energy prices lead to fractured energy and consumer markets, while disparate and uncoordinated alternate energy solutions evolve. Due to the slow melt and fractured markets, resource extraction in the Arctic proves to be very expensive and both environmentally and economically risky. Lack of interest in the Arctic by business and most nations means independence for indigenous populations, but also a lack of regulation. The expense of developing, defending and transporting the resources reinforces high energy costs. Indigenous populations capitalize on the liquid natural gas and crude oil production heading to Europe. The scenario basically predicts very little change from the current economic and geopolitical environment of today.

In Arctic Saga, the U.S. ratifies UNCLOS in an environment of a growing global economy and competition for resources. Regional oil and gas cartels emerge in Africa, Asia and South America to challenge the Organization of the Petroleum Exporting Countries as global demand for oil, gas and natural gas increases. Arctic resource exploration confirms massive reserves and the resource boom brings throngs of migrant workers and indigenous youth. Enterprising governments, corporations and pirates funnel additional resources into the region to capitalize on the economic growth. The stratospheric growth in the Arctic brings the expected vices, crime and social challenges to northern communities. Left to develop largely unregulated, organized crime, profiteers, and a wild-west mentality lead to a major accident between a cruise ship and an unregistered icebreaker resulting in 347 tourist lives lost. Major reform of UNCLOS

together with Arctic regulations and oversight take place with the support of all Arctic nations and the international community. The new framework promotes prudent management and growth in the region. Investment skyrockets and the major oil and gas companies set about challenging resource nationalism and the dominance of the regional oil cartels.

	<i>Pre-Determined Elements</i>	<i>Critical Uncertainties</i>
<b>Society</b>	<ul style="list-style-type: none"> <li>- Global pandemic.</li> <li>- Public concern about climate change &amp; conservation.</li> </ul>	<ul style="list-style-type: none"> <li>- Socio-economic impact of climate change.</li> <li>- Conflict between indigenous and commercial use.</li> </ul>
<b>Technology</b>	<ul style="list-style-type: none"> <li>- Strategic navigation aids.</li> </ul>	<ul style="list-style-type: none"> <li>- Alternate energy technology available.</li> <li>- Shift to nuclear energy.</li> <li>- New resource discovery.</li> </ul>
<b>Economics</b>	<ul style="list-style-type: none"> <li>- Development of shipping infrastructure.</li> <li>- Competition from other routes.</li> <li>- Continuing search for oil and gas.</li> <li>- Decrease in other oil and gas reserves.</li> </ul>	<ul style="list-style-type: none"> <li>- Radical change in global trade dynamics.</li> <li>- Oil demand &amp; prices.</li> <li>- Limited windows of operation.</li> <li>- Maritime insurance industry.</li> <li>- Transit fees.</li> <li>- World trade patterns.</li> </ul>
<b>Environment</b>	<ul style="list-style-type: none"> <li>- Climate change will result in a warming and ice-free Arctic.</li> <li>- Climate change causes acute demand for water.</li> </ul>	<ul style="list-style-type: none"> <li>- Climate change disruptive sooner.</li> <li>- Major Arctic shipping disasters.</li> <li>- New Ice Age because gulf stream stops.</li> </ul>
<b>Geopolitical (incl. legal)</b>	<ul style="list-style-type: none"> <li>- Unresolved rights of passage.</li> <li>- Highly restrictive shipping policies.</li> </ul>	<ul style="list-style-type: none"> <li>- Stable legal climate.</li> <li>- China &amp; Japan become Arctic maritime nations.</li> <li>- Global rules &amp; standards for maritime transit.</li> </ul>
<b>Security &amp; Defense</b>		<ul style="list-style-type: none"> <li>- Safety of other maritime routes.</li> <li>- Military investment.</li> <li>- Arctic enforcers (police).</li> <li>- Escalation of Arctic maritime disputes.</li> </ul>

Table 4. Driving Forces to GBN's Future Arctic Navigation Scenarios<sup>169</sup>

<sup>169</sup> Global Business Network, "The Future of Arctic Marine Navigation in Mid-Century: Scenario Creation Workshop Notes" (Global Business Network, 2008), 4.



The GBN scenarios, although not written from a security perspective, cause the reader to examine their assumptions. Together, the four scenarios present a myriad of possible outcomes for the critical uncertainties identified in Table 5. What if climate change is not as rapid or the promised reserves fail to materialize? What if relations between Canada and the U.S. sour or what if Canada is not able to resolve its maritime boundary disputes with the U.S. or Denmark? What impact would that have on the military alliances of NORAD and NATO? What if climate change is more rapid than expected? What if countries dispute Canada's claim that the NWP is internal waters and openly violate NORDREG or what if UNCLOS doesn't work and Russia claims the Lomonosov Ridge then begins drilling operations there? Will the CF be able to project sufficient military power into the Arctic to protect its interests? What if Canada's Inuit become completely self-sufficient as a result of continued investment by the GoC and significant resource revenues? What if social unrest ensues? Will the territories seek to secede from Canada? How will the CF be called to aid the civil powers? What if alternate energy technology is slow to develop and oil and gas prices rise to exorbitant rates? What if the economy tanks and military procurement is sacrificed? Can the GoC and the CF cope? All of these are questions that need to be considered in determining whether Canada can defend its sovereignty.

