

## *The Canadian Armed Forces in the Arctic: Building Appropriate Capabilities*

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*With a renewed commitment to maintaining a presence in the region and enhancing our capabilities to routinely operate in this often-inhospitable expanse, the [Canadian Armed Forces] is contributing to the Government of Canada's Northern Strategy. At the same time, exercising Canadian sovereignty in the Arctic can only be achieved through a whole-of-government approach. Therefore, the [Canadian Armed Forces] is also working closely with our federal and territorial partners, as well as with the peoples of the North, to safeguard this precious inheritance and ensure Canada remains "Our True North, Strong and Free."*

- DND Backgrounder, "The Canadian Forces in the Arctic" (April 13, 2012)

Climate change. Newly accessible resources. New maritime routes. Unresolved boundary disputes. Announcements of new investments in military capabilities to 'defend' sovereignty and sovereign rights. The Arctic has emerged as a topic of tremendous hype (and deep-seated misperceptions) over the last decade, spawning

persistent debates about whether the region's future is likely to follow a cooperative trend or spiral into unbridled competition and conflict. Commentators differ in their assessments of the probability and/or timing of developments, as well as general governance and geopolitical trends.<sup>1</sup>

These frameworks are significant in shaping expectations for the Government of Canada and for the Canadian Armed Forces (CAF) more specifically. If one expects that the region is on the precipice of conflict, with the "defence of sovereignty" (presumably equating sovereignty with territorial integrity) demanding new conventional military capabilities to conduct kinetic operations in the region, then investments in "constabulary capabilities" are insufficient.<sup>2</sup> Furthermore, military activities demonstrating effective control over Canadian territory and internal waters are also often improperly associated with preserving the international legal basis for Canada's Arctic sovereignty, based on the erroneous assumption that maintaining ships and soldiers in the region to "show the flag" and demonstrate "presence" helps to bolster our legal position.<sup>3</sup>

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<sup>1</sup> On these debates see: Franklyn Griffiths, Rob Huebert, and P. Whitney Lackenbauer, *Canada and the Changing Arctic: Sovereignty, Security and Stewardship* (Waterloo: Wilfrid Laurier University Press, 2011); Scott G. Borgerson, "Arctic Meltdown" *Foreign Affairs* (March/April, 2008), Ian G. Brosnan, Thomas M. Leschine, and Edward L. Miles, "Cooperation or Conflict in a changing Arctic?" *Ocean Development & International Law* 42:1-2 (2011): pp. 173-210; Oran R. Young, "The future of the Arctic: Cauldron of Conflict or Zone of Peace?" *International Affairs* 87:1 (2011): pp. 185-193; Lawson W. Brigham, "Think Again: The Arctic," *Foreign Policy* 181 (2010): p. 71; Jason Dittmer, Sami Moisiu, Alan Ingram, and Klaus Dodds. "Have you Heard the One about the Disappearing Ice? Recasting Arctic Geopolitics," *Political Geography* 30: 4 (2011): 202-214; Elana Wilson Rowe, "A Dangerous Space? Unpacking State and Media Discourses in the Arctic," *Polar Geography* 36: 3 (2013): pp. 232-244; Rob Huebert, "Cooperation or Conflict in the New Arctic? Too Simple of a Dichotomy!" in *Environmental Security in the Arctic Ocean*, Paul Berkman and Alexander Vylegzhanin ed. (Dordrecht: Springer Netherlands, 2013), pp. 195-203; Kristian Åtland, "Interstate Relations in the Arctic: An Emerging Security Dilemma?" *Comparative Strategy* 33: 2 (2014): pp. 145-166; and Frederic Lasserre, Jérôme Le Roy, Richard Garon, "Is there an Arms Race in the Arctic?" *Journal of Military and Strategic Studies* 14:3,4 (2012). A discussion of specific Canadian debates follows.

<sup>2</sup> For a sample see: Robert Murray, "Harper's Arctic Failure," *Winnipeg Free Press* (September 1, 2013); Steve Mertl, "Canada Needs to do More to Back its Claims to Arctic Sovereignty," *Daily Brew* (April 24, 2014); "Canada is Falling Short in Arctic Defence," *Times Colonist* (September 3, 2013). Similarly, assessments like that by Paul Pryce, a research analyst at the Atlantic Council of Canada, asserting that "international observers are no doubt keenly aware of the RCAF's and RCN's weakened capabilities, making Canada a target," are misleading: "Canada's Tepid Arctic Policy" (October 28, 2014).

<sup>3</sup> For a fuller account of this philosophy as it manifested in the 1970s see: P. Whitney Lackenbauer and Peter Kikkert Eds., *The Canadian Forces & Arctic Sovereignty: Debating Roles Interests and Requirements* (Waterloo: Wilfrid Laurier University Press, 2010). On this practice, see also: P. Whitney Lackenbauer, "From Polar Race to Polar Saga: An Integrated Strategy for Canada and the Circumpolar World," CIC:

On the other hand, official military statements, all of which anticipate no near-term conventional threats to the region, predict an increase in security and safety challenges and point to the need for capabilities suited to a supporting role in an integrated, whole-of-government (WoG) framework. This entails focused efforts to enhance the government's all-domain situational awareness in the Arctic, to prepare responses to a range of unconventional security situations or incidents in the region, and to assist other government departments (OGD) in their efforts to enforce Canadian laws and regulations within national jurisdiction. Accordingly, the CAF has focused its short to medium-term planning and preparation on unconventional security concerns properly situated within the categories of safety and security.<sup>4</sup>

In assessing Canada's military capabilities, we begin from the assumption that the CAF is correct in its northern threat assessments, which have rated conventional military conflict as an extremely low possibility. As such, real capability should be measured not necessarily by the number of soldiers or assets deployed (or deployable), but in the CAF's ability to respond to the most likely and realistic threats and challenges facing the Arctic today. This implies the need for situational awareness; the ability to deploy and maintain appropriate mission-specific teams adaptable to a variety of situations; smooth integration into joint operations; and the ability to respond quickly and decisively with appropriate force wherever Canada exercises jurisdiction. These missions and requirements receive less public attention than large-scale deployments or major procurement programs but they lie at the heart of the military's current approach to Arctic sovereignty and security.

To begin, we must frame the basic contours of the ongoing debate about Canadian Arctic defence and security. While there is a great deal of academic literature discussing the strategic rationale and requirements for a CAF northern presence, our primary purpose is to go much further. We seek to provide empirical insights into *how* the Department of National Defence/Canadian Armed Forces has conceptualized and built

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*Foreign Policy for Canada's Tomorrow* 3 (July, 2009) and Klaus Dodds, "We are a Northern Country: Stephen Harper and the Canadian Arctic," *Polar Record* 47:4 (2011): pp. 371-374.

<sup>4</sup> A third category: conventional "defence" is also recognized, however, it is seen as a potential future concern, not a current or pressing issue. Department of National Defence (DND), *Canadian Forces Northern Employment and Support Plan* (November, 2012).

its Arctic capabilities, *what* it intends to use them for, and *why* this new approach is appropriate to twenty-first century Arctic security challenges.

In the first section, “Framing the Debate,” we endeavour to map out the major trends in the academic literature which have evolved in the twenty-first century. The core debate on Arctic defence has been bookended by securitizing actors who have, on one side, pointed to border and resources disputes and emerging sea routes as potential sources of tension and even armed conflict. On the other side are those that have dismissed such concerns out of hand and see little or no role for the CAF in the Arctic, instead placing faith in normative assumptions about circumpolar cooperation and even advocating circumpolar disarmament. In this debate we attempt to strike a more nuanced balance, recognizing that there is little conventional security threat to the Arctic while exploring the CAF’s complex non-kinetic roles, responsibilities, and requirements in the region.

In “The CAF in the Arctic” section we lay out the Forces’ organization, mandate, capabilities, and tools to show how the military contributes to Canadian security while reinforcing the country’s legal position vis-à-vis its maritime domain. We also offer a detailed examination of Canada’s maritime, land, and air/space forces, how they fit into the country’s northern strategy, and what each brings to the defence of the Arctic.

Finally, in the section “The Modern Evolution of the CAF’s Arctic Presence” we look back at the evolution of the Forces’ capacity since the early 2000s to chart the evolving command structure and capabilities of each service, laying the groundwork for a comprehensive assessment of the CAF’s organization for Arctic defence and security missions, force levels, hardware, training, research and capacity development, as well as an appreciation of how these elements influence the CAF’s overall capabilities and direction.

We observe that the CAF has focused its attention on building core Arctic capabilities over the last decade and, while significant gaps remain between its current abilities and desired end-state, there has been a steady improvement in basic skill-sets and general comfort with Arctic operations – from both tactical and planning/logistics standpoints. Meanwhile, slower than expected growth in Arctic shipping and resource development has afforded additional time to develop and implement an integrated

defence, security, and safety program that situates the CAF in a broader whole-of-government effort. Despite popular commentaries suggesting that CAF deficiencies in the North make Canada vulnerable, we argue that the fundamental policy assumptions guiding the DND/CAF Arctic strategy are sound, that the CAF is generally capable of meeting its current and short-term requirements, and that the forces are appropriately and responsibly preparing to meet the threats to Canadian security that are likely emerge over the next decade.

### **Framing the Debate**

The Government of Canada has assigned the CAF the overarching tasks of “defending” Canadian sovereignty, exercising control over the Arctic, and protecting the region. While these broad objectives appear straightforward, determining how to achieve them has generated considerable debate. In large part, this is because commentators differ in their assessments of the intent of foreign actors in the Arctic, of the probability and timing of resource and maritime developments, of general governance and geopolitical trends, and of competing domestic socio-economic and cultural priorities. Some academics and media commentators anticipate – or already see – heightened competition and conflict in the region, while others contend that the Arctic regime is solidly rooted in cooperation and that any “militarization” of the agenda is inherently problematic. These debates not only shape our perception of the North, they also influence our response to perceived dangers. Defining the military’s role in the Arctic, therefore, begins with assessing threats and requirements.

In the early years of the Harper government (2006-09), high natural resource prices mixed with receding ice and fears of potential sovereignty disputes – as well as the Conservatives’ political desire to differentiate themselves from their allegedly “soft” Liberal predecessors – encouraged an aggressive political response. This early approach centered on “defending Canada’s sovereignty” with new “military investments” in the Arctic to put “forces on the ground, ships in the sea” and build up “proper surveillance.”<sup>5</sup>

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<sup>5</sup> Stephen Harper, “Harper Stands Up for Arctic Sovereignty,” Address by the Hon. Stephen Harper, Leader of the Conservative Party of Canada (December 22, 2005). For background on Arctic defence and

In 2007, during a speech in Esquimalt, the prime minister announced that “Canada has a choice when it comes to defending our sovereignty in the Arctic; either we use it or we lose it.” In the speech from the throne later that year, the government highlighted the requirement to build the “capacity to defend Canada’s sovereignty,” an effort that lay at “the heart of the Government’s efforts to rebuild the Canadian Forces.”<sup>6</sup> The common theme in these early pronouncements was a fear that rapid changes in the North could have negative ramifications on Canada’s sovereignty and security in the region.

These fears were stoked by both expert and popular media commentaries pointing to the potential for either interstate or unconventional conflict in the future Arctic. In 2008, American commentator Scott Borgerson (a former US Coast Guard lieutenant commander) generated tremendous hype with an article in the influential journal *Foreign Affairs*, in which he warned of an impending “Arctic meltdown” fueled by a rush for resources and sea lanes.<sup>7</sup> In 2009, he insisted that the North was on the verge of conflict as the Arctic version of the “Great Game” moved north.<sup>8</sup> These concerns were echoed around this same time by other commentators, such as Barry Scott Zellen, who highlighted resources as a potential catalyst for conflict,<sup>9</sup> Vsevolod Gunitsky, who called the Arctic a “new front for global tensions,”<sup>10</sup> and Tony Balasevicius, who pointed to the military muscle-flexing amongst Arctic powers as a source of ongoing tension and concern.<sup>11</sup>

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security policy, which shows that the Liberal Government under Paul Martin was already articulating the need for a more robust approach to Arctic defence and security, see Ryan Dean, P. Whitney Lackenbauer, and Adam Lajeunesse, *Canadian Arctic Defence Policy: A Synthesis of Key Documents, 1970-2013*, Documents on Canadian Arctic Sovereignty and Security v.1 (Calgary/Waterloo: Centre for Military and Strategic Studies and Centre on Foreign Policy and Federalism, 2014).

<sup>6</sup> Speech from the Throne to Open the Second Session of the 39th Parliament of Canada, Parliament of Canada (October, 2007).

<sup>7</sup> Scott Borgerson, “Arctic Meltdown: the Economic and Security Implications of global Warming,” *Foreign Affairs* 87:2 (March/April, 2008): pp. 63-77.

<sup>8</sup> The term “great game” is a reference to the 19<sup>th</sup> century political/military efforts of Great Britain and Russia to win dominance in Central Asia.

<sup>9</sup> Barry Scott Zellen, “Viewpoint: Cold Front Rising - As Climate Change Thins Polar Ice, a New Race for Arctic Resources Begins,” *Strategic Insights* 7 (February, 2008): pp. 1-10.

<sup>10</sup> Vsevolod Gunitsky, “On Thin Ice: Water Rights Disputes and Resource Disputes in the Arctic Ocean,” *Journal of International Affairs* 61:2 (Spring, 2008): p. 261.

<sup>11</sup> Tony Balasevicius, “Towards a Canadian Forces Arctic Operating Concept,” *Canadian Military Journal* 11:2 (Spring, 2011): p. 25.

At the same time, popular media was stoking these concerns amongst the general public. *Time* magazine famously ran a cover story in October 2007 entitled “Who owns the Arctic?”<sup>12</sup> The prominent science journal *Nature* likewise published an article in January 2008 entitled “The Next Land Rush,” which emphasised the potential for jurisdictional conflicts over large areas of the seabed in the Arctic.<sup>13</sup> These international magazines were also surrounded by hundreds of newspaper articles and editorials in Canada and around the world highlighting the same perceived dangers.

In Canada, political scientist Rob Huebert of the University of Calgary embodied this school of thought when he framed the Arctic as a zone of potential conflict beginning in the early 2000s. His “sovereignty on thinning ice” argument was a clarion call for action and Huebert became a prominent securitizing actor, generating media and political support for a more robust Canadian defence posture in the region. Although he has since moved away from the idea that Arctic sovereignty, maritime disputes, and/or questions of resource ownership will serve as catalysts for regional conflict, he emphasizes that other Arctic states’ investments in military assets and capabilities still point to an Arctic “arms race” (a phrase which he does not use but is an idea that he clearly intimates) which requires a Canadian response. Furthermore, he promotes the idea that, as the Arctic becomes increasingly enmeshed in global affairs, military conflicts emanating from outside the region are likely to spill over into the Arctic. As such, Canada needs to be prepared to meet conventional military security threats in the Far North. In Huebert’s view, official strategic assessments that downplay such concerns are overly optimistic and even naive.<sup>14</sup>

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<sup>12</sup> *Time* (October, 2007).

<sup>13</sup> Daniel Cressy, “Geology: The Next Land Rush,” *Nature* 451 (January, 2008): pp. 12-15.

<sup>14</sup> Huebert’s most influential publications include “Climate Change and Canadian Sovereignty in the Northwest Passage,” *Isuma: Canadian Journal of Policy Research* vol.2 no.4 (Winter 2001): pp. 86-94; “The Shipping News Part II: How Canada’s Arctic Sovereignty is on thinning ice,” *International Journal* (Summer 2003): pp. 295-308; “Renaissance in Canadian Arctic Security,” *Canadian Military Journal* vol.6 no.4 (2005-2006): pp. 17-29; “Canadian Arctic Maritime Security: The Return to Canada’s Third Ocean,” *Canadian Military Journal* 8:2 (Summer 2007); *The United States Arctic Policy: The Reluctant Arctic Power* (Calgary: School of Public Policy, University of Calgary, May 2009); **Error! Main Document Only.** *Canadian Arctic Sovereignty and Security in a Transforming Circumpolar World: Foreign Policy for Canada’s Tomorrow* Foreign Policy for Canada’s Tomorrow no.4 (Toronto: Canadian International Council,

By conflating grand strategic and Arctic regional issues, as well as (broad) security and defence considerations, Huebert remains the leading proponent of a pessimistic outlook that portends competition and even conflict between Arctic states, non-Arctic states, and non-government actors (such as foreign state-owned enterprises, environmental groups, and indigenous peoples) in the region. Other commentators have also highlighted the alleged threat posed by non-Arctic states (particularly China) with burgeoning interests in Arctic resources, transportation, and governance. American think-tank director Roger W. Robinson has been the most outspoken commentator on this point, seeing a deliberate Chinese plan to use its soft power economic influence to establish a presence in countries like Iceland, which would ultimately lead to the deployment of naval assets that could be used to project hard power.<sup>15</sup> Huebert has offered a far less alarmist picture of Chinese investment, though he still warns that “it would be naïve to believe that there could never be a Chinese [Arctic] naval deployment in the future” and that “the arrival of Chinese surface or sub-surface vessels near its Arctic waters would complicate the strategic picture facing Canada.”<sup>16</sup> The University of Calgary’s David Wright has expressed similar concerns, noting that:

Policy makers should be aware that China’s recent interest in Arctic affairs is not an evanescent fancy or a passing political fad but a serious, new, incipient policy direction. China is taking concrete diplomatic steps to ensure that it becomes a player in the Arctic game and eventually will have what it regards as its fair share of access to Arctic resources and sea routes.

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July 2009); *The Newly Emerging Arctic Security Environment* (Calgary: Canadian Defence and Foreign Affairs Institute, March 2010): pp. 1-25; “Canada and the Newly Emerging International Security Regime,” in *Arctic Security in an age of Climate Security* edited by James Kraska (Cambridge: Cambridge University Press, 2011): pp. 193-217; with Heather Exner-Pirot, Adam Lajeunesse and Jay Gullledge, *Climate Change an International Security: The Arctic as a Bellwether* (Washington: Center for Climate and Energy Solutions, May 2012): pp. 1-58; and “Rising Temperatures, rising tensions: power politics and regime building in the Arctic,” in *Polar Oceans Governance in an Era of Environmental Change* edited by Tim Stephens and David VanderZwaag (Cheltenham UK: Edward Elgar, 2014): pp. 65-85. Huebert’s recent commentaries include “Why Canada, US must resolve their Arctic border disputes,” *Globe and Mail*, 21 October 2014; “How Russia’s move into Crimea upended Canada’s Arctic Strategy,” *Globe and Mail*, 2 April 2014; and “Is Canada ready for Russia’s hardball approach to the North Pole,” *Globe and Mail*, 30 January 2014.

