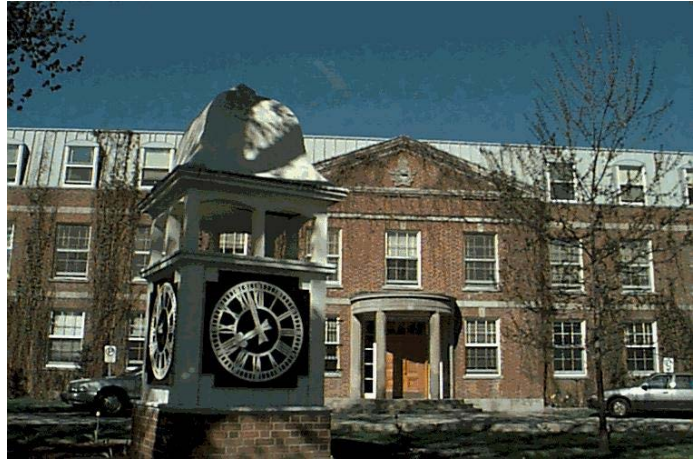


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CANADA'S ARCTIC SOVEREIGNTY: CHALLENGES, GOVERNMENT EXPECTATIONS, AND CAPABILITY SHORTFALLS OF THE CANADIAN ARMED FORCES

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JCSP 40

Exercise Solo Flight

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CANADIAN ARMED FORCES**

By Maj J.J. Gale

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Word Count: 5490

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INTRODUCTION

The Canadian Armed Forces (CAF) has been challenged with the Arctic sovereignty problem for decades, but with growing attention being given to the high North, the CAF is still not in a position to affect security in that region of the country. With climate change opening new shipping routes and exposing new resources, the Arctic in Northern Canada is providing new opportunities and challenges for Canada.¹ It will be unsettling for Canada and Canadians as new states and other groups enter into the Arctic region with interests that do not align with Canadian interests.²

Canada is undoubtedly an Arctic state, given that 40 percent of its landmass is located in the Arctic and it has an incredibly extensive Arctic coastline.³ The challenge is how to exert sovereignty and maintain security over such a vast and challenging portion of the country. An established professional in the field of northern sovereignty, with 20 years of military experience once wrote that, "In contemporary Canada, the North is seen as having intrinsic value and as such is deserving to be watched over, protected and, if necessary, defended."⁴

If called upon to deal with sovereignty issues in the Canadian Arctic, the CAF is not presently capable of significant Arctic operations. The challenges to military

¹ Government of Canada, *Statement on Canada's Arctic Foreign Policy* (Ottawa: Government of Canada, 2010), 3.

² James Kraska, *Arctic Security in an Age of Climate Change* (Cambridge, New York: Cambridge University Press, 2011).

³ Government of Canada, *Statement on Canada's Arctic Foreign Policy*, 4.

⁴ Keneneth C. Eyre, "Fourty Years of Military Activity in the Canadian North, 1947-87," *Arctic* 40, no. 4 (1987), 292.

operations in the Arctic have remained the same for decades and have not yet been overcome by CAF capabilities. Although Canadian government has growing ambition in its North, only modest improvements have been made towards securing its Arctic. Some further improvements can be made through restructuring inside the CAF; however, serious military investment is still required to achieve the means to conduct credible Arctic Operations.

This essay will demonstrate that the challenges with respect to operations in the high North encountered in the past are still relevant today and Canada has not made any real efforts to move forward with new technologies or focused efforts to change that. There still exists a serious capability gap that could be filled with technologies, training and positioning of existing assets farther North.

A march through time will show where the CAF has come from, where it is at present and provide some suggested ways forward to better affect sovereignty in the Arctic. First a historical look at the capabilities used and the challenges faced in past battles fought in the high Arctic will demonstrate the methods and issues of the past. Then a look at the initial efforts put forward by the CAF in the Arctic and a detailed description of the harsh conditions will set the stage for what was the beginning of the Arctic operational challenge. Second, this essay will review what Canada and the CAF expects to do in the Arctic through a review of the applicable priorities and policies set forward by government. Next a discussion with respect to the CAF existing and emergent capabilities, will display what Canada and the CAF are trying to do with respect to

sovereignty in the Arctic. And finally, the challenges for the existing capabilities and training will be demonstrated and followed by suggested solutions to the main issues affecting the CAF's ability to execute security in the high North.

HISTORICAL ARCTIC OPERATIONS

Introduction

A brief historical look at the difficulties faced by forces in the past will provide a baseline for the capabilities and abilities in Arctic Warfare writ large and for the CAF. Starting with the historical aspects of the Arctic that created difficulties for militaries of the past, and then following up with lessons learned in past battles, it will be seen that the same challenges are no different today. Lastly, a look at the initial CAF capabilities in the Arctic will illuminate the start state for military capabilities to affect Canadian Northern sovereignty. The logical place to start will be a description of the Arctic conditions as they were understood by militaries of the past.