#### Comparison of Cases

The authors of the scenarios studied each developed their scenarios for different purposes, none of them to answer the question whether Canada can act unilaterally to protect its sovereignty in the Arctic. Figure 3 shows where each of the scenarios falls along the CF operations continuum. Their distribution along the continuum demonstrates that each individual scenario is unique and has value in determining whether Canada will be able to act unilaterally to defend its interests in the Arctic. Taken together, the complete set of scenarios can be plotted across the entire operations continuum, although they are not synchronous in time period or purpose.

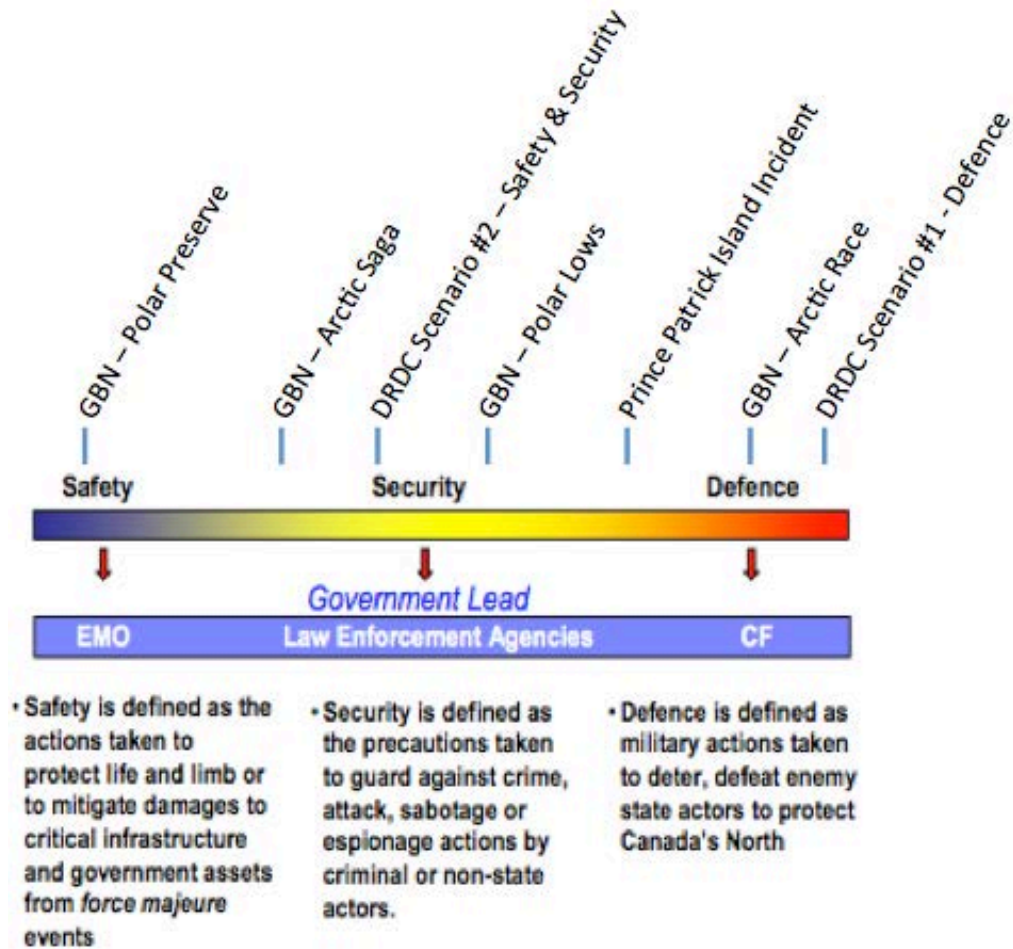


Figure 3. Overall Scenario Plot along the CF Operations Continuum

Table 5 provides a summary of the case studies. The different timeframes chosen by the authors are directly linked to the purpose of the scenarios and illustrates the power of scenario planning. The DRDC Arctic Planning Scenarios take a relatively short outlook in order to assess current or planned military capabilities against two very possible security dilemmas. The Prince Patrick Incident takes a longer outlook in order to demonstrate how a prolonged global recession and the growing instability and resource demands in the Middle East and Southeast Asia could significantly impact Canada's ability to protect its sovereignty against an unconventional threat. The GBN scenarios take an even longer outlook to illustrate the potential outcomes of an ice-free arctic and the subsequent impact on marine navigation. By taking a long view, GBN is able to

address a greater range of possible outcomes that may arise due to climate change, uncertain economies, and various security threats. Certainly, they were able to incorporate a much greater range of driving forces into their scenarios.