<sup>15</sup> Roger W. Robinson, “China’s Long Con in the Arctic,” *Macdonald Laurier Institute Commentary* (September, 2013).

<sup>16</sup> Rob Huebert, “Canada and China in the Arctic: A Work in Progress,” *Meridian Newsletter* (Canadian Polar Commission) (Fall/Winter 2011 – Spring-Summer 2012).

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China has already committed substantial human, institutional, and naval resources to its Arctic interests and will continue to do so, likely at an accelerated rate, in the future.<sup>17</sup>

Wright notes that although Chinese officials have refrained from elaborating on their country's Arctic interests and prospective roles, what "non-official observers are writing should worry Canadians."<sup>18</sup> To justify this alarmism, he points to China's perceived entitlement to the resource riches of the Arctic as the world's most populous country, as well as its desire to see most of the Arctic Basin remain "international territory [sic]" and to dilute Canada's sovereignty over the Northwest Passage to the point of "meaninglessness."<sup>19</sup>

In contrast to this school of thought, commentators such as Frédéric Lasserre, Jérôme Le Roy, and Richard Garon suggest that the facts behind the so-called circumpolar "military build-up" do not point to a worrying increase in military capability, let alone an "arms race."<sup>20</sup> In addition, Lasserre notes that Canada's Arctic interests are generally compatible with those of China and other East Asian countries and he sees opportunities for collaboration and mutual benefit.<sup>21</sup> Along these same lines, Linda Jacobson and Jingchao Peng point out that the Arctic remains a low priority for China. Furthermore, Beijing's longstanding interest in promoting a Westphalian interpretation of state sovereignty makes Chinese interference in the sovereignty of any Arctic littoral country highly unlikely.<sup>22</sup>

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<sup>17</sup> David Wright, "The Dragon Eyes the Top of the World: Arctic Policy Debate and Discussion in China." *China Maritime Study* (2011): p. 32.

<sup>18</sup> David Wright, "We Must Stand Up to China's Increasing Claim to Arctic," *The Calgary Herald* (March 8, 2011)

<sup>19</sup> *Ibid.*

<sup>20</sup> Frederic Lasserre, Jérôme Le Roy, Richard Garon, "Is there an Arms Race in the Arctic?" *Journal of Military and Strategic Studies* 14 (2012): pp. 3,4.

<sup>21</sup> Frédéric Lasserre, "China and the Arctic: Threat or Cooperation Potential for Canada?" *Canadian International Council China Papers* 11 (June, 2011).

<sup>22</sup> Linda Jakobson and Jingchao Peng, "China's Arctic Aspirations," *SIPRO Policy Paper* 32 (November, 2012). See also Whitney Lackenbauer and James Manicom, *Canada's Northern Strategy and East Asian Interests in the Arctic* (Waterloo: Centre for International Governance Innovation East Asia-Arctic Paper 5, December 2013), and Per Erik Solli, Elana Wilson Rowe, and Wrenn Yennie Lindgren, "Coming into the Cold: Asia's Arctic Interests," *Polar Geography* 36:4 (2013): pp. 253-270.

While China has never released an official Arctic policy, it has attempted to position itself as a partner, rather than a competitor in the region. The highest level policy statement from their government came in 2015 at the annual Arctic Circle conference in Iceland. There, Vice Foreign Minister Zhang Ming dwelt on China's scientific research, shipping, and oil and gas exploration, telling the assembled officials and academics that "China is a constructive participant in, and partner of, cooperation in Arctic affairs."<sup>23</sup> While the statements of an authoritarian government should not necessarily be taken at face value, China's history of scientific and economic activity in the Arctic does point towards that country as a responsible partner, rather than a threat.<sup>24</sup>

In stark contrast to the grim warnings from academic and popular writers of the threats gathering on the Arctic horizon stands a school anticipating the development of circumpolar peace and cooperation, rooted in the Arctic Council and international legal norms. Michael Byers of the University of British Columbia, the Canada Research Chair in Global Politics and International Law and a former federal NDP candidate, has offered an optimistic position forecasting polar cooperation and peace since mid-2009. Originally grouped together with Huebert and fellow international legal scholar Suzanne Lalonde as a "primary purveyor of polar peril,"<sup>25</sup> Byers turned from a "sovereignty on thinning ice" argument that promoted the need for vigorous bilateral diplomacy and rapid investment in defence and enforcement capabilities to bolster Canadian sovereignty<sup>26</sup> to an insistence that international law, the Arctic states' shared circumpolar interests, and

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<sup>23</sup> "We are a Major Stakeholder in the Arctic: China," *The BRICS Post* (October 17, 2015).

<sup>24</sup> For the most complete examination of this history see: P. Whitney Lackenbauer, Adam Lajeunesse, James Manicom, and Frederic Lasserre, *China's Arctic Aspirations: The Emerging Interests of a "Near Arctic State" and What They Mean for Canada* (Calgary: University of Calgary Press, forthcoming).

<sup>25</sup> First coined in: Franklyn Griffiths, "Towards a Canadian Arctic Strategy," *Foreign Policy for Canada's Tomorrow* (CIC: June, 2009), p. 26.

<sup>26</sup> See for example: Michael Byers and Suzanne Lalonde, "Our Arctic Sovereignty is on Thinning Ice," *Globe and Mail*, (August 1, 2005); Byers, "Ottawa must Act Quickly to Assert Sovereignty in Arctic," *Winnipeg Free Press* (January 7, 2006); Byers, "The Need to Defend Our New Northwest Passage," *The Tyee* [University of British Columbia] (January 30, 2006); Byers, "Our Next Frontier: The Arctic Ocean," *Globe and Mail* (April 6, 2006); Michael Byers, "Canada's Arctic race with Russia: Securing Canada's Rights in the Arctic will Require a Serious Investment of Money and Personnel," *Toronto Star* (July 29, 2007); Byers, "Canadian Government Cannot Afford to Dither on Arctic Sovereignty," *Hill Times* (October 16, 2006); Byers, "Canada Must Seek Deal with US: Vanishing Ice Puts Canadian Sovereignty in the Far North at Serious Risk," *Toronto Star* (October 27, 2006); and Byers, *Intent for a Nation: What is Canada For?* (Vancouver: Douglas & McIntyre, 2007).

negotiation will allow the key stakeholders to manage Arctic issues.<sup>27</sup> Despite this abrupt about-face beginning in 2009,<sup>28</sup> his writings continued to adopt an alarmist tone, with such headlines as “The Arctic and the End of the World;”<sup>29</sup> “Russia Pulling Ahead in the Arctic;”<sup>30</sup> “The Dragon Looks North: China Grows Hungry for Arctic Resources and Shipping Routes as the Northern Ice Melts;”<sup>31</sup> “Every Arctic Voyage is a Potential Disaster;”<sup>32</sup> and “Arctic Security: Fighting for the True North.”<sup>33</sup> To preserve circumpolar peace and stability, Byers decries “militarization” and instead argues for an armed Canadian coast guard (rather than naval capabilities),<sup>34</sup> enhanced Canada-Russia bilateral cooperation,<sup>35</sup> and negotiations with the US based on common defence and security interests as a pretext to secure American acquiescence to Canada’s position that the

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<sup>27</sup> For his leading works on these themes, see Byers, *Who Owns the Arctic? Understanding Sovereignty Disputes in the North* (Vancouver: Douglas & McIntyre, 2010) and *International Law and the Arctic* (Cambridge: Cambridge University Press, 2013).

<sup>28</sup> For a sudden transition to confidence in Canada’s legal position on the NWP, for example, see Michael Byers, “The Northwest Passage is already Canadian,” *Globe and Mail* (October 27, 2009). More generally on his shift to a cooperation discourse, see Byers, “Wanted: Mid-Sized Icebreakers, Long-Range Choppers, Perspective,” *Globe and Mail*, (June 11, 2009); Byers, “Re-Packaging Arctic Sovereignty: Canada’s New Northern Strategy is Mostly Made up of Old Ideas that have Gone Nowhere,” *Ottawa Citizen* (August 5, 2009); Byers, “Breaking the Ice: Canada’s Arctic Policy Seems to be Shifting to Include Diplomacy, than will Accomplish much more than Building Ships and Bases,” *Ottawa Citizen*, (October 27, 2009); and Byers, “Arctic diplomacy Requires Building a Bigger Igloo,” *Ottawa Citizen* (February 8, 2010).

<sup>29</sup> *Ottawa Citizen* (October 17, 2009).

<sup>30</sup> *Toronto Star* (October 1, 2011).

<sup>31</sup> *Al Jazeera* (December 28, 2011). See also Byers, “China is Coming to the Arctic,” *Ottawa Citizen* (March 29, 2010), which suggests risks that require Canada to work in “constraining China in the North.”

<sup>32</sup> Byers, “Every Arctic Voyage is a Potential Disaster,” *Ottawa Citizen* (September 3, 2010).

<sup>33</sup> Byers, “Arctic Security: Fighting for the True North,” *Globe and Mail* (January 25, 2011).

<sup>34</sup> Randy Boswell, “Tories to Consider Arming Arctic-Bound Coast Guard Ships,” *Nunatsiaq News* (October 21, 2010).

<sup>35</sup> See, for example, Byers, “Russia and Canada: Partner’s in the North? Recognizing each other’s Claims Brings Mutual Benefits,” *Globe and Mail* (December 21, 2009); Byers, “Russian Bombers a Make-Believe Threat,” *Toronto Star* (August 30, 2010); Byers, “Toward a Canada-Russia Axis in the Arctic: Why Canada and Russia Should Unite to Support a Common Position Against the US in Advancing Certain Arctic claims,” *Global Brief* (February 6, 2012); Byers, “Canada Can Help Russia with Northern Sea Route.” *The Moscow Times* (June 9, 2012); Byers, “The (Russian) Arctic is Open for Business,” *Globe and Mail* (August 12, 2013).

Northwest Passage constitutes internal waters.<sup>36</sup> Although his position as a “dove” is somewhat complicated by partisan editorials dedicated to criticizing the Harper government for procuring the wrong military hardware<sup>37</sup> and failing to implement a robust Arctic defence program (which seems to contradict the notion that military capabilities are unnecessary), as well as a surprising recent article with Scott Borgerson imagining a Russian warship transiting and terrorists infiltrating the Northwest Passage,<sup>38</sup> his overall message diametrically opposes that of Huebert. Along these same lines, other Canadian commentators, such as Ernie Regehr, Tom Axworthy, and Stephen Staples, also form part of this demilitarization school and continue calling for a “nuclear weapons free zone” in the Arctic, even priming public opinion polling to try to create momentum for their agenda.<sup>39</sup>

These frameworks are significant in shaping expectations for the Government of Canada and for the Canadian Armed Forces more specifically. Projections of Arctic

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<sup>36</sup> See for example: Byers, “Sovereignty will Solve the Northwest Passage Dispute,” *Globe and Mail* (August 11, 2007); Byers, “A Thaw in Relations: There is Room to Negotiate Between the U.S. and Canadian Positions on the Northwest Passage,” *Ottawa Citizen* (March 6, 2008); Byers, “It’s Time to Resolve our Arctic Differences,” *Globe and Mail* (April 30, 2010); Byers, “Time to Negotiate the Northwest Passage with the United States,” *Policy Options* 32:9 (2011): pp. 68-71; and Byers, “The Northwest Passage Dispute Invites Russian Mischief,” *National Post*, (April 28, 2015).

<sup>37</sup> Most prominently, Byers has been a tireless critic of the F-35 fighter program and the Arctic Offshore Patrol Ships. See for example: Byers, “\$16 Billion for the Wrong Planes,” *Toronto Star* (July 18, 2010); Charlie Smith, “F-35 Plane Controversy: UBC’s Michael Byers Links Single Engines to Higher Risk of Fatalities in the Arctic,” *The Georgia Strait* (June 9, 2014); Byers, “Will the F-35 be Another ‘Widow Maker’ for Canadian Pilots?,” *Globe and Mail* (June 12, 2014); Byers, “You Can’t Replace Real Icebreakers,” *Globe and Mail* (March 27, 2012); Michael Byers and Stewart Webb, *Titanic Blunder: Arctic/Offshore Patrol Ships on Course for Disaster* (Ottawa: Rideau Institute and Canadian Centre for Policy Alternatives, 2013); Byers, “Why Canada’s Search for an Icebreaker is an Arctic Embarrassment,” *Globe and Mail* (January 21, 2014); and Chris Sorensen, “The World’s First Ice-Busting Yachts Open the High Arctic,” *Macleans* (December 30, 2015).

<sup>38</sup> Scott Borgerson and Michael Byers, “The Arctic Front in the Battle to Contain Russia,” *Wall Street Journal* (March 8, 2016). Using the Russian threat as a pretext to push for Canada-US talks on the Northwest Passage dispute indicated a retreat to Byers’ earlier alarmism pre-2009.

<sup>39</sup> Ernie Regehr, “A Nuclear-Weapon-Free Zone and Cooperative Security in the Arctic,” *Disarming Arctic Security* (Simmons Foundation: October, 2014); Thomas Axworthy, “A Proposal for an Arctic Nuclear Weapon-Free Zone,” *Interaction Council Paper* (2010); and Michael D. Wallace and Steven Staples, *Ridding the Arctic of Nuclear Weapons: A Task Long Overdue* (Ottawa: Rideau Institute, 2010). On polling, see the Munk-Gordon Arctic Security Program *Rethinking the Top of the World* reports (vol.1: 2011, vol. 2: 2015). The NWFZ proposal is unlikely to enjoy high level political support, particularly given the lack of appetite for de-militarization in Washington or Moscow.

military conflict or intensifying competition invite the conclusion that Canada's promised defence investments in the region are either insufficient or require greater urgency. On the other hand, if the Arctic is developing as a well-governed and peaceful region, then resources spent on conventional military assets and capabilities are wasted. Indeed, some Northern political leaders have criticized the Harper government's "militarization" of Canada's Arctic agenda, suggesting that "sovereignty begins at home" and that federal attention should be directed towards dealing with human security issues rather than military efforts.

While "extreme" positions are helpful to frame the parameters of the debate over the form, pace, and magnitude of responsible investments in Arctic defence capabilities, a broader spectrum of expert opinion points to a more nuanced set of roles, missions, and tasks that the CAF should be expected to perform in the Arctic. For example, historian Whitney Lackenbauer first articulated the case for a 3-D (defence-diplomacy-development) or whole-of-government<sup>40</sup> approach to Arctic issues in 2009. While eschewing the assumption that the circumpolar world was embroiled in a "polar race" (as Huebert and Byers then alleged), Lackenbauer called for a more balanced approach that did not conflate military and sovereignty issues, focused on articulating practical and proportionate roles and expectations for the Canadian Armed Forces, and sought to lay the foundation for a "polar saga" in which Canadians demonstrated sovereignty, enhanced their security, and practiced responsible stewardship.<sup>41</sup>

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<sup>40</sup> A WoG framework is a simple operational concept: the mobilization of government resources across departments, agencies, and resources to achieve broad national objectives. The assumption is that, through effective cooperation, these separate stakeholders – spanning federal, provincial, and territorial levels, as well as local authorities – can create a whole greater than the sum of their parts. Chief of Force Development, *Arctic Integrating Concept*, (2010): p.10. Other federal departments and agencies with a stake in Arctic security and safety include: Public Safety Canada (PS); Environment Canada (EC); Royal Canadian Mounted Police (RCMP); Canadian Coast Guard (CCG); the Department of Fisheries and Oceans (DFO); Canadian Security and Intelligence Service (CSIS ); Transport Canada (TC); Indigenous and Northern Affairs Canada (INAC); Global Affairs Canada (GAC); and the Canadian Northern Economic Development Agency (CanNor). For the most part, the CAF fits into this framework by providing transport, ships, and human resources that enable OGDs to enforce Canadian jurisdiction and react to a wide array of contingencies in a rapid, coordinated manner. Canadian Joint Operations Command, *CJOC Plan for the North* (January, 2014): p. 6.

<sup>41</sup> See Griffiths, Huebert, and Lackenbauer, *Canada and the Changing Arctic*.

Despite the considerable ink spilled on boundary disputes and the uncertainty surrounding the delineation of extended continental shelves in the Arctic,<sup>42</sup> official statements by all of the Arctic states since 2008 dispel the myth that these issues have strong defence components. Existing disputes, such as those with Denmark over the Hans Island and the United States over the Beaufort Sea, are longstanding and well-managed. There is no risk of armed conflict between Canada and these close allies. Similarly, managing the longstanding disagreement with the United States over the status of the waters of the Northwest Passage has consequences for Canadian defence and security in terms of transit rights and regulatory enforcement, but it holds no serious risk of precipitating a military conflict.

The conventional military security threats suggested by commentators such as Huebert cannot be entirely dismissed, a reality recognized in force employment documents, such as the *Canadian Forces Northern Employment and Support Plan*. Still, these conventional threats are framed as *potential future* concerns, not current or acute issues.<sup>43</sup> Russian bomber flights into Canada's Arctic Air Defence Identification Zone are concerning, especially when coupled with Russia's long-range cruise missile capabilities, recently demonstrated in Syria, which give these ageing bombers a potent stand-off strike capacity.<sup>44</sup> Huebert is also correct to note that Russia is devoting considerable resources to modernizing its fleet of nuclear attack and ballistic missile submarines (despite the serious financial constraints on Russia's state budget). This spending affirms the priority that the Russian government places on this arm of its military, one which has a history of operating in the Arctic Ocean and, according to Byers, perhaps even in the Canadian Arctic Archipelago.<sup>45</sup> In spite of these growing capabilities, the challenge lies in inferring Russian intent and deciding what gains Russia perceives it could secure through military action in the region.