Historical Environmental Challenges for Arctic Ops

Some of the challenges of operating in the Arctic are obvious, but others are not so obvious. A review of how the harsh conditions were seen in the past will demonstrate that the same issues are still in effect today. The extremely cold temperatures and harsh

windy storms found in the Arctic are the obvious sources of most of the issues when it comes to humans and equipment operating there.

As far as the effects on humans go, the US Army suffered cold weather casualties in almost every conflict from the American Revolution to the Korean War.⁵ The Red Army in World War II understood that soldiers had to seek shelter from the cold from time to time in either the forests, vehicles, improvised shelters or under the snow, in order to warm up or face the consequences.⁶

When it comes to vehicles, the main issues in the Arctic during World War II, were that snow levels only allowed for vehicle movement along roads, which affected camouflage and concealment, hindered Artillery gunners, bogged down tankers, and created unique problems for weapons maintenance.⁷ Some less obvious issues were dense fog, short six to eight hour days, and the increased visibility in the open, in the forests, and at night created by the white snow.⁸

All of these environmental issues remain extant today. Soldiers and equipment of today that are required to operate in the High North must be prepared to face these same difficulties. The capabilities brought to the Arctic battlefield of the past provided manoeuvrability and advantage to those who used them best.

⁵ US Army Research Institute of Environmental Medicine, *Medical Aspects of Cold Weather Operations* (Honolulu, Hawaii: University Press of the Pacific, 2005), 3.

⁶ Richard N. Armstrong and Joseph G. Welsh, *Winter Warfare: Red Army Orders and Experiences* (Portland, OR: Frank Cass, 1997), 19.

⁷ *Ibid*, 2-17.

⁸ *Ibid*, 17.

Capabilities Used and Lessons Learned in Past Arctic Battles

In history, it seems that the most popular example of Arctic Warfare was during World War II. On 30 November 1939 the Red Army invaded Finland, beginning what has since been called the Winter War which lasted until 1 March 1940.⁹ Although the Red Army was victorious in the end, the Finns used their superior Arctic capabilities to maintain their advantage until the Red Army implemented many changes to their equipment and training.

Skis were the Finns greatest tactical advantage for most of this battle. Their proficiency was born out of the fact that “all Finns are accustomed from childhood to skiing in forest conditions.”¹⁰ The other major advantage enjoyed by the Finns was their understanding of dressing in layers to maintain body temperature without sweating. The Soviets also found out that Finns ski soldiers utilized superb snow camouflage.¹¹

The Finns also understood the best seasons to fight in the Arctic. They understood that the terrain and climate made winter, primarily early and late winter when the snow was not too deep, the best time to go on the offence, summer was best to be in the

⁹ Barry Gregory, *Mountain and Arctic Warfare: From Alexander to Afghanistan* (London: Stephens, 1989), 101.

¹⁰ *Ibid*, 102.

¹¹ Armstrong and Welsh, *Winter Warfare: Red Army Orders and Experiences*, 4.

defence and spring and fall provided extremely muddy conditions that made roads unusable.¹²

The Red Army units had no ski training and by the end of the 105 day battle they had suffered 9614 casualties from frostbite.¹³ They did learn some hard lessons, but once they regrouped, retrained and properly equipped their forces, the Soviets inflicted a decisive victory in the Winter War.

In the end, it was the ski capabilities, use of camouflage and an understanding of the environment that gave the smaller Finn forces a short term advantage. Only by retraining for Arctic Operations were the Soviets able to achieve victory. Canada had also been evolving its Arctic capabilities throughout this timeframe.

CAF Initial Capabilities and Activities in the High North

Canada has seen the Arctic as sovereign territory for decades, but has not always maintained a security presence in that region. However, “military forces have been involved periodically in the North since the days of the Klondike Gold Rush in 1898.”¹⁴

The first Canadian Army (CA) appearance in the North was during that timeframe, when the Yukon Field Force deployed to Fort Selkirk and Dawson City to act

¹² Waldemar Erfurth, *Warfare in the Far North* (Washington, D.C.: US Government Printing Office, 1987), 7.

¹³ *Ibid*, 5.