	<b>Case 1: DRDC Arctic Planning Scenarios</b>	<b>Case 2: Prince Patrick Island Incident</b>	<b>Case 3: GBN Marine Navigation</b>
<b>Timeframe</b>	2015-2020	2040	Mid-Century (2050)
<b>Decision/ Purpose</b>	Assess capabilities and identify gaps related to Arctic security initiatives.	Generate thought & discussion in military community about possible asymmetric threat in the Arctic.	Assess impact of reduced sea ice and increased marine traffic in Arctic.
<b>Main Driving Factors</b>	- Threat. - Government policy. - Military capabilities.	- Unconventional threat.	- Maritime navigation. - Arctic economic development.
<b>Critical Uncertainties</b>	- NATO-Russia Relations. - WoG cooperation.	- Arctic interests of non-Arctic nations. - Resources & Trade.	- Governance. - Resources & Trade.
<b>Scenarios</b>	- Safety & Security. - Defense.	- Prince Patrick Incident.	- Arctic Saga. - Arctic Race. - Polar Preserve. - Polar Lows.
<b>Implications</b>	- Sustained WoG focus in the Arctic is key to avoid deteriorating security situation. - Canada is dependent on U.S. & NATO for Arctic defense against aggressive state actors. - International institutions are necessary to avoid inter-state conflict.	- Canada cannot allow the North to become an ungoverned space. - Good Canada-U.S. relations are key to transparency & protection of North America from foreign threats. - CF must be prepared to conduct asymmetric warfare in Arctic year-round.	- International cooperation and respect for legal frameworks is key to preventing inter-state conflict. - Intense resource competition by non-Arctic states could bleed into the region. - Ongoing boundary disputes undermine security in the region. - An increase in resource investment & trade requires a requisite increase in security institutions in the region.

Table 5. Case Study Comparison

The GBN marine navigation scenarios address the most diverse array of critical uncertainties, but because they were drafted by a panel focused exclusively on the maritime

problem, there is minimal focus outside of the Arctic Race scenario on Arctic security. Although GBN's framework for determining driving forces does not have a security section like the others, several security issues were raised in the panel, but found to be highly unlikely or not important to the future maritime environment in the Arctic. All three of the cases assume that climate change will be constant, and with the exception of GBN, provide very little in their narratives on the rate or effects of climate change on the operating environment. Indeed, the rate of climate change is important because it is directly tied to the risks of Arctic investment and therefore drives the pace of resource investment, commensurate to demand. In other words, given a market for energy and resources combined with stable governance and a quick thaw, there is less risk to economic investment, which in turn drives economic growth in the region. Governments must be prepared for this growth and the security challenges that it poses.

Each case study provides a different perspective of the security threat, predicated primarily on the purpose of the scenarios. The DRDC scenarios and Prince Patrick Incident both highlight the military threat from terrorism and armed non-state actors. The GBN scenarios, with their focus on marine navigation, focus primarily on organized crime and profiteers, although the Arctic Race scenario paints a dire picture of conflict between non-Arctic states vying for increasingly scarce resources that could spill over into the Arctic. The diverse broad spectrum demonstrates that the CF must be prepared to deal with threats across the entire CF operations continuum.

Stable international governance and the rule of law are important because geopolitics characterized by cooperation is less likely to devolve into state conflict. Dialogue and cooperation among Arctic nations is, therefore, paramount to preventing state conflict from emerging. The DRDC scenarios, because they are set in the near-to-mid term, focus on the ongoing distractions between Russia and NATO countries. Obviously there is benefit in keeping the military rhetoric to a minimum while diplomacy is allowed to work. Perhaps the greater issue though, is

information sharing and cooperation among government agencies and their impact on Canadian sovereignty. The *Prince Patrick Incident* addresses the growing influence of Brazil, Russia, India and China and shifting global allegiances that are primarily regional in nature. Failed states in East Asia present security, governance and economic problems that must be considered and factored into government decisions over the prioritization of military spending and resources. Support to international humanitarian and stability missions must be balanced against the needs back home. Planning for the Arctic, therefore, requires that the GoC look beyond the region to balance its priorities in a time of shrinking budgets. GBN's scenarios highlight that the actions of governments depended largely on economic conditions and competition for resources. Where resource demand is low or mitigated by stable governance, state conflict is generally avoided.