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<sup>42</sup> See for example: Klaus Dodds, "Flag Planting and Finger Pointing: The Law of the Sea, the Arctic and the Political Geographies of the Outer Continental Shelf." *Political Geography* 29:2 (2010): pp. 63-73.

<sup>43</sup> DND, *Canadian Forces Northern Employment and Support Plan*, p. 11.

<sup>44</sup> Bill Gertz, "Northcom: Russian Cruise Missile Threat to U.S. Grows," *Washington Free Beacon* (March 20, 2015). Admiral William Gortney expressed concern with the Russian KH-101 cruise missile which Russia has developed to attack critical infrastructure in the United States.

<sup>45</sup> Michel Byers, "Russian Maps Suggest Soviet Subs Cruised Canadian Arctic," *Globe and Mail* (December 6, 2011).

In our assessment, there is no scenario in which Russia would stand to gain politically, territorially, or economically from military aggression against the other Arctic states. Although political sabre-rattling rhetoric with Russia over the Lomonosov Ridge and the North Pole generates punchy headlines in both countries, most commentators do not see a direct military nexus to this issue.<sup>46</sup> Russia's resumption of long-range air missions since 2008, coupled with its conquest of the Crimea and its surreptitious invasion of the Eastern Ukraine in 2014, indicates a return to great power competition that has led some commentators to anticipate Russian military expansionist tendencies in the Arctic.<sup>47</sup> Other commentators, however, caution that it is simplistic and erroneous to draw parallels between the Russian invasion of the Ukraine (or even its increasing bomber flights in the Arctic) and the establishment of the outer limits of its sovereign rights in the Polar Basin.<sup>48</sup> The five Arctic coastal states, including Russia, emphasized their shared interest in maintaining a peaceful, stable context for development in their Ilulissat Declaration in May 2008. Despite the increasingly hostile diplomatic atmosphere there is no indication that Russia (or any Arctic state) intends to move away from the existing international framework when it comes to asserting its sovereign rights or substantiating its legal claims. In fact, the 2010 maritime delimitation agreement, resolving a dispute between Norway and Russia in the Barents Sea, provides a precedent of how a longstanding dispute can be amicably put to rest when political interests demand a resolution. Furthermore, Russia's revised submission in August 2015 of its continental shelf claim in the Arctic Ocean to the UN Commission on the Limits of the Continental Shelf, in accordance with article 76 of the UN Convention on the Law of the

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<sup>46</sup> See for example: P. Whitney Lackenbauer, "Mirror Images? Canada, Russia, and the Circumpolar World," *International Journal* 65:4 (2010): pp. 879-897; Kari Roberts, "Jets, Flags, and a New Cold War? Demystifying Russia's Arctic Intentions," *International Journal* 65:4 (2010): pp. 957-976; Alexander Sergunin and Valery Konyshov, "Russia in Search of its Arctic Strategy: Between Hard and Soft Power?" *The Polar Journal* 4:1 (2014): pp. 69-87; and Marlene Laruelle, *Russia's Arctic Strategies and the Future of the Far North* (ME Sharpe, 2013).

<sup>47</sup> See for example: Sohrab Ahmari, "Putin Opens an Arctic Front in the New Cold War," *Wall Street Journal* (June 11, 2015); David Axe, "Russia and America Prep Forces for Arctic War," *Reuters* (October 5, 2015). Derek Burney and Fen Osler Hampson, "Arctic Alert: Russia is Taking Aim at the North," *Globe and Mail* (March 9, 2015); and John McCain, "The Real Arctic Threat," *The Wall Street Journal* (September 1, 2015).

<sup>48</sup> See for example: Kari Roberts, "Why Russia will Play by the Rules in the Arctic," *Canadian Foreign Policy Journal* 21: 2 (2015): pp. 112-128.

Sea (UNCLOS), suggests an ongoing adherence to the application of international law in this context.<sup>49</sup>

The opportunities and challenges associated with Arctic resources also fire up imaginations and frame sensational narratives of unbridled competition for rights and Arctic “territory” that have little grounding in reality. Despite the wealth of hydrocarbons and minerals (an image fueled by the US Geological Survey’s 2008 circumpolar oil and gas assessment), depictions of a “race” between circumpolar nations, arming in preparation for a resource-fueled conflict, is fundamentally misinformed. Exploration activities are not occurring in a legal vacuum where states might perceive a need to compete for control and access. For example, international oil majors have spent billions on leases and seismic drilling in the Kara, Beaufort, and Chukchi Seas – all within established national jurisdictions. Each Arctic coastal state has a vested interest in developing these regions (Russia in particular<sup>50</sup>), so each has a vested interest in promoting and working within the existing international legal frameworks that enables this development. Any move to claim resources outside of limits prescribed by the UNCLOS (1982) would create instability and thus impede investment and slow the pace of prospective development.

Another persistent debate relates to Arctic shipping, particularly the opening of the Northwest Passage, its viability as a commercial transit route, and implications for Canadian sovereignty and security. The vigorous debate between Huebert and Franklyn Griffiths in the early 2000s set the basic contours of these competing schools of thought. Huebert’s “sovereignty-on-thinning-ice” scenario anticipated an increased volume of foreign shipping that would precipitate a foreign challenge to Canada’s sovereignty over the Northwest Passage, thus necessitating immediate investments in military and security capabilities. Griffiths dismissed the idea that Canada faced an imminent sovereignty crisis, predicting that shipping interests would not flood into the passage,

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<sup>49</sup> See: partial revised submission by the Russian Federation, August 3, 2015, [http://www.un.org/depts/los/clcs\\_new/submissions\\_files/submission\\_rus\\_rev1.htm](http://www.un.org/depts/los/clcs_new/submissions_files/submission_rus_rev1.htm).

<sup>50</sup> Russia derives more of its national income from natural resource extraction from the Arctic than any other circumpolar state.

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arguing instead that national efforts would be best invested in “cooperative stewardship” focused on environmental protection and indigenous rights.<sup>51</sup>

Activities over the past decade have confirmed Griffiths’ prediction and offer little to support Huebert’s. Arctic shipping has increased, but this has not undermined or challenged Canadian control over the Northwest Passage – particularly in the defence domain. This situation is unlikely to change in the short to medium-term. The Arctic Council’s landmark 2009 *Arctic Marine Shipping Assessment* (AMSA) report projected that the “Northwest Passage is not expected to become a viable trans-Arctic route through 2020 due to seasonality, ice conditions, a complex archipelago, draft restrictions, lack of adequate charts, insurance limitations and other costs which diminish the likelihood of regularly scheduled services.” While destination shipping related to community resupply, resource development, and tourism has increased over the past decade, high seasonable variability and unpredictability continue to inhibit maritime operations and make the prospect of regular transit shipping through the passage remote. In Canadian Arctic waters, the AMSA noted, “ice conditions and high operational costs will continue to be a factor into the future. Irrespective of the warming climate, ice will remain throughout the winter, making viable year-round operations expensive.”<sup>52</sup>

While military strategists must prepare for any contingency, Arctic defence and security policy has to be crafted and implemented with an eye towards probabilities and responsible resource allocation. Military conflict in the Arctic, whether prompted by northern resource ownership disputes, boundary crises, or by spillover events from outside the region, is simply too low a probability to warrant a major reallocation of Canada’s already-constrained defence budget. Rather, the CAF has chosen to invest its

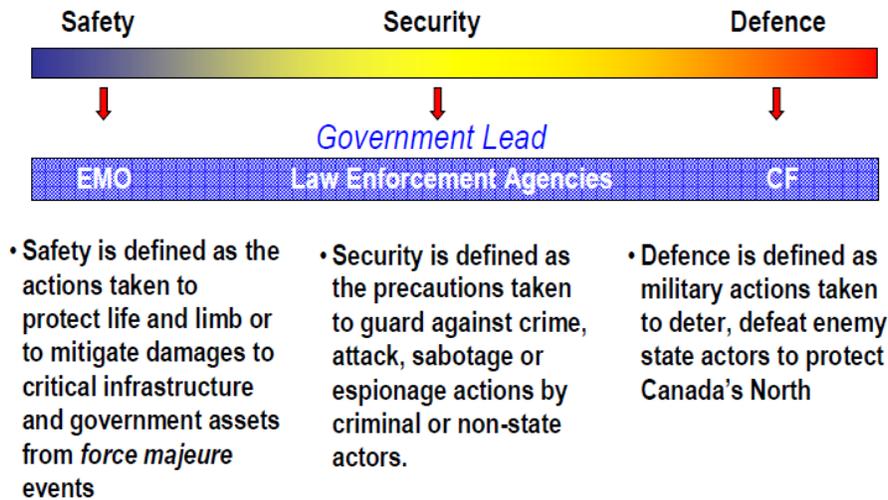
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<sup>51</sup> For the essential elements of this early debate see: Rob Huebert, “Climate Change and Canadian Sovereignty in the Northwest Passage,” *Isuma: Canadian Journal of Policy Research* 2:4 (2001): pp. 86-94; Griffiths, “The Shipping News: Canada’s Arctic Sovereignty Not on Thinning Ice,” *International Journal* 58:2 (2003): pp. 257-282; and Rob Huebert, “The Shipping News Part II: How Canada’s Arctic Sovereignty is on Thinning Ice,” *International Journal* 58:3 (2003): pp. 295-308. For updated debates, see Griffiths, Huebert and Lackenbauer, *Canada and the Changing Arctic*.

<sup>52</sup> Arctic Council, *Arctic Marine Shipping Assessment 2009 Report* (Oslo: Protection of the Arctic Marine Environment Working Group, 2009). See also P. Whitney Lackenbauer and Adam Lajeunesse, *On Uncertain Ice: The Future of Arctic Shipping and the Northwest Passage* (Calgary: Canadian Defence & Foreign Affairs Institute Policy Paper, December 2014).

limited funds addressing the lower risk (but much higher probability) safety and security challenges likely to accompany thinning ice and expanded northern economic activity.

**Figure 1:** Operations Continuum from CF Northern Support Employment Plan (2012).



We concur with the numerous Canadian federal government assessments which, we argue, represent a balanced assessment of risks, requirements, and probabilities – a balancing act often overlooked by academics who prefer to focus on far more dramatic *potentialities*. While no one can predict the future, cost-benefit analysis suggests that the CAF should assume that security risks and “threats” facing Canada’s Arctic will continue to be unconventional, with the lead management responsibilities falling primarily to other government departments and agencies. Nevertheless, these partners often draw upon the capabilities of the CAF to help fulfill their mandates across the continuum of hazards and threats in the region (see figure 2). As such, the CAF has embraced a whole-of-government approach in recognition that it must be prepared to provide assistance to other government departments and agencies in accordance with the Federal Emergency Response Plan and to law enforcement agencies as required. This framework is designed

to provide not only the security but stewardship responsibilities prescribed by Canada's *Northern Strategy* and the *Statement on Canada's Arctic Foreign Policy*.<sup>53</sup>

**Figure 2: Threats and Challenges to the Canadian Arctic (*Arctic Integrating Concept, 2010*)<sup>54</sup>**

Strategic and operational-level documents specify that these threats include:

- law enforcement challenges by various state and non-state actors (i.e. foreign fishing fleets);
- Environmental threats such as the impact of climate change, earthquakes, floods, and other such naturally occurring events that may or may not be a result of human activity;
- Although unlikely, domestic or internationally based terrorists of various motivations willing to use whatever means possible to achieve their goals;
- Domestic or internationally based organized criminal elements primarily motivated by potential financial gain...;
- Adversary or potential adversary (state or non-state) intelligence gathering operations;
- Adversary or potential adversary (state or non-state) counterintelligence operations attempting to disrupt Canadian or allied intelligence operations;
- Attacks on critical physical/terrestrial, space and information/cyber infrastructure by adversary or potential; and
- Increase in the potential for pandemics.

### **Current Government Arctic Security Policy**

The Government of Canada's *Northern Strategy* provides the overarching policy framework that guides federal priorities for the region. The military contributes to all four pillars of that strategy but particularly to "exercising sovereignty" through the

<sup>53</sup> Canada, *Canada's Northern Strategy*, p. 9 and Canada, *Statement on Canada's Arctic Foreign Policy* (2010), p. 5.

<sup>54</sup> Chief of Force Development, *Arctic Integrating Concept*, pp. 23-24; Chief of the Defence Staff/Deputy Minister Directive for DND/CF in the North (2011), appendix A: pp. 1-2.

implementation of the *Canada First Defence Strategy* (CFDS). The latter document directs the CAF to “demonstrate a visible presence in the region,” exercise control over and defend our Arctic territory, and provide assistance to other government departments and agencies when called upon to respond to “any threats that may arise” in the region (as well as having the capacity to conduct daily domestic and continental operations).<sup>55</sup> The CFDS left the specific nature of those threats, and the manner in which the CAF was to exercise that control, unspecified. This ambiguity was necessary in the absence of a clearly-defined enemy and a continuously evolving set of hypothetical challenges to Arctic sovereignty and security. The document singles out surveillance as a central requirement – an area of emphasis confirmed in subsequent policy statements produced by other government departments<sup>56</sup> – as well as the perceived need to establish a greater military “presence” in the region.<sup>57</sup> Strategic and operational documents produced by the Department of National Defence (DND) echo this idea that sovereignty is strengthened by effective governance, control, and the consistent application of Canadian law.<sup>58</sup>

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<sup>55</sup> DND, *Canada First Defence Strategy*, p. 8.

<sup>56</sup> See for instance DND, *Canada First Defence Strategy*, p. 7; Government of Canada, *Statement on Canada’s Arctic Foreign Policy*, p. 6; Department of Indian Affairs and Northern Development, *Canada’s Northern Strategy: Our North, Our Heritage, Our Future* (2009), p. 10.

<sup>57</sup> See for instance: DND, *Canada First Defence Strategy*, p. 8; Government of Canada, *Statement on Canada’s Arctic Foreign Policy*, p. 6

<sup>58</sup> See for instance: Chief of Force Development, *Arctic Integrating Concept*, pp. 7, 9, 26, 3 and Canadian Army Land Warfare Centre, *Northern Approaches: The Army Arctic Concept 2021* (2013), p. 65.

**Figure 3: Northern Strategy: How Defence Contributes**

<p style="text-align: center;"><b>Sovereignty</b></p> <ul style="list-style-type: none"> <li>• Conduct sovereignty operations</li> <li>• Maintain a visible presence</li> <li>• Foster relationships with Arctic states</li> <li>• Monitor activity in our approaches and territory</li> </ul>	<p style="text-align: center;"><b>Governance</b></p> <ul style="list-style-type: none"> <li>• No direct Defence contributions but supports through enablers, exercises and community programs (Cadets and Junior Rangers)</li> <li>• Regular consultation with Indigenous communities</li> </ul>
<p style="text-align: center;"><b>Economic and Social Development</b></p> <ul style="list-style-type: none"> <li>• Leverage or develop shared infrastructure opportunities with OGDs</li> <li>• Align Defence infrastructure investment planning with OGD economic, social and development efforts</li> <li>• Ensure Defence projects in the North benefit communities</li> </ul>	<p style="text-align: center;"><b>Environment</b></p> <ul style="list-style-type: none"> <li>• Ensure CF operations meet and environmental laws and standards</li> <li>• Cooperate in interagency Earth observation</li> <li>• Assist in protecting and maintaining environmental standards throughout the Arctic</li> <li>• Research and development</li> </ul>

*Source: "National Defence & Canada's North," presentation, Associate Deputy Minister (Policy), National Defence Headquarters (2013).*

The defence of Canada is the foremost task of the CAF and, accordingly, it must be prepared to respond effectively to military threats that may develop. This is a "no fail" mission. In popular discussions, promised investments in new Arctic capabilities are often linked to "sovereignty issues" associated with boundary disputes, the uncertain limits of continental shelves, the changing environment, and competition for resources. Although defence activities are appropriately associated with the assertion of national interest, the surveillance and monitoring of territory, and the enforcement of policies

within national jurisdictions, they should not be misconstrued as inherently bellicose or aggressive. In the case of Russia, threats to North America are already covered through more general aspects of binational continental defence planning and bilateral and multilateral defence agreements. Furthermore, enhanced military capabilities that deter would-be aggressors (including those posing asymmetric threats) are not necessarily destabilizing, and can actually contribute to regional stability by reducing the likelihood of a threat emerging. As the CAF *Arctic Integrating Concept* notes, “increased foreign military activity in the Arctic may also present Canada with new opportunities for cooperation and collaboration with those other Arctic states’ militaries in matters of common interest in the region.” Building or enhancing these relationships, with a particular emphasis on “soft security” initiatives, such as coordinating situational awareness, preventing and responding to natural disasters and environmental incidents, and search and rescue, afford opportunities to contribute to confidence-building in the region more generally.<sup>59</sup>

From a legal perspective, exercising sovereignty means demonstrating that the waters of the Arctic Archipelago are historic internal waters, a status that requires both foreign acceptance of Canada’s position and the exclusive and effective exercise of Canadian control within its jurisdiction.<sup>60</sup> Accordingly, international recognition of Canadian sovereignty is demonstrated by foreign operators complying with Canadian laws and regulation in Canadian waters. This, in turn, is something that the CAF encourages by maintaining or enhancing enforcement capabilities tailored to supporting constabulary operations in the Arctic waters, by assisting foreign and domestic operators, and working with other departments and agencies to monitor the region and ensure adherence to Canadian regulations governing shipping, pollution, exploration, and resource exploitation.

Effective stewardship of the North can only be achieved through productive partnerships between federal and territorial departments and agencies and established relationships with northern leaders, communities, and peoples of the North. While other

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<sup>59</sup> Chief of Force Development, *Arctic Integrating Concept*, pp. 26, 33; Lackenbauer and Ron Wallace, “Unstoppable Momentum: The Real Meaning and Value Behind Operation *Nunaliout*, p. 10,” Canadian Defence & Foreign Affairs Institute Policy Update Paper (May 2010).