¹⁴ Eyre, *Fourty Years of Military Activity in the Canadian North, 1947-87*, 292.

as a quasi-police auxiliary.¹⁵ CA activity in the North was sporadic at best following that. In 1923, the Royal Canadian Corps of signallers established radio Stations in the North West Territories and the Yukon, but it wasn't until post World War II that the CA moved to the North in real numbers.¹⁶ They were tasked to maintain the Canadian portion of the Alaskan Highway and they developed the research facility and airbase in Whitehorse into a garrison town, which was the very first in the North.¹⁷

The Royal Canadian Air Force (RCAF) did not appear in the North until 1927 when six aircraft were tasked by the government to conduct surveillance in the Hudson Bay Strait.¹⁸ The Royal Canadian Navy (RCN) was the last service to operate in the North. In 1948, as the RCN only had non-ice capable vessels, they were tasked to conduct a summer patrol as a symbolic act.¹⁹

During this overall period surrounding the World Wars, it seems only the CA was directed to make an effort to maintain a somewhat credible presence in the Arctic. The conditions in the Arctic however made operations too difficult for the CAF capabilities of the time and sovereignty was maintained by nobody else wanting it.

¹⁵ *Ibid*, 292-293.

¹⁶ *Ibid*, 294-295.

¹⁷ *Ibid*, 295.

¹⁸ *Ibid*, 294.

¹⁹ *Ibid*, 293.

Counter

The main counter to these historical issues is that they were problems for militaries 70 or more years ago and technology should have enabled Arctic operations immensely by now. Although the private sector has developed equipment for Arctic climates, the CAF has been slow to adopt any of them. Snowmobiles are in limited numbers and the only other snow going vehicle, the BV-206 fleet, is in bad disrepair. As we will see later, our ships and submarines are still not suited for the Arctic and our aerial surveillance planes are staged very far from the Arctic.

Conclusion

This section has shown historical challenges faced by militaries operating and fighting in the Arctic. As well, the initial CAF operations and capabilities first employed in the Canadian Arctic were discussed. It has been shown that the environmental challenges of the past are the same as the challenges of today. The lessons learned by the Soviets during the Winter Wars are indicative that an unprepared military, such as the CAF, will be at a great disadvantage in Arctic conditions if not properly trained and equipped. Today the CAF still has a minimal military presence and limited capabilities in the North which is not exactly meeting the intentions of the Canadian Government.

CANADA'S EXPECTATIONS OF THE CAF IN THE ARCTIC

Introduction

With growing global interest in the Arctic, Canadian Government has greatly heightened its interest in the North. What was once uncontested sovereignty is now being challenged by other states. "The government cannot control activity that takes place in its Arctic region in the absence of any ability to enforce against threats that arise."²⁰ To that end, the Canadian government has produced documents that outline the priorities and policies with respect to military activities in the Arctic. Only the aspects of these documents pertaining to sovereignty and security will be explored by this essay, with a view of demonstrating the high expectations placed on the CAF.

Priorities

In 2005, Stephen Harper stated publically that: "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."²¹ This reflected what his priorities and expectations of the CAF in the Arctic were at the time. Unfortunately, these lofty expectations have yet to be realized.

²⁰ Rob Huebert, *Canadian Arctic Sovereignty and Security in a Transforming Circumpolar World* (Toronto, ON: Canadian International Council, 2009), 2.

²¹ Stephen Harper (speech, 2005 Election Campaign, Ottawa, 22 December 2005).

The Statement on Canada's Arctic Foreign Policy states that: "Exercising sovereignty over Canada's North, as over the rest of Canada, is our number one Arctic foreign policy priority."²² This 2010 document solidifies sovereignty as the primary priority for the Arctic and it implies that the CAF is expected to become much more active in that region. This document also lays out that there are three priority areas that Canada will pursue in the Arctic, which are the resolution of boundary issues, securing recognition for ownership of the extended Canadian continental shelf, and address Arctic governance to include public safety.²³ The first two of these priorities would ideally be dealt with on the diplomatic level, however, the presence of military force would enhance the government's case and if things go unfavorably, the military may need to respond. The third priority of governance and public safety is likely to require military presence as the vast Arctic opens up to an incredible increase in international traffic.

Canada's Northern Strategy lays out four priorities to meet the challenges of the changing north, the first of which is exercising our Northern Sovereignty.²⁴ This more recent document again shows the growing intentions of exercising sovereignty. It can be drawn from this that there is a continued and current expectation of military activity in the Canadian Arctic.

²² Government of Canada, *Statement on Canada's Arctic Foreign Policy*, 2.

²³ *Ibid*, 6.

²⁴ Government of Canada, "Canada's Northern Strategy," last accessed 08 April 2014, <http://www.northernstrategy.gc.ca/index-eng.asp>.

All of these priorities point towards more military operations in the North. The government priorities are spelled out and clear, however, the means to execute are not necessarily available. Policies to drive these priorities should deliver the funds to execute.

Policies

The Canadian government has produced several recent documents that pertain to policies and strategies in the Arctic. The CAF has been given some specific direction through the Canada First Defence Strategy (CFDS). A review of the pertinent policies will further illustrate the importance that today's government puts on military activity in its Arctic.