Global economic stability was a factor in all of the scenarios, because an unstable economic environment will have dire effects on the global political and security situation. Both DRDC scenarios and the *Prince Patrick Incident* all forecast a collapse of the U.S. economy for a variety of reasons leading to a prolonged period of U.S. isolationism and a decline of U.S. hegemony. While this is unlikely, it underscores the need for Canada to be able to protect its sovereignty without dependence on the security umbrella of the United States. As a worst-case scenario, Canada should consider the possibility that the economy of its largest trading partner may sink under the weight of its ballooning debt, leading to a slash in U.S. defense spending. To a degree this is already being seen with mandatory cuts to the Department of Defense (DoD) as a result of sequestration. These cuts amount to a 20 percent reduction in DoD funding over the next ten years and according to Defense Secretary Panetta, the cuts will “put our military and national security at risk.”<sup>170</sup> The long-term effects that a reduced U.S. hegemony might have on Arctic disputes, NORAD and other bi-lateral security agreements ought to be considered. GBN

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<sup>170</sup> Buck McKeon, *What Sequestration Really Means* (Washington, DC: House Armed Services Committee, 2012).

attempted to present different macro-economic narratives such as the rise of Asia or political instability in the Middle East and the impact of volatile energy markets. In each scenario, the economic outcome is slightly different, but always, it has large regional and international effects on politics and security.

Can Canada act unilaterally to protect its sovereignty in such an uncertain future?

Although we have seen how the driving forces can interact in a myriad of ways, scenarios can help predict where Canada can and cannot act alone to protect its sovereignty. A quick assessment of current and planned military capabilities leads one to the conclusion that if Canada follows through with its current procurement strategy, it will most likely possess the means to support its sister civilian agencies with future safety and security threats in the Arctic. When it comes to state conflict or militia armies operating out of Canada's North, however, the CF will have a much tougher time confronting a threat outside of the summer months when the CF normally exercises its Arctic capabilities. Let us look at four new scenarios in order to further assess the issue.

### Proposed Scenarios

A review of the GoC's strategy and policy documents revealed several decision factors relevant to the question of whether Canada will be able to act unilaterally to protect its sovereignty in the Arctic. The most important external factors influencing the decision are grouped into four main clusters illustrated in Table 6 with some of the decision factors deemed to be most important. The driving forces in the Arctic are no different from those identified previously in the case studies. What changes however, is their prioritization and how they might come together to interact with and influence the key decision factors in Table 6 in order to answer the specific question of whether Canada can act unilaterally which has not yet been examined.

<b>Key Decision Factors</b>	<b>Most Important Supporting Decision Factors</b>
Security threats posed by non-state actors	<ul style="list-style-type: none"> <li>- Terrorism (domestic &amp; religious extremism, state sponsored terrorism, violent secessionist movements)?</li> <li>- Organized crime (narcotics trade, human trafficking, weapons smuggling, money laundering, commercial fraud, extortion)?</li> <li>- Non-state actors acting in their own self-interests?</li> </ul>
Stable international governance & rule of law	<ul style="list-style-type: none"> <li>- Participation in international &amp; regional institutions?</li> <li>- Adherence to international rules and regulations (IMO/UNCLOS)?</li> <li>- Degree of international/regional cooperation?</li> <li>- Resolution of UNCLOS and extended EEZ claims?</li> <li>- State stability &amp; military aggression</li> <li>- Will American hegemony be challenged?</li> </ul>
Effects of climate change	<ul style="list-style-type: none"> <li>- How long before the Arctic is ice-free all summer?</li> <li>- How quickly will shipping and tourism traffic increase?</li> <li>- Will icebergs remain a threat to navigation?</li> <li>- Will adverse weather increase or decrease?</li> <li>- Will the type of ice be mostly 1<sup>st</sup>-year ice?</li> </ul>
Global Economic Stability	<ul style="list-style-type: none"> <li>- What will the effect of the massive U.S. debt/deficit be?</li> <li>- Will global economic instability continue?</li> <li>- Will oil/gas prices rise, lower or remain the same?</li> <li>- Federal revenues from taxes/fees?</li> <li>- Sustainability of Northern governments &amp; communities?</li> </ul>

Table 6. Key Decision Factors for Canadian Unilateral Action in the Arctic

Security threats posed by non-state actors are of great concern because they are difficult to detect and are not likely to exist in isolation from one another.<sup>171</sup> The stability of the international system, particularly the participation in regional and international institutions and respect for international laws are key indicators of the potential for state conflict. It is no accident that Canada aims to “play a leading role in strengthening and modernizing international institutions so that they can contribute to international security.”<sup>172</sup> While climate change will open up the Arctic, it is also expected to cause increasingly violent weather patterns, drought, and natural disasters that will put new and challenging demands on the CF in the conduct of

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<sup>171</sup> Privy Council Office, *Securing an Open Society: Canada’s National Security Policy*, 8.

<sup>172</sup> *Ibid.*, 6.

humanitarian and stability operations.<sup>173</sup> The rate of climate change is extremely important as it affects both the timeframe for the future planning scenarios and the decision timeframe.

Economic stability, for example can be greatly affected by climate change and an increase in adverse weather. The most important decision factors affecting security in the Arctic are, therefore, related to natural resources, governance and the security implications of either a weak and unstable economy or a strong and burgeoning economy.