<sup>60</sup> For the best description of these requirements see: Donat Pharand, “The Arctic Waters and the Northwest Passage: A Final Revisit,” *Ocean Development and International Law* 38:1 (2007): p. 7.

government departments and agencies, such as the Canadian Coast Guard (CCG) and the Royal Canadian Mounted Police (RCMP), retain primary legal responsibility for dealing with most safety and security issues in the North, the CAF has a significant role to play in supporting them, exercising our sovereignty, and providing assistance to Canadian citizens. Accordingly, DND envisages the CAF channelling its primary efforts into addressing unconventional security challenges. Increased activity in the North is, for example, expected to bring more illegal fishing, maritime and aerospace accidents, dumping, pollution, trespassing, and criminal activity. Although these are not primarily defence issues, the military – by virtue of its assets, resources, and capabilities – will provide crucial support that that enables other government departments (OGDs) to fulfill their own responsibilities and mandates in the North.<sup>61</sup> This includes the development of improved “situational awareness” through a “Common Operating Picture” that coordinates different information collection systems, fuses the information, and facilitates analysis and dissemination to stakeholders in a timely manner. Another example is providing “key enablers” such as command and control, personnel, technical expertise, or logistical support to OGDs responding to a specific event, emergency, or crisis.<sup>62</sup> Effectively, the Forces will be “leading from behind” to help the government fulfill its basic responsibilities while being ready to respond to a wide spectrum of potential safety and security incidents.

This whole-of-government approach is deeply entrenched in Canadian strategic planning. This operational framework was laid out in the *Canada First Defence Strategy* in 2008, which considered WoG integration essential for both international and domestic missions.<sup>63</sup> This principle was applied very generally to the Arctic, out of an understanding that other government departments would increasingly require assistance to carry out their mandate as activity increased across the North.<sup>64</sup> In 2010, the

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<sup>61</sup> DND, *Canada First Defence Strategy*, p. 8.

<sup>62</sup> Chief of Force Development, *Arctic Integrating Concept*, pp. 24, 32. This document defines an emergency as a “serious, unexpected, and potentially dangerous situation requiring immediate action” and a crisis as “an event or series of events that undermines public confidence, harms an organization, or threatens public safety, security, or values,” p. 31.

<sup>63</sup> DND, *Canada First Defence Statement*, pp. 3-4, 14

<sup>64</sup> *Ibid*, p. 8.

government released its *Arctic Foreign Policy*, which clearly situated the military within a broader WoG effort designed to exercise Canada's sovereign rights and responsibilities.<sup>65</sup> That same year, the Chief of Force Development published the *Arctic Integrating Concept*, a strategic framework for developing future CAF Arctic capabilities and the basis of the Forces' Arctic operating concepts.<sup>66</sup> This document went beyond generalities and made it clear that cooperation with OGD in the Arctic was essential. This understanding has since become commonplace in all of the CAF's operational planning and policy documents, including the *Northern Employment Support Plan (2012)*<sup>67</sup> and the *Army Arctic Concept (2013)*.<sup>68</sup>

### **The CAF in the Arctic<sup>69</sup>**

Since 2007, the public face of the CAF's Arctic presence has been the annual Operation *Nanook*. Prime Minister Stephen Harper and a VIP entourage were regular guests, and the national news media disseminated staged photo-ops of frigates, fighters, and soldiers deployed in an Arctic context. The political messaging behind the event was always straightforward, emphasising Canadian sovereignty and military presence in the region. Canadians could be forgiven, therefore, if they came to believe that the CAF's primary role in the Arctic was to surge conventional forces into the region, practice war-fighting for a few weeks, and then return to their southern Canadian bases. Ironically, these highly publicized deployments represent only a small fraction of the CAF's Arctic activities, and are not indicative of the military's persistent, active presence and diverse set of responsibilities in the region year-round.

Army, Air Force, and Navy personnel regularly conduct operations in the North, undertake regular surveillance and security patrols, while monitoring and controlling northern airspace under the auspices of the North American Aerospace Defense

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<sup>65</sup> Canada, *Statement on Arctic Foreign Policy*, p. 6

<sup>66</sup> Chief of Force Development, *Arctic Integrating Concept*, 2010.

<sup>67</sup> CAF, *Canadian Forces Northern Employment and Support Plan*, 2012.

<sup>68</sup> Canadian Land Warfare Centre, *Northern Approaches: Army Arctic Concept 2021*, 2013

<sup>69</sup> This section is built around DND Backgrounder 12.001, "The Canadian Forces in the Arctic" (April 13, 2012); DND, "Operations in the North," modified November 14, 2014,

<http://www.forces.gc.ca/en/operations-canada-north-america/north.page>; and CJOC, *CJOC Plan for the North* (2014), pp. 24-27, supplemented by other documents and material on the DNF website.

Command (NORAD). Furthermore, the CAF maintains a visible presence through Joint Task Force (North), based in Yellowknife, with small detachments in Whitehorse and Iqaluit. 1<sup>st</sup> Canadian Ranger Patrol Group spans sixty Northern communities, 440 Transport Squadron operates throughout the region, and various facilities span the length and breadth of the Canadian Arctic. The CAF also augments its northern-based capabilities with assets from southern Canada. Taken together, we argue that the existing military footprint in the Arctic provides a firm foundation upon which to build capabilities that support a range of activities across the mission spectrum, from defence and crisis response to routine government activity.

Military responsibility for the Canadian North (defined as the area north of 55°N) falls under Canadian Joint Operations Command (CJOC) and, on a northern territorial level, to Joint Task Force (North). JTFN's role is to exercise Canadian sovereignty and security by conducting routine and contingency operations in the North; contribute to the growth and development of the people in the North through the youth-oriented Junior Canadian Ranger and cadet programs; build the collective capability to respond rapidly and effectively to emergencies along with creating the positive and lasting partnerships to meet Canada's safety, security and defence objectives for the region; and actively contribute to environmental stewardship of the North. Approximately 250 Regular Force, Reserve Force, and civilian personnel work at JTFN to coordinate and support the wide array of military activities in the North, as well as performing a liaison function with the territorial governments and peoples of the three territories.<sup>70</sup>

The North American Aerospace Defence Command, established in 1957 to monitor and defend North American airspace (with a maritime warning mission added in 2008), also has a significant footprint in the Canadian North. This binational (Canada-US) command maintains the North Warning System (NWS), a radar network for the air defence of North America strung along the Arctic coastline. Furthermore, the RCAF maintains four Forward Operating Locations (FOLs) for NORAD in Yellowknife, Rankin Inlet, Iqaluit, and Inuvik, which extend the reach of fighter aircraft by providing essential basing, refuelling and maintenance facilities. To ensure NORAD's FOLs are capable and

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<sup>70</sup> MGen Christopher Coates, presentation to Standing Senate Committee on National Security and Defence, December 9, 2013, <http://www.parl.gc.ca/content/sen/committee/412%5CSECD/51109-E.HTM>.

ready, the CAF routinely conducts operations, exercises, maintenance, logistical support and security detail at these establishments. For example, the RCAF conducted Operation *Spring Forward* in April 2014 in partnership with NAV CANADA, the Canadian Air Defence Sector of NORAD, and the Alaskan NORAD Region, to test and confirm NORAD's rapid response capability.<sup>71</sup>

The Royal Canadian Air Force (RCAF) provides mobility support, aerial search and rescue capabilities, and intelligence, surveillance, and reconnaissance (ISR) assets that contribute to domain awareness throughout the Arctic. Canadian Forces Station Alert, the most northern CAF outpost, collects signals intelligence remotely to support military operations, as well as maintaining a geolocation capability to support search and rescue and other operations.<sup>72</sup> Dedicated to detecting threats such as illegal fishing, immigration, drug trafficking, and pollution violations, CP-140 Aurora long-range patrol aircraft regularly conduct northern patrols. Four CC-138 Twin Otter aircraft, based full-time with 440 Transport Squadron headquartered in Yellowknife, support Search and Rescue operations and conduct airlift, utility and liaison flights throughout the Northern territories.<sup>73</sup> Southern-based RCAF aircraft such as the CC-177 Globemaster III, CC-130 Hercules, and CH-146 Griffon helicopter resupply northern operations and military installations such as CFS Alert and NWS radar sites. Furthermore, the FOLs and Personnel Accommodation Barracks, maintained by the RCAF, allow NORAD to strategically place aircraft and support personnel in Canada's North to ensure a ready and rapid response to any potential airspace threat. CF-18 Hornet fighter aircraft regularly pre-deploy to these FOLs in response to, or in anticipation of, unwelcome

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<sup>71</sup> Airfields in and around Inuvik and Yellowknife, N.W.T., Iqaluit, Nunavut, and Goose Bay, N.L. were the primary hubs for aircraft activity including multiple flights from CF-18 Hornet aircraft, CC-130T Hercules and CC-150T Polaris air-to-air refuelling aircraft, and other support aircraft. DND News Release, "NORAD Operation SPRING FORWARD concludes in Canada's North," April 12, 2014, <http://news.gc.ca/web/article-en.do?nid=838399>.

<sup>72</sup> For a detailed overview of CFS Alert, which came under the command of 8 Wing Trenton in 2009 see: RCAF, "Canadian Forces Station Alert," <http://www.rcaf-arc.forces.gc.ca/en/8-wing/alert.page>.

<sup>73</sup> For example, the RCAF conducts Operation *Boxtop* twice annually to resupply CFS Alert. On 440 Squadron, see <http://www.rcaf-arc.forces.gc.ca/en/17-wing/440-squadron.page>.

activity, such as the increasingly frequent bomber patrols undertaken by Russian Tupolev Tu-95 Bear “H” bombers to the edge of Canadian airspace.<sup>74</sup>

The Royal Canadian Navy (RCN) provides naval assets to support maritime operations in northern waters during the navigable season. Currently, this limited capability resides in Halifax-class frigates and Kingston-class maritime coastal patrol vessels (MCDVs) which conduct routine military operations and support federal partners through fisheries patrols, hydrographic surveys, and maritime safety missions during the navigable summer season. Furthermore, Marine Security Operations Centres (MSOCs), hosted by the RCN in Halifax and Esquimalt, maintain watch over Arctic waters. These facilities are staffed by personnel from five core partners – Canada Border Services Agency, DND/CF, Fisheries and Oceans Canada (including the Canadian Coast Guard), the RCMP, and Transport Canada – and represent a practical, whole-of-government approach to maritime domain awareness and marine security.<sup>75</sup>

The Canadian Army is also active in the Arctic, most consistently through the service of northern residents in the Canadian Rangers. This unique sub-component of the CAF Reserve offers a cost-effective and representative means of performing security and public-safety missions in sparsely settled northern, coastal, and isolated areas across the country. 1<sup>st</sup> Canadian Ranger Patrol Group (1CRPG), headquartered in Yellowknife, has 1,850 Rangers in sixty patrols (2014 statistics) spanning the three northern territories. These lightly-equipped, self-sufficient members of the CAF play a central role in exercising Canada’s sovereignty through regular surveillance patrols, participation in northern operations, reporting of suspicious or unusual activities, and collecting local data useful to the military. As the “eyes and ears” of the CAF in the North, southern units rely on, and learn from, the experience and knowledge of the Rangers to survive and operate effectively in the Arctic environment. The Canadian Rangers not only benefit northern communities in a direct social and economic sense, they also empower northern

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<sup>74</sup> See Sam LaGrone, “West: NORAD Head Says Russia Increasing Arctic Long Range Air Patrols,” *US Naval Institute News* (February 10, 2015) and Steven Chase, “Russian Military Jets Flew Within 100 Kilometres of Canadian Mainland,” *Globe and Mail* (September 19, 2014).

<sup>75</sup> On the MSOCs, see Canadian Coast Guard, “Marine Security Operations Centres,” <http://www.ccg-gcc.gc.ca/eng/CCG/Maritime-Security/MSOC>.

Canadians who mentor and educate other members of the CAF on how to manage, respect, and ultimately care for the North.<sup>76</sup> To further expand its presence, the Army stood up C Company (the Yellowknife Company) Loyal Edmonton Regiment in August 2009. This unit provides the first Primary Reserve footprint in the Northwest Territories in decades and is expected to develop an Arctic-specific capability over time. To respond to emerging northern requirements, the Army has also begun building capacity around Immediate Response Units (IRUs) supplemented by Arctic Response Company Groups (ARCGs) – initiatives described below in more detail.<sup>77</sup>

The Canadian Army is also responsible for the CAF Arctic Training Centre (CAF ATC) in Resolute Bay, Nunavut, which officially opened in August 2013. This multi-purpose facility, which can accommodate up to 140 personnel, is used year-round for Arctic training and routine operations. It provides the Canadian Armed Forces with access to a state-of-the-art training hub capable of supporting individual and collective Arctic and cold weather training, with enough equipment and communication infrastructure to serve as a forward operating base or command post if required. By pre-positioning equipment and vehicles at the facility, the military increases its ability to support regional emergency operations and disaster response in the High Arctic. Because it was constructed as an expansion of the existing Polar Continental Shelf Project facility, rather than as a separate building, the Forces not only realized significant cost savings but offered a strong example of interdepartmental partnership.<sup>78</sup>

Canada also continues to advance its longstanding history of defence research and the development of new technologies suited to (or integration of existing technologies in) Arctic conditions. This dovetails with core interests in improving situational awareness.

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<sup>76</sup> On the Rangers, see P. Whitney Lackenbauer, *The Canadian Rangers: A Living History* (Vancouver: UBC Press, 2013), and P. Whitney Lackenbauer, *Vigilans: The 1<sup>st</sup> Canadian Ranger Patrol Group* (Yellowknife: 1CRPG, 2015).

<sup>77</sup> Details on the role of Canadian Special Operations Forces Command (CSOFCOM), which are designed to provide agile, high readiness forces capable of conducting special operations across the spectrum of conflict, remain largely classified and thus are not discussed in this chapter.

<sup>78</sup> The Arctic Training Centre was initially projected to cost over \$62M, with an expected delivery date after 2015, but the partnership with Natural Resources Canada allowed the project to be built early for approximately \$24M. DND Backgrounder 13.036, “Canadian Armed Forces Arctic Training Centre” (August 15, 2013); Lt(N) Jessica Macdonald, “Collaboration Key at CF Arctic Training Centre,” *Western Sentinel* (June 20, 2013): p. 17.

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For example, Project Polar Epsilon, a \$60 million space-based initiative that achieved full operations in 2012, uses satellite ground stations to process data from Canadian satellite RADARSAT-2 to produce imagery products in near real-time to support CAF and whole-of-government operations, as well as monitor activity or changes in the Arctic. While Canada has never faced a direct defence challenge from surface ships attempting to pass through the Northwest Passage surreptitiously, potential increases in shipping activity have renewed interest in securing a more accurate maritime picture of the region. Canada has also long worried about the possibility of Soviet/Russian submarines transiting its waters and, even twenty years after the end of the Cold War, continues to receive credible reports of foreign submarines in the Arctic waters.<sup>79</sup>

To expand air, surface, and sub-surface surveillance capabilities, Defence Research and Development Canada (DRDC) recently completed a five-year Northern Watch Technology Demonstration Project involving the development and deployment of multiple sensor technologies in a High Arctic environment. Located at Gascoyne Inlet on Devon Island, a natural chokepoint for shipping through the Arctic Archipelago and the site of one of Canada's prototype Cold War detection systems,<sup>80</sup> the new demonstration system tested various surface and underwater surveillance technologies including acoustic, magnetic, and electric field sensors to monitor activity with marine navigation radar, an electro-optical system, an electronic intelligence receiver, an automatic identification system (AIS), beyond line-of-sight (BLOS) communications, and remote control and operation.<sup>81</sup> The project has been rescoped to focus primarily on persistent local area surveillance of maritime sub-surface objects in the Canadian Arctic, and the outcomes are likely to remain classified for the foreseeable future. Other scientific research also continues, including DRDC contributions to data collection in support of

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<sup>79</sup> See for instance: BGen D.B. Millar, "After Action Report" (December 14, 2008) and JTFN, "Interview Assessment Report – Probable Submarine Sighting in Vicinity of Grise Fiord, NU" (October 28, 2009).

<sup>80</sup> Jean Luc Forand et al., "Surveillance of Canada's High Arctic," presentation at ArcticNet 2007, Laval, Quebec, (December 13, 2007), <http://www.arcticnet.ulaval.ca/pdf/talks2007/Forand.pdf>.

<sup>81</sup> David Waller, Matthew R. MacLeod, and Talia McCallum, *Measuring Northern Watch: Goals Inputs, Metrics and Outputs* (Ottawa: Defence R&D Canada – Cora, 2009), p. 18; and Chief of Force Development, *Arctic Integrating Concept*, 12. For the best overall account of this program's development see: William Carruthers, *Snake Oil Salesmen: Security under the Guise of Sovereignty in the Canadian Arctic* (M.A. thesis, University of Calgary, 2014).

Canada's submission to establish the outer limits of its continental shelf under the United Nations Convention on the Law of the Seas.<sup>82</sup>

As part of its mandate, the CAF frequently conducts exercises and operations in the Arctic, including "sovereignty patrols" designed to "show the flag" and demonstrate Canadian control over its territory. These routine activities generate situational awareness, show a visible military interest and presence in the North, and prepare forces to conduct Arctic operations. For example, JTFN conducts Operation *Qimmiq* as a continuous surveillance and presence operation involving regular Canadian Ranger patrols, CP-140 Aurora patrols, and RCN vessels in the summer.<sup>83</sup>

The ability to project force and to conduct and sustain operations requires not only planning but preparedness to endure challenges associated with harsh weather (such as the winter cold and summer fog and icing conditions), difficult terrain, and isolation. "The North is a unique environment and operating conditions vary significantly from those in the South to which the CF is more accustomed," the *CF Northern Employment Support Plan* (2011) notes. "The variety of potential tasks, the remoteness of the region, the vast distances between operating bases, the lack of infrastructure, and difficulties in communications mean the North can be regarded as an expeditionary type theatre requiring forces to be uniquely equipped and trained, deployable, scalable, and as self-sufficient as possible."<sup>84</sup> Through more frequent northern operations, the CAF is expected to leverage its capabilities, improve its ability to effectively command contingency and deliberate operations, enhance its surveillance capabilities and all-domain situational awareness in the North, and increase its "capability and capacity to surge and sustain appropriate force packages into this region during contingency or crisis operations."<sup>85</sup> Towards this end, the CAF conducts three main recurring joint activities annually:

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<sup>82</sup> See: Fisheries and Oceans Canada, "Defining Canada's Continental Shelf" and the series of newsletters by Ronald Verrall of DRDC Halifax on Project CORNERSTONE, <http://arcticnewsletters.com/>.