Canada's Arctic Foreign Policy stipulates that: "the first and most important pillar towards recognizing the potential of Canada's Arctic is the exercise of our sovereignty over the far North."²⁵ This indicates that sovereignty is the gateway to Canada unlocking the potential of its Arctic and implies that the CAF needs to be executing sovereignty immediately. The same policy document states that: "We are putting the full resources of the Government of Canada behind the exercise of our sovereignty, sovereign rights and jurisdiction in the Arctic."²⁶ This implies that the CAF is already involved in the Arctic; an expectation that is not presently being met.

²⁵ Government of Canada, *Statement on Canada's Arctic Foreign Policy*, 4.

²⁶ *Ibid*, 5.

Canada's Arctic Foreign Policy also goes on to state that the CFDS will provide the military with the tools to increase its presence in the Arctic.²⁷ The policy expects that the first-year ice capable patrol ships, a marginal increase to the Rangers and a Winter Warfare Center in Resolute Bay will provide the military all it needs to fulfil its lofty expectations.

CFDS stipulates at least three missions where the CAF could be directed to act in the Arctic. They are “conduct daily domestic and continental operations, including in the Arctic, respond to a major terrorist attack, and support civil authorities during a crisis in Canada.”²⁸ These are clear expectations, laid out in writing, given directly to the CAF by the government.

It is obvious through these policies that the government wants the CAF to be in the North and capable of surging to the North in times of crisis. The question remains as to whether or not we are achieving the government's intentions.

Counter

Although the government has laid out its priorities and policies, they have not delivered the finances required to increase presence or acquire the resources to operate in the harsh Northern climate. The cost to execute exercises in the Arctic is three to five

²⁷ *Ibid.*

²⁸ Government of Canada, *Canada First Defence Strategy* (Ottawa, ON: Government of Canada, 2008), 3.

times more expensive than those in southern Canada.²⁹ Without increasing the budget for exercises and funding for proper equipment, these policies are hollow. In fact the CAF has experienced gradual budget cuts over the past few years that are limiting the capabilities for all services. Excess funds in the CAF to create capability growth are not expected for years, even though the government wants the CF in the North now.

Conclusion

This section has reviewed the various priorities, particularly in the area of northern sovereignty, that depict the focus for the Canadian government. As well, a further overview was given of the relevant policy documents that guide the government's expectations for the CAF in the Arctic. It is evident that the government has lofty expectations in the Arctic for the CAF. However, it has been discussed that without the financial resources to equip, train and sustain military operations in the North, these policies are somewhat unachievable. That is not to say that absolutely no improvements have been made, as some recent minor developments will increase CAF capabilities in the North.

²⁹ David Pugliese, "Army to Scale Back Arctic Operations because of Budget Cuts," *The Ottawa Citizen*, March 3, 2013.

CAF EFFORTS IN THE ARCTIC

Introduction

This section will lay out the current capabilities of the CAF to affect sovereignty in the Arctic. As well, this section will illustrate the most recent modest improvements to achieve a security capacity in the high North. It will be shown that the CAF, contrary to the government's great intentions, still only has minimal capacity to affect sovereignty over its Arctic. The minor developments have not given the CAF the abilities to prevent or react appropriately to security issues in the North. Only CAF capabilities and recent efforts will be discussed, starting with the services present resources.

Existing CAF Capabilities

A look at the existing Arctic Capabilities in the three services will illuminate the CAF limitations. A review of the surveillance capacity and delivery of effects capacity will show where the CAF stands with respect to the governments expectations.

The RCN has a fleet of three destroyers, 12 frigates, and four submarines.³⁰ These ships and boats have an impressive capability to affect security and sovereignty through presence and weapons platforms when they can get into the Arctic, which is primarily only in the summer months.

³⁰ Ernie Regehr, *Circumpolar Military Facilities of the Arctic Five* (Vancouver, BC: The Simons Foundation, 2013), 9.

The RCAF has 18 Aurora CP-140 aircraft, which are the CAF “primary northern surveillance and sovereignty patrol vehicle.”³¹ These planes have cutting edge equipment for detecting ships and submarines in water. To deliver weapons effects, the RCAF has 80 CF-18 jets located in south-east and central Canada.³² These jets regularly deploy to the Arctic, specifically on sovereignty missions as part of North American Air Defence (NORAD). Finally, the RCAF transport aircraft and helicopters are sometimes used to deliver soldiers and resources to the Arctic.

Lastly, on land, there are only 500 Regular Force soldiers that are stationed North of the 60th parallel, which leaves a great deal of the country without a ground force presence. To fill this gap, the main mitigating measure is the employment of the Canadian Rangers. Their role is to provide “a military presence in isolated, northern and coastal regions of the country which cannot be covered practically or economically by other elements of the Canadian Forces.”³³ Although they are 4000 strong, the Rangers are employed in an area the size of Europe.