When studying the driving factors and forces of the previous scenarios, it became evident that the security situation in the Arctic depended greatly on resources and trade as catalysts for activity in the Arctic. Conflict appears to be largely a function of cooperation, but Russian policy and actions arose as the most likely driver of conflict in the region. Resources and trade and Russian foreign policy therefore are the two most important critical uncertainties that will drive a new scenario set aimed at understanding the future security environment of the Arctic and whether Canada's foreign and domestic policy together with its military strategy will allow it to protect its sovereignty. Figure 4 illustrates the individual axes of these two critical uncertainties. The resulting scenario sets that arise by crossing the two axes is depicted in Figure 5 and the narrative for each of the scenarios follows.

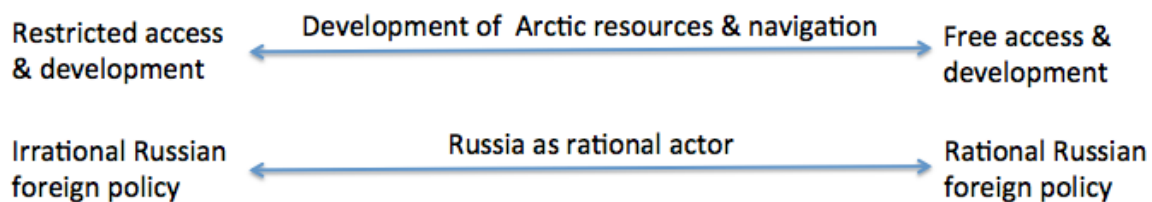


Figure 4. Most Important Critical Uncertainties

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<sup>173</sup> Director of Future Security Analysis, *The Future Security Environment 2008-2030*, 35-37.





Figure 5. Canadian Arctic Security – Axes of Uncertainty

When developing the scenarios, a timeframe of ten years was chosen, taking the scenarios out to 2023. A period of ten years was selected because it quickly became evident that there is little benefit to looking further out when it comes to assessing security threats and current government policy. Much like all scenario planning, one must suspend disbelief when reading the four scenarios below. Scenarios are *not* meant to be predictive, but are intended to challenge the organizational leadership to think creatively in order to develop strategies that are flexible enough to account for future uncertainties today.<sup>174</sup> Using the GBN model, two axes and four scenarios

<sup>174</sup> Schwartz, *The Art of the Long View: Planning for the Future in an Uncertain World*, 38.

were chosen in order to consider a range of alternative futures that cover the full range of possibilities that the GoC's strategic planning must address.<sup>175</sup>

### Russian Hegemony

In this future, rapid climate change opens up the Arctic even faster than predicted as sea ice melts at new record levels. The East Asia economy continues to grow and lift millions out of poverty, driving increased demand for energy and resources to satisfy their burgeoning middle class. Prolonged instability in the Middle East, constant since the beginning of the Arab Spring, places oil and gas supplies as well as global commerce routes such as the Suez Canal and Straits of Hormuz at risk. As a result oil prices rise exorbitantly. A rush to develop resources in the Arctic faster than governments can react results in a chaotic environment whereby local and international laws are largely ignored and/or not enforced. By 2023 the U.S., sensing the lack of movement on EEZ claims, has still not ratified UNCLOS arguing that it would restrict their freedom to police the already dangerous international straits. Arctic fisheries are open and signs of overfishing are evident, especially outside the EEZs of Arctic nations. The indigenous people begin to suffer as their traditional way of life erodes due to the loss of traditional hunting and fishing grounds. This results in social problems that Canada's territorial and federal governments are unable to resolve.

Conflicting bids for larger EEZs under UNCLOS based on continental shelf claims submitted in 2013 have yet to be settled, frustrating Canada and Russia who are eager to tap the resources in the disputed Lomonosov Ridge. The U.S. government makes serious attempts to tackle its deficit, cutting defense spending significantly. As a result of the cuts, the U.S. DoD is unable to invest in new Arctic capabilities for either the Army or the Navy. Russia, in order to

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<sup>175</sup> Ralston and Wilson, *The Scenario-Planning Handbook: A Practitioner's Guide to Developing and using Scenarios to Direct Strategy in Today's Uncertain Times*, 15.

protect its interests in the Arctic and prevent its own revolt by indigenous peoples, exerts tighter military control over the region and claims the Lomonosov Ridge as its own territory. Russia deploys a large military force to accompany state-owned Gazprom to the disputed ridge as they begin to drill for oil. Canada, Norway, Denmark and the U.S. object to the UN and advocate for a greater role for NATO in the region. Tensions between nations spill over to the Arctic Council and the spirit of cooperation that was present for the previous 30 years is noticeably strained and sometimes absent in 2023. By 2023, the security situation in the Arctic is reminiscent of the Cold War with tensions between NATO and Russia extremely high.