<sup>83</sup> See DND, "Operation *Qimmiq*," <http://www.forces.gc.ca/en/operations-regional-jtf-north/op-qimmiq.page>. This operation is a subset of Operation *Limpid*, the routine, all-domain surveillance of Canada to detect, deter, prevent, pre-empt and defeat threats aimed at the country and its interests. See: DND, "Operation *Limpid*," <http://www.forces.gc.ca/en/operations-canada-north-america/op-limpid.page>.

<sup>84</sup> DND, *Northern Employment Support Plan*, p. 3.

<sup>85</sup> National Defence Headquarters, CDS/DM Directive (April, 2011), p. 11.

- **Operation Nanook**, the largest annual northern operation, is intended to demonstrate the CAF's ability to operate effectively in the Arctic environment. This joint, integrated sovereignty operation (planned and directed by CJOC) highlights interoperability, command and control, and cooperation with interdepartmental and intergovernmental partners in the North. Depending on the year and scenario, international partners send observers or participate more directly in the exercise with naval or air assets. The operation usually includes land, air, and sea components, coordinated to interact with federal, territorial, and municipal safety and security responders.
- **Operation Nunaliut** is conducted in March and April each year by JTFN. Originally designed to take advantage of the unique capabilities of the Canadian Rangers and 440 (Transport) Squadron to undertake and support snowmobile patrols in the most remote stretches of the High Arctic, the operation has evolved in recent years to focus on opportunities for specialized groups (such as RCAF SAR units, the RCN Combined Dive Team, and ARCGs) to gain experience in the region.<sup>86</sup>
- **Operation Nunakput**, an annual surveillance and presence operation in the Western Arctic conducted in cooperation with the Canadian Coast Guard, RCMP, and DFO is aimed at improving interoperability and enhanced situational awareness.

These “N-series” operations represent a regular, highly visible example of government efforts to exercise sovereignty and, on a practical level, help to prepare forces for a broad range of potential missions. This contributes to the military’s efforts to reach its desired northern end state: that “with enhanced understanding and all domain awareness, integration of new capabilities, and sustained operations, the CAF will be postured to more efficiently and effectively operate in the North, rapidly responding to emerging requirements, demonstrating Canadian sovereignty across the North, and

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<sup>86</sup> See for example: Capt Bonnie Wilkin, “Operation Nunaliut: Shine on the Arctic Sun,” *Northern Frontline* [JTFN] (2014): pp. 16-19.

acting in partnership with local, provincial/territorial, federal, and international partners.”<sup>87</sup>

**Figure 4: Initiatives to Expand DND/CAF Arctic Capabilities**

- Arctic/Offshore Patrol Ships (AOPS)/Harry DeWolf class
- Berthing and refuelling facility at Nanisivik
- Canadian Forces Arctic Training Centre (Resolute Bay)
- Canadian Rangers Expansion and Modernization
- RADARSAT-2 and Polar Epsilon
- Arctic Response Company Groups
- Primary Reserve Company based in Yellowknife
- Northern Watch Technology Demonstration Project
- Polar Communications and Weather Satellite Project

**The Modern Evolution of the CAF’s Arctic Presence**

*Maritime Forces*

The RCN’s return to the Arctic waters began in 2002 with Operation *Narwhal*, a simple deployment of two patrol ships but a powerful reminder of how far the force’s abilities had declined. During *Narwhal* and subsequent deployments, communications between the ships, shore parties, and their air support consistently proved unreliable – in part because frequencies and equipment were not standardized and, in part, because of atmospheric and environmental difficulties.<sup>88</sup> Occasionally, this created very real dangers. During Operation *Hudson Sentinel* (2005) a deployed RHIB (rigid-hulled inflatable boat) found itself lost and unable to contact its ship. The crew was forced to locate an MCDV visually, a task that might have proven impossible had the weather

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<sup>87</sup> Canadian Joint Operations Command, *CJOC Plan for the North*, p. 29.

<sup>88</sup> Air Component Commander, “EX *Narwhal* ACC Post Ex Report” (2002).

turned.<sup>89</sup> Even for the RCN's MCDVs and frigates, movement was unpredictable and dangerous. These thin-skinned ships are not designed for operations in ice and have to move gingerly, lest a small growler or bergy bit puncture their expensive hulls. Making this point, Lieutenant D. Connelly noted that it was during Operation *Nanook* 2009 that he heard for the first time a Commanding Office respond "(justifiably I must emphasize) to direction to be somewhere at a certain time with 'we'll get there when we get there.'"<sup>90</sup> Experience also showed that mechanical issues were more difficult to manage far from conventional naval supply lines and, in some instances, necessitated elaborate efforts to move emergency supplies to a ship in northern waters.<sup>91</sup>

Over the past decade, annual deployments into the region have led to a gradual improvement in RCN procedures and systems, improving the Navy's ability to operate and maintain ships in the region and to coordinate their activities with the Army, Air Force, and other OGDs. In spite of this, Canadian warships remain poor platforms for Arctic operations. Simply put, they are too expensive and too few in number for regular use as patrol craft, fisheries inspectors, or constabulary vessels; and, most importantly, they are incapable of safely operating in ice-infested waters.

As such, some of the CAF's most expensive new procurement initiatives are intended to develop a genuine Arctic capability for the RCN. First amongst these are the Arctic Offshore Patrol Ships (AOPS). Announced in July 2007, the AOPS are intended to increase the Navy's ability to operate throughout the Northwest Passage and conduct armed sea-borne surveillance in Canada's Exclusive Economic Zone, support other CAF units, and assist OGDs in carrying out their mandates.<sup>92</sup> The Navy's guiding policy statement, *Leadmark* (2001), assumes that traffic along the Northwest Passage will continue to increase and that the government's responsibilities will grow accordingly. As

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<sup>89</sup> Lt(N) D. Connelly, "Lessons Learned Planning and Coordination – Op Hudson Sentinel Post Operation Report" (October 5, 2005).

<sup>90</sup> Martin Langford, "The Navy's Arctic Challenge," *Canadian Naval Review* 7:4 (Winter, 2012): p. 27.

<sup>91</sup> See for instance: the supply of HMCS *Glace Bay* in: Lt(N) D. Connelly, "Lessons Learned Planning and Coordination – Op Hudson Sentinel Post Operation Report" (October 5, 2005).

<sup>92</sup> DND, "Arctic/Offshore Patrol Ships (AOPS)," <http://www.forces.gc.ca/en/business-equipment/arctic-offshore-patrol-ships.page>. The Government is working with Irving Shipbuilding Inc., which was selected through the National Shipbuilding Procurement Strategy (NSPS), to establish a design and build approach.

is the case in Army projections, these responsibilities are connected to unconventional security threats, like criminal activity and smuggling.<sup>93</sup>

Unlike the RCN's frigates and patrol ships, the AOPS will be able to operate safely in first-year ice and do more than simply pop into the Eastern Arctic during the annual Operation *Nanook*. These vessels will be able to support the RCMP in policing of maritime traffic in the Northwest Passage while providing a platform for Transport Canada, Fisheries, and other departments with mandates in the region. Rear-Admiral David Gardam, Commander of Maritime Forces Atlantic, described the AOPS as "a big empty ship" that can "embark doctors, dentists, scientists, marine biologists, police and fisheries officers, environmentalists and many other personnel with an interest in, or a mandate for, the development and sustainment of Canada's north."<sup>94</sup> Although much popular commentary has fixated on the military characteristics of this platform (and its light armaments),<sup>95</sup> Gardam's description of the ships as well-rounded, whole-of-government vessels is more closely aligned with CAF policy and intent for the region. The AOPS are unlikely to ever fire their guns in anger, nor will their presence convince the United States to recognize Canadian sovereignty.<sup>96</sup> They will, however, provide Canada with vital research and general use platforms, enhanced constabulary options, and better response capabilities in the event of a disaster or emergency.

Because of the AOPS' relatively limited range (6,800 nautical miles), Arctic refueling is essential for these ships – as well as for the Canadian Coast Guard's icebreaker fleet.<sup>97</sup> To help address this requirement, the RCN is building a \$146-million

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<sup>93</sup> Royal Canadian Navy, *Leadmark: The Navy's Strategy for 2020* (2001), pp. 66, 84, 105.

<sup>94</sup> David Gardam, "The Admiral's View of the Arctic and Offshore Patrol Ship," *Canadian Naval Review* (February 12, 2012).

<sup>95</sup> See for example, Murray Brewster, "Tory Arctic Ship Plan Should be Sunk, Replaced with Real Icebreakers: Senator," *Toronto Star* (March 15, 2012) and Michael Byers and Stewart Webb, "Titanic Blunder: Arctic/Offshore Patrol Ships on Course for Disaster," *Canadian Centre for Policy Alternatives* (April 11, 2013); Rob Huebert, "The Case for a More Combat-Capable Arctic Offshore Patrol Ship," *Canadian Naval Review* 10:3 (2015).

<sup>96</sup> For a contrary emphasis on the need for warfighting capabilities, see: Rob Huebert, "The Need, Costs and Benefits of a Canadian Naval Presence in the Arctic," *Canadian Naval Review* 8:1 (Spring, 2012): p. 8.

<sup>97</sup> The return distance from Halifax to Nanisivik is roughly 4,830nm, leaving the AOPS less than 2,000 nm of fuel reserves without local refueling. This calculation does not take into consideration extra fuel used moving through or around ice, which will significantly increase consumption.

re-fueling and logistics facility at Nanisivik.<sup>98</sup> Situated on the northern portion of Baffin Island, near the eastern gateway to the Northwest Passage, the facility was originally anticipated to include refuelling services, a base to facilitate modest repairs and upgrades, temporary storage facilities, and a helicopter landing area. Soaring costs and trouble with the dock led the project to be downsized from a year-round operational hub to an unmanned fuel depot. The refueling capability, however, remains its most essential component. Design work for the Nanisivik Naval Facility was completed in early 2014, and the official ground-breaking ceremony was held on July 15, 2015. The latest projects anticipate that the facility will be operational by 2018.<sup>99</sup>

While the AOPS and Nanisivik programs have been delayed, this has not materially damaged the RCN's ability to carry out its responsibilities in the North. After all, these programs were undertaken in *anticipation* of a need, rather than as a response to an existing requirement. If and when Arctic shipping activity increases dramatically (likely as destination shipping related to new resource development projects and tourism rather than uninterrupted transit passage),<sup>100</sup> the RCN may require a greater

<sup>98</sup> Erin K. Barkel and Rod Story, *Budget Analysis for the Acquisition of a Class of Arctic/Offshore Patrol Ships* (Ottawa: Office of the Parliamentary Budget Officer, October 28, 2014), p. 4. Lee Carson observes that the supporting infrastructure required at Esquimalt, Halifax, and Nanisivik has been folded into the AOPS budget, reducing the funds available to build the ships themselves. Lee Carson, "The Perilous Route to Nanisivik," *Vanguard* (March 6, 2013).

<sup>99</sup> Sarah Rogers, "Nanisivik Naval Fuel Station Postponed until 2018: National Defence," *Nunatsiaq News* (March 6, 2015); DND Backgrounder, "Canada's North: The Nanisivik Naval Facility" (July 17, 2015), <http://news.gc.ca/web/article-en.do?nid=1002559>. Work crews are refurbishing a dock and fuel tank farm that were built in 1973 to serve the Nanisivik lead-zinc mine, which closed in 2002.

<sup>100</sup> The 2009 *Arctic Marine Shipping Assessment: Final Report* concluded that the Northwest Passage is not expected to become a viable transit route through 2020 owing to seasonality, unpredictable and difficult ice conditions, the complexity of the routes through the Canadian archipelago, draft restrictions, inadequate charting, and insurance issues, all of which work against regular, predictable, scheduled marine activity. Recent studies confirm these findings and project them out over the next decade. See for example: Frédéric Lasserre, "Case Studies of Shipping along Arctic Routes: Analysis and Profitability Perspectives for the Container Sector," *Transportation Research A* 66 (2014), pp. 144-161; P. Whitney Lackenbauer and Adam Lajeunesse, *On Uncertain Ice: The Future of Arctic Shipping and the Northwest Passage* (Calgary: Canadian Defence & Foreign Affairs Institute, December 2014); Pierre-Louis Têtu, Jean-François Pelletier, and Lasserre, "The Mining Industry in Canada North of the 55th Parallel: A Maritime Traffic Generator?," *Polar Geography* 38:2 (2015): pp. 107-22; and Pascale Bourbonnais and Frederic Lasserre, "Winter Shipping in the Canadian Arctic: Toward Year-Round Traffic," *Polar Geography* 30:1 (2015): pp. 70-88.

presence to monitor, police, and assist vessel traffic. That activity has not yet materialized and, by the time it does, these programs should be far more advanced. In the meantime, Canada's current naval resources are adequate to exercise all of its jurisdictional responsibilities.<sup>101</sup>

### *Land Forces*

Although the Canadian Army has a role to play in maintaining Canadian sovereignty and security in the Far North, that role is often misunderstood or misconstrued in the media. While popular rhetoric holds that "boots on the ground" represents a display of state resolve and commitment that bolsters our sovereignty position, this is a spurious argument. Its persistence, however, harkens back to idea of "effective occupation" that suggests the need for a physical presence to show that a state "holds" territory, thus preventing competing claims from emerging or consolidating.<sup>102</sup> Images of foreign adversaries coming over the Pole to invade through the Arctic, popular in early Cold War continental defence, have also been resurrected in portrayals of a brave new twenty-first century Arctic world.

The simple realities of climate, terrain, limited infrastructure, and (most importantly) limited military objectives render the Canadian Arctic a problematic and unattractive operational theatre for hostile ground forces. As strategists noted from the early days of the Cold War, the vast distances involved in travelling the Arctic, coupled with the nature of the region provided (in the words of General Andrew McNaughton)

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<sup>101</sup> These ideas are predicated on the idea that the AOPS project will yield the fleet that the government has promised. Political scientist Ryan Dean argues that the usual debates about the roles and capabilities of the AOPS miss the more critical issue of how time and inflation are negatively affecting the programme. Inflationary pressures, Dean argues, may force officials to either reduce the vessels' capabilities or simply decreasing the number of ships purchased. Ryan Dean, "Dirty Harries: Buying 6 Arctic Offshore Patrol Vessels or Only 5?" *Canadian Naval Review* (forthcoming).

<sup>102</sup> For detailed looks at this idea in the Canadian context, see: Gordon W. Smith, *A Historical and Legal Study of Sovereignty in the Canadian North, 1870-1942*, ed. P. Whitney Lackenbauer (Calgary: University of Calgary Press, 2014), and Peter Kikkert and P. Whitney Lackenbauer, eds., *Legal Appraisals of Canada's Arctic Sovereignty: Key Documents, 1904-58, Documents on Canadian Arctic Sovereignty and Security 2*, (Calgary and Waterloo: Centre for Military and Strategic Studies/Centre on Foreign Policy and Federalism, 2014).

“something of a defence in itself.”<sup>103</sup> Lester Pearson dubbed the government’s defence posture a “scorched ice policy,” in which a potential adversary would have nothing to conquer in the North – and nowhere to go.<sup>104</sup> This reality has not fundamentally changed. When faced with a journalist’s question about what the CAF would do if someone invaded the Canadian Arctic, the Chief of the Defence Staff, General Walter Natynczyk, quipped in 2009 that his “first task would be to rescue them.”<sup>105</sup> The need for the Army to conduct combined arms kinetic manoeuvre operations to address a potential adversary was hardly foremost in his mind, and the idea of garrisoning large numbers of Regular Force and Primary Reserve soldiers in the North to defend against external threats would be irresponsible.<sup>106</sup>

The Army’s Arctic concept document, *Northern Approaches*, released in 2013, provides a reasoned overview of the capabilities that land forces can bring to “assist in meeting the Government of Canada’s objectives in the region.” According to this document, typical Army missions include “Humanitarian Assistance, Disaster Relief, support to Ground-based Search and Rescue (GSAR), Major Air Disaster (MAJAID), Major Maritime Disaster (MAJMAR), and generic support for a wide range of Government of Canada missions. Atypical missions could involve CANSOFCOM in counter-terrorism or other roles.” While acknowledging that this range of capabilities is “similar in nature to the ones that are currently available in the South,” the Army’s plan emphasizes the need for a renewed focus on general Arctic training and equipment, “a robust sustainment system, and requisite command, control, surveillance, liaison and planning capabilities” to operate “across the vast and frequently inhospitable environment of the Arctic.” Careful to distinguish between winter warfare training and

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<sup>103</sup> Bernd Horn, “Gateway to Invasion of the Curse of Geography?” *Forging a Nation: Perspectives on the Canadian Military Experience* (St. Catharines: Vanwell, 2002), p. 321.

<sup>104</sup> *Ibid.*

<sup>105</sup> Pierre-Henry Deshayes, “Arctic Threats and Challenges from Climate Change,” *Agence France-Presse* (December 6, 2009).

<sup>106</sup> Instead, the *Land Force Arctic Concept 2021* is a variation of the broader Army Force Employment Concept that “envisions an Army being based where it can most efficiently and effectively connect with and serve the majority of the Canadian population and expeditiously move and serve Canadians not residing near major population centres when a broader need arises.” LGen P.J. Devlin, CCA [Commander Canadian Army] Master Implementation Directive (MID) Arctic Response Company Groups Full Operating Capability (ARCG-FOC) (March 26, 2013), DND file 30000-1 (DLFD).