These capabilities have been in existence for some time. Now it’s time to look at the latest CAF developments.

³¹ *Ibid*, 11.

³² Siemon Wezeman, "Military Capabilities in the Arctic," *SIPRI* (March, 2012), 3.

³³ P. Whitney Lackenbauer, *From Polar Race to Polar Saga: An Integrated Strategy for Canada and the Circumpolar World* (Toronto: Canadian International Council, 2009), 23.

Emergent CAF Capabilities

CAF developments in the North have been slow to emerge. However, projects started to come to the forefront of the Canadian Government's agenda in March 2009 when a speech from the Minister of Foreign Affairs, Lawrence Cannon, reaffirmed that the Harper Government had full intentions of creating a more extensive role for the CAF in the Arctic.³⁴

From that came the CA development of four Arctic Company Response Groups (ARCGs). They were created later in 2009 to specifically support the Regular Forces and Canadian Rangers in their Arctic sovereignty and security missions.³⁵ In total about 500 Reservists are assigned to the ARCGs from their home bases in Manitoba, Ontario, Quebec, and New Brunswick. They have a responsibility to deploy to the Arctic in all seasons, which creates equipment challenges.

The RCN is expecting the delivery of six polar class patrol vessels which will allow them to cut through up to one meter of ice. This is somewhat limited, particularly in winter when the ice can be quite a bit thicker; however this is the first genuine arctic capability for the RCN since 1957.³⁶ The government announced the purchase of these ships in 2007, but exact delivery dates are not yet known.

³⁴ Lawrence Cannon (speech, Canada's Arctic Advisory Committee, Whitehorse, 11 March 2009).

³⁵ Canadian Army, "New Arctic Response Company Group Emerges," last accessed 31 March 2014, <http://www.army.forces.gc.ca/land-terre/news-nouvelles/story-reportage-eng.asp?id=3500>.

³⁶ Stephen Priestley, "Armed Icebreakers and Arctic Ports for Canada's North?" (Iqaluit: Canadian American Strategic Review (CASR), 2006).

The RCAF has not seen any emerging acquisition for the Arctic except for the controversial eventual replacement for the F-18s.

These emergent activities are a direct result of the Government's intentions and expectations of the CAF in the Arctic; however, they do not necessarily increase presence. The Arctic Winter Warfare Center is perhaps a step in that direction.

Winter Warfare Centre

Over the past few years, as a result of government strategies and policies, the most significant development in the Arctic has been the establishment of the Winter Warfare Centre in Resolute Bay, Nunavut.

The construction of this facility was first announced in 2007 by Prime Minister Stephen Harper. His intention for the year-round centre, which is shared in part with Natural Resources Canada, was not only to conduct training, but also to serve as the Army's command post during operations in the far North.³⁷

Training however is clearly the primary purpose of the facility. "Small contingents of up to 100 soldiers will be expected to train at the Resolute Bay centre for cold weather operations."³⁸ The facility, when used in its primary role, will train soldiers

³⁷ The Canadian Press, "Winter Warfare Centre in High Arctic Quietly Unveiled by Harper Government." *The Canadian Press* (15 August, 2013).

³⁸ *Ibid.*

to respond to disasters and accidents specifically in the High Arctic.³⁹ The training facility was announced open by the Harper Government on 15 August 2013 and is now in use.⁴⁰

This facility will bring two great capabilities, which are a forward command post in the Arctic and trained soldiers prepared to operate in the Arctic environment. This may be a small first step, but both of these will bring much needed improvements to the CAF.

Counter

Although there is a focus here of having more capability to increase CAF presence and ability to operate in the Arctic, some scholars argue that this is not the solution to sovereignty. P. Whitney Lackenbauer writes that “an increased military presence does not contribute to sovereignty, and that dialogue and circumpolar cooperation are essential for an effective Canadian northern strategy.”⁴¹ This may be true, but with every other Arctic Nation building up its capacity in the Arctic, Canada cannot afford to fall too far behind or it will not be able to combat any eventual threats to sovereignty.

³⁹ CBC News, “Ottawa Moves Ahead with High Arctic Military Centre,” 27 November 2011.

⁴⁰ The Canadian Press, “Winter Warfare Centre in High Arctic Quietly Unveiled by Harper Government.” *The Canadian Press* (15 August, 2013).

⁴¹ Katherine Sinclair, “Review of Canada and the Changing Arctic: Sovereignty, Security, and Stewardship,” *Reviews* (December, 2012), 480.

Conclusion

This section has illustrated the existing Arctic capabilities of the CAF and the most recent developments to improve its ability to conduct operations in the Canadian Arctic. It has been shown that the CAF has put forward some efforts from within its current abilities, such as the ARCGs, and produced a new school to improve upon soldier skills in the Arctic. However, these are relatively low cost and modest efforts. As seen in the next section, the existing capabilities are heavily restrained and limited in the Arctic environment.