The thawing of the Arctic and Russia's attempted return to power coincide with a subsequent decline in Western military power as governments struggle to balance budgets. Canada managed to eliminate its federal deficit in 2016, one year behind schedule. The Liberal Canadian government elected in 2015 cut spending to the Arctic even further after campaigning on a promise to pay down the federal debt. In order to mitigate risk, the GoC closed the NWP to traffic not part of government-sponsored scientific research, employing its full suite of intelligence and surveillance capabilities to help mitigate the risk. The new AOPS and ice breaker were delayed such that in 2023 only three AOPS had been delivered and a contract for the new icebreaker had yet to be signed. Russia meanwhile operates a fleet of 12 nuclear-powered icebreakers. The Northern Sea Route has proven particularly lucrative for Russia and in 2023 more than 2000 ships traveled the route during the extended navigation season in order to avoid more hazardous global transit routes. Russia has capitalized on the success of the route, doubling fees in 2018 and raising them again in 2020. The closure of the NWP and the success of the Northern Sea Route accompanied by the large presence of the Russian Navy has managed to deter criminal organizations from operating freely in the region.

## Arctic Disinterest (Status Quo)

In this future, the thawing trend in the Arctic slows significantly in 2018. By 2023, multi-year ice returns to the Arctic and Arctic maritime commercial traffic is negligible. This has a huge effect on the ability of Russia to export its oil and natural gas, in which it invested heavily up to 2018. As a result, gas prices steadily increase from 2018 to 2023. Meanwhile, alternate energy technology is not the panacea it was foretold to be and demand for petroleum as an energy source, especially in developing countries such as China, continues to increase. To satisfy its increasing petroleum needs, China forged a strategic energy agreement with Russia in 2017, tying the national interests of the two countries together. By 2018, a prolonged global recession and a highly volatile energy and resource market drive most Western countries to focus internally as they attempt to reel in deficit spending that was intended to stimulate the global economy, but failed. Some countries, especially in Europe, are near bankruptcy. Defense budgets, an easy target for discretionary spending in any democracy, are reduced significantly in most NATO countries.

In late 2019, North Korea successfully tested its first nuclear ballistic missile. The United Nations Security Council fails to agree on action against North Korea with both China and Russia vetoing any propositions to deal with the situation. NATO, afraid of escalating tensions with Russia, decides against any action without a mandate from the UN Security Council, which angers the U.S., who must consider unilateral action with a “coalition of the willing.” Reminiscent of the second Iraq War, Canada joins the ranks of the unwilling, straining relations between Canada and the United States. Both, however, remain committed to NORAD.

In the Arctic, the Inuit thrive and native communities in Canada’s three territories seek greater independence from the GoC, including self-governance within Canada and a greater portion of energy and resource revenue. The Government of Canada eventually concedes and the territories become a national and global model for native governance and self-sufficiency. As a result, the GoC presence in the Arctic is significantly reduced by 2023 and the territories are

responsible for their own education, healthcare and policing. The region becomes a destination for eco-tourists. In 2023 the native tribes of Canada's North reinstate the traditional hunting methods of whaling, the annual seal cull and hunting polar bears in order to feed their people and celebrate their heritage. Although these acts were conducted in a sustainable manner overseen by Environment Canada, television images draw severe criticism around the world with many claiming the hunts as inhumane slaughter of endangered mammals. The EU subsequently bans all trade in animal products from Canada and Greenpeace activists brave the cold, flocking to the region in record numbers. An international incident disrupts the otherwise peaceful region when four activists are found dead in the icy waters off Inuvik Northwest Territories. No one is arrested and the GoC is forced to react, but finds its police forces unwelcome in the North.

#### Trilateral Cooperation

In this future, climate change and an increased frequency of catastrophic natural disasters wreak havoc around the world. The disasters are on the scale of the 2011 Japanese earthquake/tsunami, the 2010 Haiti earthquake, and the 2004 Indian Ocean tsunami. By 2018, the damage from natural disasters destroys key infrastructure, production, and agriculture straining the global economy as countries struggle to recover and the remainder try to help. These disasters, combined with a prolonged drought in the U.S. Midwest and Canadian prairies further strains corn and grain supplies resulting in a major increase in global food prices. Stock markets plummet, creating a global situation akin to the great depression of the 1930s. Unrest, fueled by economic instability and religious extremism in the Middle East and Southeast Asia, leads to several failed and failing states. By 2023, most Western countries, Russia and China are contributing significant military resources to UN-sanctioned humanitarian and stability operations around the globe. The increased presence of 'rich' countries perceived to be imposing their capitalist and secular ideals in these failed states angers armed extremists who use terrorism and

guerilla tactics to target deployed forces abroad. Some begin to plan attacks against western targets on their home soil.

By 2018, the dramatic effects of climate change, including a steady thaw in the Arctic, result in major investments by the public and private sectors in alternate energy technologies. To encourage the trend, the International Monetary Fund offers reduced lending rates to developing countries who invest or implement green technologies. By 2023, efforts begin to bear fruit by reducing dependence on dirty energy such as coal and oil. This reduced demand further harms energy-producing countries like Canada, the U.S., Russia, and many in the Middle East as oil prices plummet. As a result, the forecast rush for Arctic resources never materializes, although marine traffic increases gradually over the decade. In 2020, the U.S. finally stems the flow of drugs from Mexico and the Americas into the United States, forcing narco-traffickers to be creative. Cartels and narco-traffickers attempt to take advantage of Canada's vast North in order to get their product to market in Canada and the U.S.. These groups are increasingly heavily armed and are known to partner with Al Qaeda, working together to achieve their disparate aims. Unfortunately, many Inuit youth caught up in the drug trade and gang violence in northern communities, especially in Inuvik, Yellowknife and Whitehorse, have become a problem. Because of the sagging economy, some community elders and even government officials are now complicit in the drug trade in order to allow their communities to survive in a changing environment.