Arctic training, the Army recognizes that “extreme winter temperatures ... [are] but one aspect of the many challenges Canadian troops encounter in the Arctic.”<sup>107</sup>

Since the mid-2000s, the Army has worked diligently to regain the Arctic capabilities that atrophied in the decade following the end of the Cold War.<sup>108</sup> Frequent northern exercises have confirmed the challenges posed by climate, geography, distance, limited infrastructure, and the erosion of basic land skills. For example, in December 2008, the Army sent a small force to Churchill for Exercise *Northern Bison*. A company was deployed to a forward operating base and, in temperatures ranging from -45°C to -57°C, soldiers soon lost their effectiveness. In his appraisal of the exercise, Colonel R. Poirier admitted surprise at how many basic winter warfare skills had been lost. The main lesson taken from *Northern Bison* was that most troops deployed north would quickly become liabilities rather than assets. Furthermore, tactical movement proved a serious liability and officers discovered serious deficiencies in the troops’ ability to move as a formed element.<sup>109</sup> This observation was confirmed during the following iteration of *Northern Bison* (2010), in Operation *Arctic Ram* (2012), and in Exercise *Stalwart Goose* (2013).<sup>110</sup> The shortage of over-snow vehicles proved critical, forcing the government to spend \$420,000 during *Arctic Ram* alone to rent enough snowmobiles to acquire a “modest capability.”<sup>111</sup> The CAF made an effort to address this deficiency through the Arctic Light Over Snow Vehicle (LOSV) project, which was designed to provide the Army with a “robust, light, winter mobility capability.” The results of this program were, however, disappointing as the vehicles were dispersed across the divisions, rather than being concentrated in the hands of the ARCGs, where they might have had real effect.<sup>112</sup> A concurrent Arctic All-Terrain Vehicle project is also designed to address mobility

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<sup>107</sup> DND, *Northern Approaches*, pp. 19, 20, 24.

<sup>108</sup> See: Canadian Forces Northern Area Headquarters, *Arctic Capabilities Study 2000: “True North Strong and Free”* (December 2, 2000), DND file NA 3000-1 (Comd) and Rob Huebert, “Climate Change and Canadian Sovereignty in the Northwest Passage,” *Isuma* 2:4 (2001): pp. 86-94.

<sup>109</sup> Col R. Poirier, “Post Exercise Report, Northern Bison 2008” (March 13, 2009) and Poirier, “Arctic Response and 38 Canadian Brigade Group,” *Canadian Army Journal* 13:3 (2010): pp. 145-6.

<sup>110</sup> LtCol J.R. Casey, “Lessons Learned Report Exercise Arctic Ram 2012” (March 28, 2012) and BGen J.D.G. Henley, “LFAA Lessons Learned Report – Stalwart Goose” (March 21, 2013); Col R. Poirier, “Post Exercise Report, Northern Bison 2010” (May 6, 2010).

<sup>111</sup> BGen P.F. Wynnyk, “Post Exercise Report – Exercise Arctic Ram 12” (June 26, 2012).

<sup>112</sup> Lajeunesse, Interview with CAF officer (March, 2016).

issues, particularly in the High Arctic, where vehicles are few in numbers and often unsuited for operations.<sup>113</sup> The results of this program remain to be seen.

Exercises have also reinforced the need for better communications equipment and training. Establishing reliable and effective communication between units in the field, headquarters, and between services remains one of the most persistent and intractable challenges associated with northern operations. New technologies, such as satellite phones and mobile internet hotspots, have helped alleviate the situation, but the environmental and atmospheric conditions that frustrated communications in the 1970s and 1980s remain a hurdle, hindering VHF and HF radio communications depending on the time of day, solar flares, the curvature of the Earth, and rolling terrain.<sup>114</sup> Furthermore,

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<sup>113</sup> BGen C.C. Thurrott, "Implementation Order Arctic Light Over Snow Vehicles" (October 7, 2013). Even when the resources are available, travelling across Arctic terrain has not been a straight forward task. During operation *Nanook* 2013 an ARCG was tasked with assisting in a law enforcement simulation. The group was given hours to travel a few kilometers over flat ground on Cornwallis Island, so much time that planners worried there would be nothing to fill the time. Instead, the group's ATV quickly bogged down in the muskeg and had to be rescued by helicopter. Failures like this one remind Army planners how difficult and unpredictable Arctic travel can be. This knowledge is slowly being regained, largely through the assistance of the Rangers. The Inuit know, for instance, not to travel directly behind an ATV since the vehicle in front can damage the ground and cause the follower to sink. Interview with General Christopher Coates (CJOC), Ottawa, May 23, 2014.

<sup>114</sup> B. Gen PF Wynnyk, "Post Exercise Report – Exercise Arctic Ram 12" (June 26, 2012). Exercises Northern Bison, Stalwart Goose, *Nanook*, and Arctic Ram have confirmed that HF radio remains the most reliable means of Arctic communication. See BGen PF Wynnyk, "Post Exercise Report – Exercise Arctic Ram 12" (June 26, 2012); Colonel R.R. Poirier, "Post Exercise Report, Northern Bison 2008" (March 13, 2009); BGen JDG Henley, "LFAA Lessons Learned Report – Stalwart Goose" (March 21, 2013). While HF frequencies are also unsecure, their ability to economically operate over great distances makes the HF radio the ideal tool for basic communication. Unfortunately, HF is a specialty communication suite and the Army has neither the equipment nor the training to use it on a large scale. B. Gen. JDG Henley, "LFAA Lessons Learned Report – Stalwart Goose" (March 21, 2013). For example, during Operation *Nanook* 2010, the Army found that its CH-146 pilots could not communicate with the ground elements because of the ARCG's lack of HF radio. BGen JJRG Hamel, "Operation Nanook 2010 After Action Report" (December 8, 2010). During Exercise *Arctic Ram* in 2012, the situation had improved slightly but 38 Brigade Group could still only find one radio per company. After-action reports note that greater investments in these sets, particularly the man portable 138 HF and the 117HF with antennae capable of transmitting and receiving on the move) will be "crucial to supporting dispersed ops." Colonel OH Lavoie, "1 CMBG Post Exercise Report Exercise Arctic Ram 12" (May 6, 2012). Equally critical will be implementing a broad training program for their use amongst ARCG soldiers and others involved in northern operations. BGen PF Wynnyk, "Post Exercise Report – Exercise Arctic Ram 12" (June 26, 2012).

the lack of cellular or broadband coverage in the Arctic precludes the connectivity to which the Forces have grown accustomed in other theatres. Accordingly, basic intelligence, operational orders, and information needed for a mission must all be available offline.<sup>115</sup> While satellite phones have proven useful in filling communication gaps, they offer an insecure system with batteries that drain rapidly and talk-time that is significantly reduced in cold conditions.<sup>116</sup> This same problem has affected soldiers' global positioning systems, which have been reported as performing sluggishly in the extreme cold.<sup>117</sup>

Sustaining deployed forces also remains a key challenge. Equipment failure is more frequent and harder to work around in the Arctic.<sup>118</sup> Moving parts from southern warehouses is made difficult, not only by the distances involved, but by limited shipping infrastructure that was never designed to handle more than a small stream of goods.<sup>119</sup> Relying on local stocks is not an answer. Many hamlets in the Arctic Archipelago have their supplies brought in once a year by ship and cannot maintain both themselves and soldiers operating in the area. A 2011 analysis of the situation revealed that few northern communities can support anything greater than a sub-unit surge.<sup>120</sup> Accordingly, the Army conducts its deployments and training in the region as "expeditionary operations" (thus relying on air and sea mobility), aiming to make them "entirely self-contained" and causing "zero impact on the fragile environments of the North."<sup>121</sup>

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<sup>115</sup> Colonel OH Lavoie, "1 CMBG Post Exercise Report Exercise Arctic Ram 12" (May 6, 2012)

<sup>116</sup> During *Northern Bison* in 2008, for example, soldiers discovered that battery life was little more than 10 minutes at -30°. Colonel R.R. Poirier, "Post Exercise Report, Northern Bison 2008" (March 13, 2009). Despite these shortcomings, the satellite phone is an invaluable backup that will continue to be heavily employed in the future. The Army will have to expand and upgrade its stocks. After exercise Stalwart Goose, it was suggested that each IRU be issued five devices and that the most advanced models with the strongest lithium batteries be purchased. B. Gen. JDG Henley, "LFAA Lessons Learned Report – Stalwart Goose" (March 21, 2013).

<sup>117</sup> Colonel R. Poirier, "Arctic Response and 38 Canadian Brigade Group," *Canadian Army Journal* 13:3 (2010): pp. 149-150

<sup>118</sup> Joan Taylor, "Op Hudson Sentinel 2005 Post Operation Report" (October 24, 2005).

<sup>119</sup> Ibid.

<sup>120</sup> MajGen D.A. Fraser, "Training Implementation Directive – Initial Operating Capability – Arctic Response Company Groups and Arctic Vanguard" (March 28, 2011).

<sup>121</sup> DND, *Northern Approaches: The Army Arctic Concept 2021*, 23. Current Arctic training is designed, first and foremost, to minimize the amount of effort required for a unit to sustain itself in order to maximize the energy available to provide support. Lajeunesse interview with MGen Christopher Coates (CJOC),

Given these operational realities, the Canadian Army has, on paper at least, focused its efforts on building up small, self-contained, highly mobile units – particularly the Arctic Response Company Groups (ARCGs). Since 2010, the four Land Forces Areas have each generated one ARCG consisting of two rifle platoons and one administrative support platoon. Force generated from the Primary Reserves, the desired end-state for these groups is to provide “a robust and resilient Arctic capability ... with sufficient depth of personnel qualifications to enable Force Generation for [domestic operations] as needed.”<sup>122</sup> Simply put, these units are intended to offer support to first responders and provide the critical “mass” needed to manage significant disasters and other security situations.<sup>123</sup> All four ARCGs achieved initial operating capability in 2011 with Final Operating Capability (FOC) anticipated in 2016.<sup>124</sup> Accordingly, the Army’s incremental approach has proven amenable to “a rapid and coordinated advance of Arctic capabilities” aligned with government priorities in a fiscally, and resource-constrained environment.<sup>125</sup>

The ARCGs are becoming involved in increasingly complex scenarios as their capabilities improve.<sup>126</sup> To appreciate how far the Army has come, readers should note

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Ottawa, May 23, 2014. Along these lines, the RCAF and Army are establishing a series of Northern Operational Hubs to facilitate sustained operations without drawing on the region’s limited resources. David Pugliese, “Canadian Forces to Stockpile Military Equipment in Arctic ‘Hubs’ for Faster Response in Case of Emergency,” *National Post* (August 21, 2014), and LCol D. Ziprick, “Leveraging Air Mobility to Support Canadian Arctic Sovereignty” (unpublished Master of Defence Studies paper, Canadian Forces College, December 24, 2014).

<sup>122</sup> Army Training Authority, “Training Implementation Directive - Initial Operating Capability (IOC) - Arctic Response Company Groups (ARCG) and Arctic Vanguard” (September, 28 2011).

<sup>123</sup> Lajeunesse interview with MGen Christopher Coates (CJOC), Ottawa, May 23, 2014.

<sup>124</sup> LGen P.J. Devlin, “CCA Master Implementation Directive (MID) Arctic Response Company Groups Full Operating Capability (ARCG-FOC)” (March 26, 2013), DND file 3000-1 (DLFD).

<sup>125</sup> Chief of Land Staff, CLS Master Implementation Plan – Initial Operating Capability – Arctic Response Company Groups (February 2, 2010), DND file 3000-1 (DLFD).

<sup>126</sup> For example, during Operation *Nanook* (2010) a unit spent three days practicing basic survival skills along with zodiac and ATV movements on Baffin Island. BGen J.J.R.G. Hamel, “Operation Nanook 2010 After Action Report” (December 8, 2010). During *Nanook* (2013) one company group practiced amphibious deployment and providing support to Environment Canada during a poaching scenario on Cornwallis Island. BGen. G.D. Loos, “Operation Nanook 2013 After Action Report” (February 11, 2014). That same year, during Operation *Guerrier Nordique*, an ARCG was deployed to support the Rangers in a

that the terrible performance of an ARCG deployed on Exercise *Northern Bison* in 2008 demonstrated how acutely the Army needed to improve its Arctic capabilities. By contrast, an ARCG from the 5<sup>th</sup> division was declared at full operating capacity in 2014 after Exercise *Stalwart Goose*, when the unit maintained sustainment, communications, and operability over a total of 540 km in four (plus) days. This exceeded the previously stated requirement for fully operational status: self-sustaining, deployable to 300km, and a demonstrated ability to provide assistance to other government departments and local communities. Readiness targets for planned and deliberate operations have also been cut in half to include full deployment within 15 days, including a reconnaissance party at day five and an advanced party deployed at day ten.<sup>127</sup> Accordingly, the ARCGs have become a credible way for the Army to develop the necessary skills to provide support across the security spectrum and to work closely with joint, interagency, and public stakeholders.

As a southern-based resource sent north for short durations, the ARCGs have typically operated during “peak periods” of activity in the Arctic (summer and winter). The Canadian Rangers, however, provide the Army with a permanent, year-round presence. Since 1947, the Rangers’ official mission has been “to provide a military presence in sparsely settled northern, coastal and isolated areas of Canada that cannot conveniently or economically be provided for by other components of the Canadian Forces.” The tasks that they perform in support of this mission have become more complex (but do not include any combat or assistance to law enforcement roles because of their limited training),<sup>128</sup> and the Army considers them “a mature capability” and “the foundation of the CF’s operational capability across the North for a range of domestic

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simulated plane crash and train derailment in remote areas of Quebec. LCol G.P.S. Faucher, “Post Exercise Report for Guerrier Nordique 2013” (April 8, 2013).

<sup>127</sup> Col S.P. Leonard, “Arctic Response Company Group and Land Component Command HQ Full Operating Capability (March 24, 2014). See also “CLS, Army Support Plan – Immediate Reaction Units (IRUs)” (November 23, 2011), DND file 3350-1 (Army G35 Cont’l).

<sup>128</sup> The original military vision saw the Rangers defending national security – protecting their communities from enemy attack – using their knowledge of local conditions. By the 1970s, their basic purpose was linked to the armed forces’ role supporting Canada’s sovereignty. Since the 1990s, the Rangers have played a prominent nation-building and stewardship role, symbolizing deep cooperation between the Canadian Forces, Aboriginal people, and other Canadians living in isolated areas. Today, their main tasks encompassed the three broad aspects of their service: conducting and supporting sovereignty operations; conducting and assisting with domestic military operations; and maintaining a Canadian Forces presence in local communities. On the Rangers’ evolving role see: P. Whitney Lackenbauer, *The Canadian Rangers: A Living History*.

missions.”<sup>129</sup> In emphasizing their myriad contributions, the Army notes that the “Rangers will remain a critical and enduring presence on the ground, valuable in many roles, including amongst others, the CAF’s eyes and ears for routine surveillance purposes, its guides, local cultural advisors, interpreters, and the core of our liaison capacity in many locations, while remaining immediately available to support local government or other agencies.”<sup>130</sup> 1 CRPG represents a flexible, inexpensive, and culturally-inclusive means of having “boots on the ground,” visibly demonstrating sovereignty and supporting domestic operations.

Since 2007, growing and strengthening the Rangers has featured prominently in the government’s plans to bolster Arctic sovereignty and “enhancing the safety and security of the people who live here.”<sup>131</sup> The government delivered on its promise to expand the Canadian Rangers from 4,000 members in 2007 to an average paid strength of 5,000 in 2013.<sup>132</sup> Furthermore, sustained funding has supported ongoing material “enhancement” efforts, such as the Canadian Rangers Equipment Modernization Project to provide Rangers with “light equipment of the best quality to allow them to perform their tasks effectively.”<sup>133</sup> Patrols have received satellite phones and new radios to address

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<sup>129</sup> LtGen. A.B. Leslie, draft, “CLS Planning Guidance -- Arctic Response” (July, 2009), DND, f. 3000-1 (A/DLFD). On the debate over the Rangers’ role and the Army’s justification for not making the Rangers more like Primary Reserve units, see Lackenbauer, *If It Ain’t Broke, Don’t Break It: Expanding and Enhancing the Canadian Rangers*, Working Papers on Arctic Security No. 6, (Toronto: Walter and Duncan Gordon Foundation and ArcticNet Arctic Security Projects, March 2013).

<sup>130</sup> DND, *Northern Approaches: The Army Arctic Concept 2021* (Kingston: Canadian Army Land Warfare Centre, 2013), p. 23.

<sup>131</sup> Prime Minister’s Office, “Prime Minister Announces Expansion of Canadian Forces Facilities and Operations in the Arctic” (August 10, 2007), <http://www.pm.gc.ca/eng/news/2007/08/10/prime-minister-announces-expansion-canadian-forces-facilities-and-operations-arctic>.

<sup>132</sup> LtGen. M.J. Dumais, “Commander Canada Command Recommendation for the Expansion of Canadian Ranger Patrols” (March, 2008); DND, Canada Command, f. 3440-2 (J3 Plans 7), referencing “VCDS Report on Plans and Priorities 07/08.” On the achievement of this benchmark, see Bryn Weese, “Harper Welcomes 5000<sup>th</sup> Ranger, Becomes Honorary Member,” *Sarnia Observer* (August 21, 2013).

<sup>133</sup> Harper, “Expanding Canadian Forces Operations.” The new equipment list (scale of issue) includes duffel bags, ballistic eyewear, backpacks, and multi-tools. “Canadian Ranger Prioritized Individual Clothing and Equipment List as of October 24, 2007,” Flag C to DND, October 22, 2007, DND, f. 100001-1 (DGL Res Sec).

communication gaps,<sup>134</sup> and the military plans to pre-position more equipment (still unspecified) in communities so that Rangers can respond more quickly to emergencies.<sup>135</sup> Although Rangers are still expected to wear their own environmentally-suited clothing on operations, a “clothe the Ranger” program will supplement their famous red hoodie with new jackets, rain suits, and other accoutrements. Finally, the Rangers have been promised a new bolt-action, calibre .308 Winchester, magazine-fed rifle as part of the Army’s Small Arms Modernization Project. This will replace the venerable .303 Lee Enfield No.4 (which was difficult to maintain owing to a scarcity of replacement parts) with initial distribution to Ranger patrols in 2017.<sup>136</sup> The need for more Ranger instructors and headquarters support staff in Yellowknife, however, remains a critical shortcoming that must be addressed to ensure that the Ranger organization remains effective and relevant in future operations.<sup>137</sup>

Over the last fifteen years, 1 CRPG’s range of activities has extended far beyond the original expectation that Rangers simply know their immediate environs. As a symbol of Canadian sovereignty, the Rangers attain their highest profile when patrolling the remotest reaches of the Arctic or supporting other units during N-series operations, representing a visible form of “presence,” and a source of domain awareness. During these operations, Rangers have a chance to work with other members of the CAF and foreign militaries, operate in unfamiliar environments, share skills, and build confidence.