CAF RESTRAINTS AND SUGGESTED SOLUTIONS

Introduction

In this final section, an examination of the challenges faced by the CAF and some suggested solutions will be presented. The view of this section is to show that the CAF has the ability from within to improve its Northern sovereignty capabilities. However, this section will also show areas where major future investment is required to fill capability gaps. This section will first look at the issues and difficulties the CAF is experiencing in the Arctic with its current capabilities, followed by a review of training

issues, and finally suggested solutions will be proposed. The existing capabilities are putting forth a sound effort, but face many issues.

Current Capability Challenges

All services face serious issues with respect to Arctic operations. The most obvious challenge is having the right resources for the Arctic environment. “Most equipment currently used by the organisation is either insufficient or inadequate to face the harsh conditions of the North.”⁴²

For the RCN, the Destroyers and Frigates are “ice-strengthened” warships with the range to patrol in the North; however, they are not strengthened to be icebreakers.⁴³ As previously mentioned, even the soon to be procured Arctic Patrol Vessels will be limited to operations in ice less than one meter thick. This indicates that at present the RCN cannot operate in Arctic ice conditions without running the risk of puncturing a hull or getting stuck in the ice. Naval submarines are diesel, which requires them to surface for battery charging. This seriously limits their under ice capability.

The main surveillance resources for the RCAF and the CAF, the Aurora Aircraft, are stationed in Nova Scotia, which means there is a minimum fly time of 12 hours to get

⁴² C. E. M. Deri, *Lead Agency Or Last Resort? the Canadian Forces and Environmental Threats in the Arctic* (Toronto, ON: Canadian Forces College, 2013), 51.

⁴³ Regehr, *Circumpolar Military Facilities of the Arctic Five*, 9.

to Alert, which is the CAF most Northern installation.⁴⁴ The F-18s are also located far from the Arctic; however they possess the speed to react when required.

On land, the Canadian Rangers are reservists that are not necessarily immediately available and cannot be expected to have the same capabilities of the Regular Force.⁴⁵ With such small numbers over such a large area, the Rangers can be quickly overstretched. The rest of the CA “has lost the ability to operate up North in the Arctic because of the focus on operations in Afghanistan.”⁴⁶ Further to this, the abysmal CA fleet of snowmobiles and BV-206 vehicles is in very poor condition.

This has illustrated that there are equipment challenges for the services, however, training challenges are also a major factor when it comes to lack of capability.

Current Training Capabilities

Outside of the newly established Winter Warfare Centre, the main training event for Arctic operations is OPERATION NANOOK. This is the CAF major joint event in the Arctic that focuses on security and environmental issues in the high North. It brings Regular and Reserve Forces together with other government departments and international partners.

⁴⁴ Wezeman, *Military Capabilities in the Arctic*, 2-3.

⁴⁵ Regehr, *Circumpolar Military Facilities of the Arctic Five*, 6.

⁴⁶ Wezeman, *Military Capabilities in the Arctic*, 4.

The last NANOOK exercise that had a security component was in 2012. NANOOK 12 had two scenarios, a simulated security incident and a ‘vessel of interest’, which “emphasized the primary focuses of the CAF at home: safeguarding the nation, deterring threats to Canadian security, and responding to emergencies anywhere in the country.”⁴⁷ This exercise is the primary opportunity to train the CAF Arctic sovereignty capabilities, however, the fiscal impacts are starting to affect its effectiveness. The issue is that “these activities can cost from five to seven times more than if they were conducted in Southern Canada.”⁴⁸ Under the current budget constraints, the exercise has already reduced in scope and it is potentially going to see a reduction in frequency, which will further erode the CAF capabilities in the Arctic.

The individual services, particularly the CA, are also being financially constrained and forced to train less in the North. The Commander of the Canadian Army released a document in 2013 stating that “the Army will have to limit/reduce the scope of its activities in the North, thus impacting on Canada’s ability to exercise Arctic sovereignty.”⁴⁹

In this time of budget reductions, expensive training in the Arctic is being sacrificed for much more affordable training in the rest of Canada. In order to continue sufficient training in the Arctic, unfortunately too many core skills would have to be cut, which is not acceptable to the CAF or the Canadian government. There are some options

⁴⁷ Government of Canada, National Defence and the Canadian Forces, “Operation NANOOK,” last accessed 08 April 2014, <http://www.forces.gc.ca/en/operations-regional-jtf-north/op-nanook-2013.page>.

⁴⁸ Pugliese, *Army to Scale Back Arctic Operations because of Budget Cuts*, 1.