In the summer of 2021, Al Qaeda attacked a Russian nuclear icebreaker by sailing a ship-borne IED aboard a fast ship into its bow. Fortunately, the reinforced hull mitigated the effects of the blast. Damage was severe, but there was no damage to the nuclear centrifuges and the ship was able to sail into port at Vladivostok. The incident prompted renewed cooperation in the Arctic between Russia, the U.S., and Canada. The U.S. and Canada improve their bi-lateral security relationship and NORAD takes on Russian liaison officers in order to counter the criminal

and terrorist threat in the Arctic. The tri-lateral agreement between the three countries results in increased information and intelligence sharing on criminal/terrorist threats in the region as well as a marked improvement in their combined ability to conduct early warning and interdiction. The Arctic Council begins to seriously debate the merits of adding a security mandate to its agenda.

### Peaceful Development

In this future, globalization and peace in the Middle East lead to a spirit of cooperation as countries' focus on sustaining their economic revitalization after the global recession kicked off in 2008 finally ended in 2016. Global climate change has not been as bad as originally forecast, but the Arctic has continued to warm each winter. By 2016, large petroleum reserves are confirmed beneath the Arctic seabed. The U.S. signs onto UNCLOS in 2016 and submits its EEZ claim that year, having conducted its scientific research in conjunction with Russia and Canada several years back. In the 2018 Russian Presidential election, a new moderate leader replaces President Putin as resource revenues fail to make it down to the working class. In 2019, the Arctic nations hold true to the Ilulissiat declaration and an EEZ agreement is reached that is satisfactory to all parties. That same year, China and the EU are accepted onto the Arctic Council as permanent observers, lending further credibility to the organization and belying fears that the Arctic countries may shut out non-Arctic countries. The Council passes binding legislation mandating the sustainable and environmentally-friendly development of the region. As a result, by 2023, North America becomes largely self-sufficient as an oil and gas producer with the completion of the Keystone XL pipeline carrying crude from Canada's oilsands and the North to the U.S. and the East Coast of Canada for refinement. Russia finds markets for its rich resources in Europe and Asia.

The spirit of trust and cooperation lends to the resolution of long-standing maritime boundary disputes between Canada and the U.S over the Beaufort Sea and between Canada and Denmark over Hans Island. The Arctic Council, with the support of China and the EU is

instrumental in forcing the IMO to adapt new stringent international shipping standards applicable worldwide, but specifically in the Arctic where all ships must be double-hulled in order to prevent an environmental catastrophe in the sensitive ecosystem. New scientific cooperation spearheaded by the Arctic Council results in improved navigation in the Arctic. As a result of the new shipping standards, navigational aids and Canada's improved surveillance and monitoring capabilities in the Arctic, Canada acquiesces to the U.S. insistence that the NWP be recognized as an international strait. In doing so, however, the U.S. gave up the disputed area in the Beaufort Sea to Canada. NATO's role in the Arctic is negligible and is limited to its Article 5 mandate.

By 2023, Canada's Northern territories are increasingly dependent on resource revenues while the GoC, satisfied with the security situation in the North, neglects its strategy for the North, even though it is dependent on the oil and resource revenues from the region. Upset at the lack of government services and outsourcing of jobs in the high-paying energy and resource sector to non-indigenous people, the Northwest Territories and Nunavut are determined to hold a referendum to secede from Canada. A militant arm of the Inuit separatist movement gains momentum and begins conducting small-scale terrorist attacks against GoC infrastructure and some large corporations deemed unfriendly to the Inuit. The situation is mildly reminiscent of the October Crisis of 1970 in Quebec.

### Summary

While there is little that can be done to reverse the effects of climate change, these four scenarios highlight how important the global economy and cooperation among Arctic nations is to Arctic security. The economy directly impacts Arctic resource development and navigation and may indirectly influence Russian foreign policy and hence, Arctic cooperation. The effects of these two critical uncertainties have the potential to impact the social, economic and political stability of Canada's North and the entire region. Each scenario presents a challenging security



problem that the GoC must plan for. Given the CF's current and planned operational capabilities, it is quite possible that, together with the other government agencies, they can deal with the safety and security threats posed in the Peaceful Development, Arctic Disinterest and Trilateral Cooperations scenarios. Canada can accept risk in defending against conventional attack in the North because there are few nations with the ability to operate in the region for a prolonged period and because Canada is a member of NATO and can invoke Article 5 at any time. By considering the myriad of futures proposed in the case studies and the new cases presented here, it is possible for the GoC to align the actions of its various government departments in time, space and purpose to mitigate risk and plan for all eventualities. *FSE 2030* recognizes that "the future security environment will require contributions from all instruments of national power" and "achieving the desired effects will require the participation of, and cooperation with, allied defense teams, other government departments, the private sector, and, where applicable, non-government organizations."<sup>176</sup> This Comprehensive approach is in line with Canada's National Security Strategy and is vital to the GoC's ability to defend its sovereignty in the Arctic.