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<sup>134</sup> The Rangers’ current radios have limited range, cannot be operated on the move, and are unreliable in extreme conditions, which Rangers frequently encounter. Canadian Rangers National Working, Minutes (October 2007)

<sup>135</sup> Maj. K. Sproule, “JTFC/LFCA Response: 3rd Canadian Ranger Patrol Group Enhancements” (April 2007), DND file 3121-2-1(J5 Ops). See also “New Equipment Will Soon Be Distributed,” *Arctic Exposure: 1 CRPG Newsletter* (March 1, 2010), p. 9.

<sup>136</sup> The replacement rifle is based on the SAKO T3 CTR (Compact Tactical Rifle), produced by a Finnish-company, and Colt Canada will produce the barrel, bolt and receiver for the new Ranger rifle under licence from Sako. Modifications for the Ranger pattern include: a larger bolt handle and enlarged trigger guard to accommodate gloved hands, plus protected front and rear iron sights; orange or red colour with Ranger Crest; and a two-stage trigger with three-position safety. “Meet the Canadian Rangers’ New Sako Rifle, Built to Defend Against Large Carnivores, Extreme Temperatures,” *National Post* (June 25, 2015). Rangers will either have an opportunity to purchase or will be gifted their old rifles. See David Pugliese, “Military Confirms that Canadian Rangers will be Allowed to Keep their Lee Enfield Rifles,” *Ottawa Citizen* (August 24, 2015).

<sup>137</sup> On this theme, see Lackenbauer, *Vigilans: The 1<sup>st</sup> Canadian Ranger Patrol Group*, pp. 116-17.

Canadian Rangers also serve as “force multipliers” during these operations and other exercises, increasing the effectiveness of Regular Force and Primary Force units operating in the North by teaching, guiding, and generally keeping these southern troops alive and active. After-action reports from Army exercises repeatedly highlight the benefits of this partnership and the need to leverage the Rangers’ knowledge and capabilities to facilitate operations and further develop the Army’s northern skills.<sup>138</sup> Furthermore, the Rangers are an important source of shared awareness and liaison with community partners<sup>139</sup> and, by virtue of their capabilities and location, regularly support other government agencies in responding to the broad spectrum of security and safety issues facing isolated communities. For example, they frequently conduct search and rescues, while their leadership and training makes them the *de facto* lead during states of emergency in their communities – from avalanches, flooding, extreme snowstorms, and power plant shutdowns, to forest fires and water crises. Accordingly, they are the CAF’s first responders in most safety and security situations.<sup>140</sup>

The Rangers would almost inevitably be the first CAF members to augment and support municipal and territorial first responders. Given their modest resources, however, the Army may need to deploy an Immediate Response Unit (IRU) in support during an emergency. IRUs are Regular Force units designed around the same model as the ARCGs, trained with the same capabilities to achieve the same objectives but on a smaller-scale and deployed in a much shorter timeframe.<sup>141</sup> In a situation where the CAF had to provide more support than Rangers, an IRU would deploy a four-person reconnaissance unit within eight hours, a ‘vanguard company’ of twelve people within

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<sup>138</sup> See for example, BGen J.D.G. Henley, “LFAA Lessons Learned Report – Stalwart Goose” (March 21, 2013).

<sup>139</sup> Chief of Land Staff, “Army Support Plan Immediate Reaction Unit – Northern Contingency Plan” (December 14, 2011), DND file 3350-1 (Army G35).

<sup>140</sup> See Lackenbauer, *Canadian Rangers*; Lackenbauer, “The Canadian Rangers: A Postmodern Militia That Works,” *Canadian Military Journal* 6:4 (Winter 2005-06): pp. 49-60; and Chief of Force Development, *Arctic Integrating Concept*, p. 23. See also MGen. D.A. Fraser, “Training Implementation Directive – Initial Operating Capability – Arctic Response Company Groups and Arctic Vanguard” (March 28, 2011).

<sup>141</sup> MGen D.A. Fraser, “Training Implementation Directive – Initial Operating Capability – Arctic Response Company Groups and Arctic Vanguard” (March 28, 2011).

12 hours, and the main support body of thirty-two people within 24 hours.<sup>142</sup> In an event where even more sustained CAF support is required, an ARCG will be mobilized and deployed.

This layered response system makes sense and substantive progress has been made in building a basic capability, designed around realistic security threats. Land-based Arctic operations have become a “normal activity for Army units,” as has interoperability with other CAF elements and other government departments.<sup>143</sup> The Army has a growing supply of soldiers trained up to the point that they will be useful on an Arctic deployment and it can conduct small-scale deployments and tactical movements while self-sustaining for nearly three weeks.<sup>144</sup> Although this may not constitute a robust military presence in the conventional combat sense<sup>145</sup> – and media critics have accused this posture as falling short of the government’s aggressive promises<sup>146</sup> – the Canadian Army has created a focused and cost-effective system designed with Canada’s limited resources in mind, and the sort of security and safety challenges that the country is likely to face as activity in the Arctic continues to increase.

### *The Aerospace Domain*

Situational awareness in the Arctic is essential to exercising effective control. During the Cold War, Canada employed surveillance craft (the CP-140 Aurora and CS2F Tracker) to conduct periodic, but largely symbolic, flights as demonstrations of

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<sup>142</sup> Chief of Land Staff, CLS Master Implementation Plan – Initial Operating Capability – Arctic Response Company Groups (February 2, 2010), DND file 3000-1 (DLFD).

<sup>143</sup> MGen J.M.M. Hainse, Commander LFDTS Planning Guidance Land Force Arctic Strategy (May 25, 2009), DND file 3500-1 (G3).

<sup>144</sup> A.T. Stack, “Land Force Arctic Master Implementation Plan – Initial Operating Capability Arctic Response Company Groups” (June 17, 2010).

<sup>145</sup> While several commentators raise this critique, readers should pay heed to the former Chief of the Land Staff’s observation that “the basic tenets of Land Warfare do not change just because we are operating in an Arctic environment.” Hainse, Commander LFDTS, “Planning Guidance Land Force Arctic Strategy” (May 25, 2009).

<sup>146</sup> See for instance: Robert Smol, “When will we get Serious about Arctic Defence?” *CBCNews* (May 11, 2009).

sovereignty.<sup>147</sup> In a top secret program, DND also spent decades experimenting with maritime detection systems in the chokepoints of the Northwest Passage.<sup>148</sup> The system was never operationalized but DND is attempting something similar in the form of the Northern Watch Project.

In order to monitor activity beyond the range of the Northern Warning System and the region's maritime chokepoints, the government relies primarily on spaced-based surveillance. The RADARSAT II satellite is the country's eye in space, monitoring activity and ship movements and cross-referencing this information with data from the AIS system to track vessels not transmitting their identity as required under international maritime regulations. The system is extremely capable as it can collect images of the Earth, day or night, through all kinds of interference (such as cloud cover, smoke, or haze) – an important consideration in the Arctic.<sup>149</sup> Through the Polar Epsilon project, which is DND's mechanism for processing RADARSAT data, critical information can be incorporated into a recognized maritime picture and disseminated within fifteen minutes.<sup>150</sup> To further strengthen this system, Canada plans to launch a constellation of three additional RADARSAT satellites in 2018, allowing for several more passes per day over the Northwest Passage. This increase offers many advantages, including the ability to measure ship movements much more precisely.

Expanding this capacity, Polar Epsilon 2 will build upon the Canadian Space Agency-led RADARSAT Constellation Mission. This project will see DND upgrade the existing Polar Epsilon ground segment and fund the RADARSAT ship identification Space Segment payloads. Treasury Board approved the \$143 million project in January 2013, and MacDonald Dettwiler was awarded a \$706 million contract to build the RCM satellites, which are expected to be launched in July 2018 – with first operations that October.

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<sup>147</sup> See Admiral Robert Fall's assessment in: Douglas Bland, *Chiefs of Defence* (Toronto: Canadian Institute of Strategic Studies, 1995), pp. 232-33.

<sup>148</sup> Adam Lajeunesse, "A Very Practical Requirement: Under-Ice Operations in the Canadian Arctic, 1960-1986." *Cold War History* 13:4 (November, 2013).

<sup>149</sup> William Carruthers, "Snake Oil Salesmen," pp. 68-70.

<sup>150</sup> *Ibid*, p. 77.

In the air, Canadian surveillance is still provided by the RCAF's Aurora aircraft, which are in the midst of a \$2 billion upgrade of their mission systems and sensors. This upgrade includes structural updates and replacement of the outer wings and horizontal stabilizers. Concurrently, the Aurora incremental modernization project (AIMP) Block III is upgrading mission systems and sensors, giving the modernized Aurora a world-class capability. These upgrades should keep the planes active until at least 2030.<sup>151</sup>

Canada is also considering the use of drones to supplement its close surveillance capabilities.<sup>152</sup> Requiring less maintenance and manpower than traditional aircraft, UAVs could, theoretically, be used economically in a wide assortment of roles, from tracking ships to monitoring pollution incidents. The Joint Unmanned Surveillance Target Acquisition System (JUSTAS) program, launched in 2005, examines the possibility of procuring a fleet of medium-altitude long-endurance UAVs. This fleet would work in conjunction with Canada's fleet of fixed wing aircraft to provide surveillance out to 1,000 miles and support SAR efforts by dropping packages to stranded parties. At one point there were promises of an initial operating capacity in 2011, but DND is still exploring options in mid-2016.<sup>153</sup>

Canada is also experimenting with drone capabilities through the "joint Arctic experiment" program – an effort to expand its UAV and Unmanned Ground Vehicle (UGV) technology in Arctic conditions and demonstrate how it can be used to support future CAF operations in the North. The CAF sees the need for these drones for disaster response and hazardous situations (such as toxic spills or radioactive contamination) where human involvement would be dangerous. In 2014, for instance, experiments were based around a fictitious satellite crash in the Arctic. The objectives included supporting

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<sup>151</sup> RCAF, "CP-140 Aurora," <http://www.rcaf-arc.forces.gc.ca/en/aircraft-current/cp-140.page>.

<sup>152</sup> LCol Lachance et al, (Aerospace Warfare Centre), *Projecting Power Trends Shaping Canada's Air Force in the Year 2019* (April, 2009), p. v.

<sup>153</sup> Elinor Sloan, "Canadian Defence Commitments: Overview and Status of Selected Acquisitions and Initiatives," University of Calgary, the School of Public Policy, SPP Research Paper (in cooperation with the Canadian Defence and Foreign Affairs Institute), 6:36 (December, 2013) and "Canadian Military Tests Drones in High Arctic," *CBC News* (September 19, 2014).

any effort to recover the satellite debris, decontaminating the crash area from toxic fuels such as hydrazine, and providing medical support to civilians affected by the crash.<sup>154</sup>

Drones, helicopters, and fixed wing aircraft will likely become more important in the Arctic as shipping and resource extraction increase the need for a robust search and rescue capacity.<sup>155</sup> In Canada, search and rescue is a shared responsibility among federal, provincial/territorial, and municipal organizations, as well as air, ground, and maritime volunteer SAR organizations.<sup>156</sup> Working with international partners through the Arctic Council's 2011 *Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic*, the CAF has also committed to enhance SAR capabilities within its assigned area of responsibility.<sup>157</sup> To meet these responsibilities, the military maintains a year-round SAR capability for the North using assets based further south. Various commentators have criticized this system – which tasks assets based in Victoria, Trenton, and Halifax to respond to calls coming from the Far North – as inadequate and dangerous.<sup>158</sup> Nonetheless, this system has been forced on the CAF by its limited resources and the simple fact that than one percent (typically under 60 per year) of all SAR incidents occurred north of 60°N latitude.<sup>159</sup>

In most Arctic SAR incidents, the first responder on scene will be a fixed-wing aircraft. This response may entail an air-drop of survival equipment and/or the

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<sup>154</sup> Alycia Coulter, "Joint Arctic Experiment 2014 Demonstrates Capabilities of Unmanned Systems at CFS Alert," DND News (October 22, 2014), <http://www.forces.gc.ca/en/news/article.page?doc=joint-arctic-experiment-2014-demonstrates-capabilities-of-unmanned-systems-at-cfs-alert/i1glw4ox>

<sup>155</sup> This widely stated assumption remains theoretical. LCol Dany Poitras has shown that SAR requirements in the region did not substantively increase between 2005 and 2011. See: Poitras, "Search and Rescue in the Arctic: A Myth or a Reality?" (unpublished Master of Defence Studies paper, Canadian Forces College, 2013).

<sup>156</sup> DND, "Operations in the North," <http://www.forces.gc.ca/en/operations-canada-north-america/north.page>

<sup>157</sup> The Governments of Canada, Denmark, Finland, Iceland, Norway, the Russian Federation, Sweden, the United States of America, under the auspices of the Arctic Council, *Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic*, signed in Nuuk, Greenland, May 12, 2011.

<sup>158</sup> See for example: Tony Balasevicius, "Toward a Canadian Forces Arctic Operating Concept," *Canadian Military Journal* 11:2 (Spring 2011): p. 26 and Michael Byers, "Canada's Arctic Nightmare Just Came True: The Northwest Passage is Commercial," *Globe and Mail* (September 20, 2013).

<sup>159</sup> DND, "Royal Canadian Air Force in the North," <http://www.rcaf-arc.forces.gc.ca/v2/page-eng.asp?id=1512>.

parachuting of SARTECs to provide medical care and survival assistance. Parachuting operations, however, are often limited by high winds and ceiling height and are not always possible.<sup>160</sup> The lack of infrastructure in the North also limits the CAF's options, in that helicopters and boats lack the speed and range to move quickly across much of the region. As such, the tension in northern SAR remains how to economically deploy assets to the region without draining resources from the South. Until activity in the Arctic increases significantly, it will be hard to make a case for diverting resources from areas which are, statistically, more likely to require CAF action.<sup>161</sup>

In spite of this, the CAF continues to train and prepare for Arctic SAR. This is one of the more common scenarios played out during the annual Operation *Nanook* and, in 2011, became a very real requirement when First Air flight 6560 crashed outside of Resolute while the CAF was rehearsing its response to exactly that kind of accident. The First Air crash demonstrated that a potent SAR capability will always be an important consideration and that the CAF must continue to harmonize its response plans with those of OGDs and other first responders.<sup>162</sup>

While more SAR aircraft will likely be required in the years to come, the need for combat aircraft is unlikely to grow. Canada's CF-18s (and whatever may ultimately replace them) will remain an essential element in demonstrating Canadian control of its own airspace but they will play only a modest role in Arctic security. Since the Russian invasion of Ukraine and the resulting Western sanctions, Russian bomber flights to the margins of Canada's Arctic airspace have increased dramatically. These operations have become far more aggressive and have included practice cruise missile attacks in the

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<sup>160</sup> Operational jumps shall not be carried out at altitudes of less than 1,200 feet Above Ground Level/Above Water Level (AGL/AWL). The maximum surface wind speed for operational jumps shall be at the discretion of the team leader. Department of National Defence. SMM 60-130-2605, *Standard Manoeuvre Manual CC130(E/H) Search and Rescue Operations* (Winnipeg: 1 Canadian Air Division, 2010), Chapter 1, p. 1.

<sup>161</sup> For a solid, reasoned argument along these lines see: Poitras, "Search and Rescue in the Arctic." See also Poitras, *Development of RCAF Future Search-and-Rescue Concept*, RCAF Future Concepts Development Project 2013-10 (Trenton: Canadian Forces Air Warfare Centre, 2013), and Brynn Goegebeur, "Canadian Arctic Search and Rescue: An Assessment" (unpublished MA Major Research Paper, University of Ottawa, 2014).

<sup>162</sup> On the crash, see Transportation Safety Board of Canada, Aviation Investigation Report A11H0002, <http://www.tsb.gc.ca/eng/rapports-reports/aviation/2011/a11h0002/a11h0002.asp>.

Labrador Sea and flights into Canada's Air Defence Identification Zone in the Beaufort area. At the same time as Russian backed rebels downed a Malaysian airliner over Eastern Ukraine, for instance, Russians aircraft were also operating off Alaska and Yukon.<sup>163</sup>

Despite the threatening nature of these operations (which are a clear example of strategic messaging), they are unlikely to escalate into a serious continental security threat *per se*. Russia has no interest in attacking Canada or the United States and, even if it were to do so, it would make no strategic sense to employ these antiquated bombers in the attack. Russia would have little to gain by sending aircraft into a region possessing no strategically important targets that could not be more easily destroyed by ballistic or cruise missile attack. In May 2015, NORAD Commander Admiral William Gortney explained the underlying purpose of these operations, stating that Russia is "messaging us with these flights that they're a global power – which shouldn't be a surprise, we do that too."<sup>164</sup> Although these long-range flights represent diplomatic statements more than serious military threats, ensuring that these Russian bombers are met by Canadian fighters at the edge of Canadian airspace remains essential to show Canada's resolve in protecting its territorial integrity and defending the approaches to North America. Still, for the reasons listed above, these intercepts are unlikely to escalate into kinetic operations.

A broader question relates to the future of NORAD. This binational, tri-command relationship, has provided continental aerospace warning and control since its inception in 1957, and adopted a new maritime warning mission over North America, including the Arctic, in 2006. Although an enduring relationship, recent discussions have raised questions about the role, scope, and mission of this important joint command in light of emerging defence threats and challenges.<sup>165</sup> In an Arctic context, however, political scientist Andrea Charron makes a reasoned case for why NORAD does not need to adopt

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<sup>163</sup> Thomas Frer, Lukas Kulesa, and Ian Kearns, *Dangerous Brinkmanship: Close Encounters Between Russia and the West in 2014* (London: European Leadership Network, November 2014).

<sup>164</sup> Bob Weber, "NORAD ready to Intercept Russian Aircraft in Arctic," *The Star* (May 28, 2015).