⁴⁹ *Ibid.*

available to improve Arctic capabilities, both at a reasonable cost and some at a large capital cost.

Possible Solutions

One of the principle planners in the CAF Arctic Integration Concept wrote that there are five areas for the CAF to improve its capabilities in order to meet the demanding requirements of the Canadian Government. They are “situational awareness, rapid deployment, sustainment, the generation of appropriate forces, and development of the ability to work with other government departments (OGDs).”⁵⁰ This section will make suggestions to achieve some success in each of these areas for development.

With respect to situational awareness, cost effective ground based sensors could be employed to maintain visuals over key entry points in the Arctic. Real-time satellite imagery could also provide a visual confirmation of Arctic activities in areas of interest. Also cost effective would be the use of UAVs to conduct patrols. Finally, it is suggested that by basing some Auroras farther North, reaction time to get human reconnaissance, particularly in the detection of submarines, on site would greatly improve their response time and increase the chances of spotting threats before they relocate.

⁵⁰ Tony Balasevicius, "Towards a Canadian Forces Arctic Operating Concept," *Canadian Military Journal* 11, no. 2 (2011), 27.

Rapid deployment can be achieved with Unmanned Combat Aerial Vehicles (UCAVs). They could be stationed in the north and deliver weapons effects and the threat of weapons effects very quickly. These are costly vehicles, but outside of establishing a fully capable air base for F-18s in the High North, they are the fastest way to put effects on targets if they are properly positioned at an existing airstrip for employment. For a ground force, a new Arctic Immediate Response Unit would need to be created, stationed North of the 60th parallel, airmobile and have a combination of manoeuvre and light forces. This would also be a costly endeavour; however, without focused training, resources and proper positioning, the CA will never achieve a real capability in the Arctic. The Naval ship procurement could also deliver at least one Arctic capable vessel, such as the one being purchased for the Coast Guards, to the Navy. This would allow for the presence of a serious mobile weapons platform in the Arctic.

Sustainment will require more investment in infrastructure. Resources need to be prepositioned to avoid the issues of distance and environmental conditions that affect transport. Strategic locations in the Arctic would need to be constructed and stocked. They should also be equipped to serve as command posts during operations.

To regenerate appropriate forces again a dedicated Unit would be the best case scenario, however, the CAF can leverage the new Winter Warfare Training Centre to train as many soldiers as possible to have expertise in all CA lines. This would at least increase the inter-Unit capacity to train for Arctic conditions.

Improving abilities to work with OGDs is not unique to Arctic operations and the accepted method is to have military members attend OGD courses and OGDs participate in military courses.

Some of these recommendations are cost effective, but others will come at a large capital cost. Nonetheless, if the Canadian government wants the CAF to be seriously capable of affecting sovereignty in the Arctic, then investment is required.

Counter

The main counter to filling the gap in CAF Arctic capability is that it is costly and that the threat does not call for it. “Defence experts, government officials and even senior commanders have long said there is no military threat in the Arctic.”⁵¹ This group of decision makers does not see a threat to warrant the investment necessary to combat major threats in the Arctic, however, as other Arctic Nations build up their militaries, this threat may emerge quicker than the CAF can catch up.

Conclusion

In this section, the current CAF Arctic capability constraints and restraints were illustrated along with the accompanying training challenges for the Arctic environment. Lastly, suggestions, some low cost and some high cost, were presented to fill the

⁵¹ Pugliese, *Army to Scale Back Arctic Operations because of Budget Cuts*, 1.

capability gaps. It was shown that the budget constraints of today are restraining the ability to procure proper Arctic capabilities and to train to a fully operational standard. It has also been demonstrated that investment is required on as big a scale as possible to produce CAF Arctic security capabilities.

CONCLUSION

This essay has reviewed a series of capabilities and challenges presented to forces that have to operate in the Arctic. A historical review of challenges faced by militaries of past Arctic battles demonstrated that the challenges of the past are the same as the challenges of today. It was then made apparent through a review of current policies and strategies that the Canadian government has large expectations of the CAF in the Arctic. Next this essay did a cursory review of the current CAF capabilities that can be brought to bear in the Arctic and the modest efforts to improve on those capabilities. Finally, these current CAF capabilities were exposed for their limitations in the Arctic environment. As well, the difficulties of overcoming those challenges through rigorous training are not being met due to the expensive nature of Arctic operations in fiscally constrained times. In the very end, suggested solutions to fill the capability gaps were presented.

It has been concluded that at present, although there are priorities, they are outweighed by the costs of conducting operations in the Arctic. Although technology has advanced since the historical Arctic battles reviewed, back as far as WW II, no serious

advancement in capability has been procured for the CAF. Canadian Government will have to deliver on major projects, such as enhancements to the ship procurement project, in order to provide the CAF with any real chance of meeting their lofty expectations. Other militaries are building their capabilities and increasing their presence in the Arctic as the debate over sovereignty continues. Canada needs to catch up or risk falling even farther behind.