## CONCLUSION AND RECOMMENDATIONS

Scenario planning is a useful tool for predicting alternate futures to aid in strategic planning. Two scenarios ought to be the minimum in order to properly capture the opposing logics of the most important uncertainties, but four are preferred.<sup>177</sup> The driving factors and forces relevant to the issue or decision at hand are extremely important as they help flesh out the narrative and, through their interaction, provide valuable insight into the key decision factors influencing the decision. This study looked at seven Arctic scenarios from three case studies and

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<sup>176</sup> Director of Future Security Analysis, *The Future Security Environment 2008-2030*, 9.

<sup>177</sup> Ralston and Wilson, *The Scenario-Planning Handbook: A Practitioner's Guide to Developing and using Scenarios to Direct Strategy in Today's Uncertain Times*, 17.

developed four new scenarios focused solely on Arctic security. The results demonstrate that, if Canada executes its Arctic strategy in accordance with its Arctic policy documents, then Canada will be able to protect its sovereignty without assistance against transnational security threats only. Canada's membership in NATO is critical to its sovereignty, even if there is no direct role for NATO in the Arctic. Simply by being a part of the Alliance, Canada can accept considerable risk knowing that in the event of an attack on Canada, Article 5 of the treaty will bring the Alliance to Canada's defense. Canada's relationship with NATO, therefore, is of the utmost importance and should not be neglected by the GoC.

Given the likelihood that Canada will not be able to act unilaterally to defend its sovereignty against an aggressor with significant military capability, it is no surprise that the GoC has decided to pursue a policy of diplomacy and bi-lateral or multi-lateral agreements. Canada has made the resolution of its Arctic disputes its top Arctic foreign policy priority. Solving the Beaufort and Lincoln Sea disputes in the near term will provide greater stability in the long-term if and when the drive for Arctic resources hits full swing. As Canada adopts the chair of the Arctic Council in 2013, it should advocate for a change in mandate to include security issues, citing the search and rescue agreement of 2010 as evidence that the Arctic Council can take on the additional burden.

If indeed, the primary threat to Canadian sovereignty is unconventional in nature, then the CF must prepare to confront such a threat imposed by state or non-state actors and the GoC must leverage all elements of national power to prevent the North from becoming a large ungoverned space. A measured approach must be taken to economic development and every effort must be made to enhance Northern governance of the territories and native communities. Doing so will prepare them for the detrimental societal impacts that climate change and economic development are likely have on their way of life. These possibly dramatic changes will require the

peoples of the North to adapt and a prepared and well-governed population is going to be much more resilient in the face of adversity.

Canada must be mindful of the costs and impact of further delays to the capabilities promised in Canada's Northern Strategy. Many of those capabilities, such as RADARSAT, the Northern Watch Technology Demonstration Project, the icebreaker and the AOPS are necessary to monitor and interdict threats attempting to enter Canada. Through NORAD's expanded mandate and bi-lateral Canada-U.S. security agreements, Canada must take its responsibilities to patrol its shorelines seriously or risk U.S. disengagement. It is not inconceivable that if Canada cannot monitor and control its own territory, then the U.S. may act unilaterally by assuming that responsibility to protect U.S. interests. The net result is a major loss of sovereignty for Canada.

Currently, the GoC is accepting risk by planning for a future in which there is no conflict forecast in the Arctic. Canada must, therefore, depend on NATO and its allies to help defend her interests against a significant military threat in the Arctic. Each scenario illustrates the need for international security cooperation to defend against future threats at home and abroad. NATO and NORAD are both vital to the protection of Canada's national interests, but a balanced approach must be taken to ensure peaceful relations with Russia and non-Arctic nations who have economic interests in the region. In order to protect its sovereignty in the Arctic, Canada must take a WoG approach at the strategic level in order to align the political, economic, social environmental and security elements of national power. To quote E.B. Wang, "Sovereignty is not a magic word which automatically requires or justifies a certain military set-piece. It is rather the political and territorial framework within which a state exists and functions."<sup>178</sup>

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<sup>178</sup> P. Whitney Lackenbauer and Peter Kikkert, "Building on "Shifting Sands": The Canadian Armed Forces, Sovereignty and the Arctic, 1968-1972," *Calgary Papers in Military and Strategic Studies* Occasional Paper Number 4 (2011), 283. Quotation appears in the text with credit to E.B. Wang, External Arrairs, Legal Division, August 1970.

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