<sup>165</sup> On the evolution of these relationships, see Joseph Jockel, *Canada in NORAD, 1957-2007: A History* (Kingston: Queen's Policy Studies, 2007) and James Fergusson and Andrea Charron, "NORAD in Perpetuity: Challenges and Opportunities for Canada" (Winnipeg: Centre for Defence and Security Studies, March 2014).

a new security posture to address emerging issues in that particular region. As she notes, the US *National Strategy for the Arctic Region* (2013) does not mention “terrorism” or “criminals,” but calls for “improve[d] awareness of activities, conditions, and trends in the Arctic region that may affect our safety, security, environmental, or commercial interests.” Increases in Arctic shipping traffic to date have neither been “of the scale or type to warrant more of NORAD’s attention,” thus allowing time for NORAD to improve information sharing and whole-of-government relationships associated with its maritime warning mission. Charron notes that highlighting NORAD’s “Arctic role may be useful for a variety of reasons including as a deterrent to adversaries as well as education for domestic audiences,” but this should not be misconstrued as a “new game” in the Arctic requiring institutional changes to NORAD itself. The status quo, which ensures that “command and control of Canadian assets remains in Canadian hands and in Canadian territory,” is appropriate, effective, and advantageous to Canada for sovereignty and security reasons.<sup>166</sup>

The physical place of the Arctic in continental defence more broadly is also re-emerging as a topic of discussion. In the early postwar period, the main catalyst for Canadian-American cooperation in Arctic defence related to the need for Canadian sites upon which to build radar stations and other critical military infrastructure. For Canada, these projects generated anxiety because of their scale and cost. In the case of the Distant Early Warning (DEW) Line, the United States paid for the original construction (estimated at upwards of \$400 million) as well as most ongoing operational and maintenance costs. When parts of the radar network were modernized into the North Warning System, Canada agreed to pay forty percent of the cost and to operate and maintain the 47 sites within Canada.<sup>167</sup> Current discussions about whether the NWS, which is reaching the end of its life, should be modernized or replaced, or whether the existing ground-based system should be abandoned in favour of space-based detection capabilities, will have implications for the defence footprint in Arctic Canada. The

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<sup>166</sup> Andrea Charron, “Canada, the Arctic, and NORAD: Status Quo or New Ball Game?” *International Journal* 70 (June 2015): pp. 215-31.

<sup>167</sup> The DEW Line awaits a comprehensive history. For a basic introduction to the NWS, see DND backgrounder BG-12.057, “North Warning System” (December 17, 2012), <http://www.forces.gc.ca/en/news/article.page?doc=north-warning-system/hgq87x9w>.

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outcome of these discussions will also have significant financial implications for Canada. Given the fiscal climate in the United States, James Fergusson and Charron reason:

Canada cannot depend on the US to pay the lion's share of new, additional NORAD operations and capital expenses. Therefore, the North Warning System, which will reach its end of operational life relatively soon, will likely need to be financed by Canada, in large part, whether for replacement/repairs etc. Ideally, the whole system needs to be able to detect incursions farther North which may mean relocating the system and should also be all singing and dancing to provide full domain awareness for land, sea, air, space and cyber. However, successive Canadian governments show little appetite to shoulder such an enormous financial burden unless they are space-based assets (like RCM, Polar Epsilon and the Northern Watch TDP).<sup>168</sup>

The United States is Canada's "premier partner" in the Arctic, particularly in terms of defence,<sup>169</sup> but active engagement in international fora more generally allows National Defence to contribute to Canada's Arctic Foreign Policy goals by creating new (and strengthening existing) relationships among Arctic countries and improving operational links. Mechanisms for formal engagement include longstanding institutions, such as NORAD, the Permanent Joint Board on Defence, and the Military Cooperation Committee, as well as new bodies for dialogue such as the annual Arctic Security Forces Roundtable, Arctic Capability Advocacy Senior Leaders Forum, and Tri-Command Staff Talks.<sup>170</sup>

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<sup>168</sup> Fergusson and Charron, "NORAD in Perpetuity," pp. 37-38. On this theme, see also General Charles Jacoby, statement to US House Armed Services Committee (February 26, 2014).

<sup>169</sup> P. Whitney Lackenbauer and Rob Huebert, "Premier Partners: Canada, the United States and Arctic Security," *Canadian Foreign Policy Journal* 20:3 (Fall, 2014): pp. 320-33.

<sup>170</sup> The Commanders of Canadian Joint Operations Command, and NORAD/USNORTHCOM signed the Tri-Command Framework for Arctic Cooperation in December 2012. The framework focuses on opportunities for cooperation in domain awareness, information sharing, planning, operations, exercises and training, capability development, and science and technology. Although it deals primarily with operational level military-to-military operations, the framework also seeks to identify challenges and emerging issues that may need to be resolved at a strategic level. Through this framework, the three commands have agreed to develop an action plan to articulate specific responsibilities, deliverables and milestones for cooperation.

In another prime example of efforts to build relationships and trust amongst the heads of the eight Arctic states' militaries, Chief of the Defence Staff General Walt Natynczyk hosted the first meeting of Northern Chiefs of Defence (CHODs) in Goose Bay in April 2012. This meeting allowed participants to increase their mutual understanding on Arctic issues, share knowledge about regional operational challenges, and discuss ways in which militaries can support civilian authorities in the North. Although all eight Arctic states participated in a second annual Northern CHODs meeting in Greenland the following year, Russia's aggressive actions in Ukraine led Iceland to cancel the 2014 meeting. There has been no announcement of a meeting for 2015 or 2016 and other "important confidence-building measures [with Russia], such as bilateral and multilateral military exercises, have also been suspended for an indefinite period."<sup>171</sup> International SAR exercises, pursuant to the treaty signed by the Arctic states in 2011, are a less politically sensitive mechanism to integrate international partners and operators.<sup>172</sup> They can also keep open channels of cooperation on practical responsibilities that may require international collaboration and mutual support, even if strategic tensions over developments outside of the Arctic region continue to chill relationships between key Arctic states.

### Conclusions

*You don't defend national sovereignty with flags, cheap election rhetoric or advertising campaigns. You need forces on the ground, ships in the sea, and proper surveillance.*

- Prime Minister Stephen Harper, Winnipeg, December 22, 2005

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<sup>171</sup> Ekaterina Klimenko, "Russia and the Arctic: An End to Cooperation?" Stockholm International Peace Institute Essay (March, 2015).

<sup>172</sup> While the Arctic Council does not have a mandate for defence or military security issues, Arctic states' Defence ministries can play a role in support of Arctic Council-led public safety efforts. For example, DND was Canada's lead for the negotiation of the Arctic SAR Agreement, signed by Canada and the other Arctic States in May 2011 (the first binding treaty negotiated under the auspices of the Arctic Council). For overviews of some key SAR exercises, see Arctic Council, "Search and Rescue," <http://www.arctic-council.org/index.php/en/environment-and-people/oceans/search-and-rescue>.

As DND and CAF documents consistently emphasize, defence issues do not drive Arctic affairs. Nevertheless, climate change and an increased tempo of air, maritime, and land-based activity in the region raise various safety and security challenges. Although direct responsibility for responding to most of these challenges falls with other government departments and agencies, DND and the CAF have an obligation to contribute as part of an integrated, comprehensive approach (articulated in the *Northern Strategy*) that expects the military to “lead from behind” in areas outside of the traditional defence domain. Over the last decade, the government has announced several initiatives to expand CAF capabilities and increase the Forces’ “presence” in the Arctic. “As part of a coordinated and layered [Government of Canada] response to domestic crises or emergencies, the CF will be ready to deploy rapidly and deliver strategic effect at home in support of Canadians,” the Chief the Land Staff noted in 2011. “The CF must be prepared for the full spectrum of potential scenarios from the provision of minor services to the deployment of significant resources in a variety of roles.” After all, “failure at home is not an option.”<sup>173</sup>

Implementing Arctic security policy that reflects a comprehensive, whole of-government approach does not require a fundamental reappraisal of Canada’s existing framework, however. Issues related to Russia’s intentions and investments in reinvigorating its Arctic defence forces, NATO’s role in the circumpolar world, and Canada’s longstanding continental defence relationship with the United States remain important, but these “hard” considerations need not and should not push “soft” security to the margins. Indeed, given the multidimensional nature of emerging Arctic challenges, the Government of Canada has already adopted definitions of Arctic security that move beyond traditional frameworks focused on potential military conflict to emphasize broader human and environmental issues that government and Northern representatives identify as the most pressing security and safety concerns. These include search and rescue (SAR), major transportation disasters, environmental disasters, pandemics, loss of essential services (eg. potable water, power, and fuel supplies), organized crime, foreign state or non-state intelligence gathering activities, attacks on critical infrastructure, food

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<sup>173</sup> Chief of Land Staff, Army Support Plan Immediate Reaction Unit – Northern Contingency Plan, (December 14, 2011), DND file 3350-1 (Army G35).

security, and disruptions to local hunting and transportation practices caused by shipping or resource development. Rather than positing military and human security agendas in conflict, academics and other stakeholders should support policy-making efforts to develop a collaborative, culturally-complex WoG paradigm, consistent with Canada's *Northern Strategy* goals, to address emerging threats and hazards in the twenty-first century.

As Lackenbauer has argued previously, "it is important for commentators and analysts to contemplate worst-case scenarios to identify potential risks and vulnerabilities. However, an excessive fixation on remote *potentialities* and their misidentification as *probabilities* can lead to misallocated resources (intellectual and material), unwarranted suspicion and paranoia, and messaging that can lead to a security dilemma."<sup>174</sup> Despite frequent criticisms, from both "hawks" like Rob Huebert and "doves" like Michael Byers, that delays in or scaling back of promised military investments put Canada in a precarious Arctic position, sober military assessments do not indicate any short-term defence threat that warrant a surge of new capabilities beyond normal development and procurement processes. The more critical challenge lies in maintaining a sustained commitment to deliver on strategic commitments amidst tremendous uncertainty, speculation, and hype that outside commentators can play upon to frame whatever agenda they wish.

We argue that, rather than rushing a spate of new investments in combat capabilities to meet an impending security "crisis," official frameworks already provide the CAF with appropriate and responsible guidance to support other government departments in addressing security concerns and responding to non-military Arctic emergencies. Although several expensive capital programs remain in the project definition or design phases, or have been scaled back (in the case of the Nanisivik refueling facility), this does not mean that Canada faces a critical, combat-capability deficit that leaves it vulnerable in an increasingly hostile Arctic world. Instead, as Lackenbauer has argued, "delivering on promised investments aligned to Canada's

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<sup>174</sup> P. Whitney Lackenbauer, "Canadian Security and Safety in the Arctic," p. 11. For an example of a fantasy 2040 scenario in which Canada faces a defence threat in its High Arctic see: Major J. Sheahan, Nancy Teeple, and Peter Gizewski, "Canada's Arctic Sovereignty Under Siege: The Prince Patrick Incident of 2040-An Alternative Security Future," *Canadian Army Journal* 12:2 (Summer 2009): pp. 37-49.

Northern Strategy before rashly ramping up to fight a fantastical Arctic combatant, conjured to the scene because of preconceived Cold War mentalities and international events unrelated to Arctic disputes, is a prudent and rational course.”<sup>175</sup>

The CAF’s return to the Arctic over the past decade and a half has been a slow and difficult process. Operational limitations remain an ongoing challenge, and exercises have repeatedly reinforced the difficulties of moving and surviving in the northern environment, as well as the need for better communications, equipment, and specialized training. Although routine operations and exercises, across all domains, are expensive and resource intensive, they offer important opportunities to develop and test CAF capabilities and to improve whole-of-government collaboration. Continuing to direct joint, integrated, and comprehensive planning and training efforts to meet specific federal government commitments and priorities is essential to secure political support for ongoing investments in a budget-constrained, limited-resource environment. Furthermore, Canadian expectations regarding respect for Northerners and environmental stewardship dictate that military activities must not “unnecessarily burden” communities with small, vulnerable populations and limited resources.<sup>176</sup> Instead, operations and training should strive to have positive, “enduring effects” on socio-economic life in northern communities,<sup>177</sup> with the Canadian Rangers serving as a prime example. Developing modest and scalable capabilities, adequately resourced to deal with Arctic conditions, improving domain awareness, and strengthening relationships, constitutes a responsible approach, given the difficulties inherent in maintaining an Arctic presence “while striving to meet other domestic, continental, and international missions.”<sup>178</sup>

Canada’s military capabilities, as they exist today and as they are developing, are proportionate to the challenges and threats that the country will face in the coming decade. The CAF has a clear vision of what it needs from its forces and what it is seeking to accomplish in the Arctic. The measure of preparedness should not be a robust combat

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<sup>175</sup> P. Whitney Lackenbauer, “Canadian Security and Safety in the Arctic,” pp. 10-11.

<sup>176</sup> CDS/DM Directive, p. 7.

<sup>177</sup> DND, *Northern Employment Support Plan*, p. 22.

<sup>178</sup> Chief of Force Development, *Arctic Integrating Concept*, p. 5.

capability, since there is no adversary that Canada is likely to fight in its Arctic. Furthermore, there is no need for a large permanent presence, given that military “boots on the ground” do not confirm sovereignty any more than civilian ones and there is little practical reason for troops to be in the Canadian Arctic for most of the year. The optics of a large, conventional military presence, while politically appealing, are offset by high costs and the absence of any substantive defence and security benefits or impact on Canada’s legal sovereignty position.

Sovereignty is demonstrated by operating in and asserting Canadian control over activities in the Arctic. The CAF, in partnership with other departments and agencies, will play a role in enforcing Canadian laws and regulations in the country’s Arctic waters, responding effectively to emergencies and other unconventional security threats, and maintaining the situational awareness that will enable it to undertake those key responsibilities. The learning curve in the Arctic is a shallow one where skills are developed slowly and over a long period of time. As such, the results of the CAF’s training program over the past decade are sometimes less apparent than they should be. In our assessment, the military is moving in the right direction in developing practical capabilities and enhancing core relationships that will allow it to respond efficiently and effectively in concert with WoG partners.

While the Huebert-Byers debate is useful to establish the extreme ends of the debate on Arctic defence, it is limited in what it contributes to practical capability-development efforts designed to address the most probably defence, security and safety requirements for the region. While we argue that the CAF has done a good job defining its objectives and establishing a training regimen, actually building the capacity to operate effectively in the Arctic remains an ongoing challenge. After the end of the Cold War the CAF’s Arctic capabilities were allowed to atrophy and, by the mid-2000s, the military no longer possessed either the equipment or the institutional knowledge to deploy, move, and operate in the Arctic. At the strategic level, the CAF has focused on strengthening its ties with OGDs and building out the networks and processes needed to achieve its higher-level objectives. At the operational level, the military’s efforts have focused on rebuilding basic Arctic skills needed to operate in an often inhospitable environment.

While strategists anticipate that most Arctic operations will be predominantly air or maritime focused, this does not negate the need for an effective ground response capability.<sup>179</sup> In spite of its limitations, the Army has made good progress. From a standing start, it has put together small but increasingly well-trained Primary Reserve and Regular Force units designed for rapid and flexible response. The Army can now, theoretically, deploy a staggered series of responders anywhere in the North to reinforce the Canadian Rangers, or deploy to an area without a Ranger patrol if required. This capability is limited in size but appropriate to the scope and type of threats envisaged over the next decade or more. Given the logistical and transportation difficulties inherent to Arctic operations, a small self-sufficient force is preferable, for instance, to the kinds of regiment-level deployments and airdrops practiced from the 1940s to the 1980s.<sup>180</sup>

The Royal Canadian Navy has also stepped-up its Arctic operations to rebuild the expertise it lost after the end of the Cold War. Technical issues surrounding communications, supply, and maintenance remain, but the Navy has made real progress in regaining its Arctic “sea legs.” Meanwhile, the AOPS should provide the service with a new ice-operational capability that will be essential as increased maritime traffic demands a larger presence from not just the Navy but all the other government departments and agencies that rely on the CAF for platform support. Canada’s situational awareness will, likewise, also have to be improved as activity increases. For the moment, however, it is sufficient to meet the country’s needs. Surface ships check into Canada’s reporting system (NORDREG) and follow Canadian law and regulations. Submarines remain a wildcard, but they present no immediate sovereignty or security threat.<sup>181</sup>

The RCAF, meanwhile, will continue to play an important role in environmental protection, disaster response, SAR, counter-intelligence operations, and general domain

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<sup>179</sup> Chief of Land Staff, CLS Master Implementation Plan – Initial Operating Capability – Arctic Response Company Groups (February 2, 2010), DND file 3000-1 (DLFD).

<sup>180</sup> Minimizing the size of deployed forces has the additional benefits of consuming less resources, reducing the demand for sustainment, and mitigating potential damage to fragile ecosystems. DND, *Northern Employment Support Plan*, p. 27.

<sup>181</sup> For a detailed analysis of this see: Adam Lajeunesse, “The Northwest Passage in Canadian Policy: An Approach for the 21<sup>st</sup> Century,” *International Journal* 63:4 (Fall, 2008): pp. 1045-47 and Adam Lajeunesse, “A Very Practical Requirement: Under-Ice Operations in the Canadian Arctic, 1960-1986,” *Cold War History* 13:4 (November, 2013).

awareness. Modernized Auroras, CH-148 Cyclone helicopters, and UAVs will be critical enablers in realizing the RCAF's Arctic mission, while supporting broader CAF and WoG efforts in nearly every conceivable scenario. Combat aircraft will continue to serve a role in responding to Russian long-range patrols to the limits of North American airspace, but the strategic situation is unlikely to evolve in such a manner as to require a larger or more technologically capable fighter presence.

Historically, the CAF has found it difficult to maintaining its northern capabilities as perceived strategic threats have come and gone, and popular and political interests have waxed and waned accordingly. The twenty-first century may see a change in that pattern, with the new drivers of Arctic security appearing far more permanent. Climate change is an established fact and the decreasing ice cover will, eventually, bring more economic development and shipping activity. Accompanying this activity will be crime, pollution infractions, and other regulatory and jurisdictional issues requiring assets and capabilities in the CAF toolbox. Those requirements will increase in lockstep with northern activity and meeting them will be an important national challenges for the CAF – and Canada – in the years ahead.