So it still remains true that if called upon to deal with sovereignty issues in the Canadian Arctic, the Canadian Armed Forces is not presently capable of significant Arctic Operations. The military capabilities required to enforce or regain security in the high North have been evolving for decades, but the CAF has only made very modest improvements. Canadian government does have great ambitions in its North; however, it seems they are not willing to pay the costs of increasing CAF capabilities, particularly due to the low perceived threat. Military investment is still required to achieve the means to conduct credible Arctic Operations.

The CAF age old challenge of Arctic sovereignty is increasing recently with the Arctic nations growing attention in the high North, but unfortunately the CAF is still not in a position to affect security in that region of Canada.

BIBLIOGRAPHY

- Armstrong, Richard N. and Joseph G. Welsh. *Winter Warfare: Red Army Orders and Experiences*. Cass Series on the Soviet Study of War. Portland, OR: Frank Cass, 1997.
- Balasevicius, Tony. "Towards a Canadian Forces Arctic Operating Concept." *Canadian Military Journal* 11, no. 2 (2011): 21-31.
- Canadian Army. "New Arctic Response Company Group Emerges". Last accessed 31 March 2014. <http://www.army.forces.gc.ca/land-terre/news-nouvelles/story-reportage-eng.asp?id=3500>.
- Cannon, Lawrence. Speech, Canada's Arctic Advisory Committee, Whitehorse, 11 March 2009.
- CBC News. "Ottawa Moves Ahead with High Arctic Military Centre." 27 November 2011.
- Center for Army Lessons Learned. *Winning in the Winter*. Vol. 97-5. Washington, D.C.: US Government Printing Office, 1977.
- Deri, C. E. M. *Lead Agency Or Last Resort? the Canadian Forces and Environmental Threats in the Arctic*. Toronto, ON: Canadian Forces College, 2013.
- Erfurth, Waldemar. *Warfare in the Far North*. Washington, D.C.: US Government Printing Office, 1987.
- Eyre, Keneneth C. "Fourty Years of Military Activity in the Canadian North, 1947-87." *Arctic* 40, no. 4 (1987): 292-299.
- Government of Canada. *Canada First Defence Strategy*. Ottawa, ON: Government of Canada, 2008.
- Government of Canada. "Canada's Northern Strategy." Last accessed 08 April 2014, <http://www.northernstrategy.gc.ca/index-eng.asp>.
- Government of Canada, National Defence and the Canadian Forces. "Operation NANOOK." Last accessed 08 April 2014, <http://www.forces.gc.ca/en/operations-regional-jtf-north/op-nanook-2013.page>.

- Government of Canada. *Statement on Canada's Arctic Foreign Policy*. Ottawa: Government of Canada, 2010.
- Gregory, Barry. *Mountain and Arctic Warfare: From Alexander to Afghanistan*. London: Stephens, 1989.
- Harper, Stephen. Speech, 2005 Election Campaign, Ottawa, 22 December 2005.
- Huebert, Rob. *Canadian Arctic Sovereignty and Security in a Transforming Circumpolar World*. Toronto, ON: Canadian International Council, 2009.
- Kraska, James. *Arctic Security in an Age of Climate Change*. Cambridge, New York: Cambridge University Press, 2011.
- Lackenbauer, P. Whitney. *From Polar Race to Polar Saga: An Integrated Strategy for Canada and the Circumpolar World*. Toronto: Canadian International Council, 2009.
- Neill, Donald A. "The Evolving Arctic Operating Environment: Implications for Defence Planning." *Journal of Military & Strategic Studies* 13, no. 2 (Winter, 2011): 1-36.
- Priestley, Stephen. "Armed Icebreakers and Arctic Ports for Canada's North?" Iqaluit: Canadian American Strategic Review (CASR), 2006.
- Pugliese, David. "Army to Scale Back Arctic Operations because of Budget Cuts." *The Ottawa Citizen*, March 3, 2013.
- Regehr, Ernie. *Circumpolar Military Facilities of the Arctic Five*. Vancouver, BC: The Simons Foundation, 2013.
- Sinclair, Katherine. "Review of Canada and the Changing Arctic: Sovereignty, Security, and Stewardship." *Reviews* (December, 2012): 480-481.
- The Canadian Press "Winter Warfare Centre in High Arctic Quietly Unveiled by Harper Government." *The Canadian Press* (15 August, 2013).
- US Army Research Institute of Environmental Medicine. *Medical Aspects of Cold Weather Operations*. Honolulu, Hawaii: University Press of the Pacific, 2005.
- Wezeman, Siemon. "Military Capabilities in the Arctic." *Sipri* (March, 2012): 16.