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CANADIAN ARCTIC SOVEREIGNTY: A GLACIAL RESPONSE TO RAPIDLY CHANGING ENVIRONMENT

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Exercise Solo Flight

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EXERCISE *SOLO FLIGHT* – EXERCICE *SOLO FLIGHT*

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INTRODUCTION

The search for the Northwest Passage went on long before Canada was a country. The earliest expeditions were conducted by the Royal Navy in the 1800s in an attempt to find this fabled route. None were as famous as Sir John Franklin's lost expedition of 1845, a mystery that would not be solved until 169 years later when the HMS *Erebus* was found in 2014. Norway's Roald Amundsen completed the first successful voyage of the Northwest Passage in 1907, but it was not until Canada's closest ally and neighbour attempted to navigate the passage in 1969 that Canada realized that this long sought after route through Canada's Arctic was not only a potential source of economic benefit, but could also be a challenge to Canada's sovereignty.

When it comes to Canada, "sovereignty" is a contested term. For international lawyers, the threat to Canadian sovereignty is limited to a dispute with Denmark over Hans Island, with the United States over the Beaufort Sea, and with the international community (and the US in particular) over the status of the Northwest Passage.¹ But for many others, the issue of Arctic sovereignty does not end with the resolution of the legal status of these areas. Rob Huebert, for example, rejects the standard legal definition that would limit sovereignty to the legal status of land and water within a region; he argues that sovereignty must include the ability to defend and protect national interests and

¹ The Globe and Mail, "The Myth of Arctic Sovereignty: Do we really need to defend the North?," last modified January 24, 2014, <http://www.theglobeandmail.com/news/national/the-north/the-myth-of-arctic-sovereignty-do-we-really-need-to-defend-the-north/article16444454/?page=all>.

values within the region for which the state has jurisdiction.² Huebert defines the main elements of sovereignty as “a defined territory; an existing governance system; and a people within the defined territory.”³ Canada’s foreign policy is concerned with both the legal status of its Arctic territory, as well as its jurisdiction in terms of control of the use of the Arctic.

For the purpose of this paper, Arctic sovereignty includes the definition of international borders and the protection of Canadian interests and values within those borders.⁴ The first of Canada’s six core missions listed in the Canada First Defence Strategy is to “conduct daily domestic and continental operations, including in the Arctic and through NORAD.”⁵ This paper shows that while the threat to Arctic sovereignty has increased in the last decade, Canada’s commitment to assert Arctic sovereignty has stifled, leaving Canada incapable of responding to a sovereignty threat in the Arctic.

This paper will first examine the legal status of international boundaries, the resolution to Canada’s claims, and Canadian policy and effort to assert sovereignty through governance and control over its Arctic regions. Second, it will discuss the threats posed by the opening of the Northwest Passage and the legal status of the passage. Third, it will examine the bi-national role of the North American Aerospace Defence Command (NORAD) with respect to its mission and capabilities to respond to traditional security

² The Globe and Mail, “The Myth of Arctic Sovereignty...”

³ Rob Huebert, “Canadian Arctic Sovereignty and Security in a Transforming Circumpolar World,” in *Canada and the Changing Arctic: Sovereignty, Security, and Stewardship* (Waterloo: Wilfred Laurier University Press, 2011), 14.

⁴ *Ibid.*

⁵ Government of Canada, “Canada First Defence Strategy,” accessed April 19, 2015, <http://www.forces.gc.ca/en/about/canada-first-defence-strategy.page>.

threats to North America, and threats to Canadian sovereignty. Finally, it will examine Canada's ability to monitor and respond to threats against Canadian sovereignty.

DEFINING TERRITORY

To address one of the aspects of Huebert's elements of sovereignty, the people within the territory, Canada has gone through extreme measures to lay more obvious claim to part of the Arctic region. Military facilities as well as other government agencies such as the Royal Canadian Mounted Police (RCMP) and Environment Canada had outposts or research stations scattered throughout the Arctic, but large portions of the Arctic did not have a civilian population. In the 1950s, the Canadian government relocated Inuit families to create the communities of Resolute Bay on Cornwallis Island and Grise Fiord on Ellesmere Island. Legitimate human rights issues aside, the creation of communities on these uninhabited islands strengthened Canadian sovereignty claims to even more remote regions of the Arctic. Indeed, the continued Inuit presence in the Arctic is the essence of Canada's sovereignty claim.⁶ Today, the Arctic land mass, with the exception of Hans Island, is not in dispute due to the continued use of Canadian government agencies and the Inuit population.

To address another element of Huebert's sovereignty definition, Canada has used diplomacy and international law to resolve disputes of international boundaries in the Arctic in order to define its territory. In 1973, Canada and Denmark agreed upon Arctic boundaries except for Hans Island, an uninhabited island of only 1.3 square kilometres

⁶ Paul Okalik, "Arctic Priorities: A Northern Perspective," in *Behind the Headlines* (Toronto: Canadian International Council, 2008), 4.

which lies between Greenland and Ellesmere Island.⁷ There are no known natural resources near this island and there is little to be gained or lost by either state in this dispute. Still, Canada and Denmark both claim Hans Island as their own, but there is no threat to sovereignty or security over the status of Hans Island.

Canada and the US dispute control of the territorial water of the Beaufort Sea adjacent to the Yukon/Alaska border. Canada's claim refers to the 1825 Treaty of St. Petersburg, which places the maritime border at the 141st meridian, where the US claim extends the maritime border perpendicular to the shoreline northeastward from the 141st meridian.⁸ Oil and gas resources are known to be in this region and any further exploration and development has thus far been deferred. Although the US is not a signatory to the United Nations Convention on the Law of the Sea (UNCLOS), the US is likely to accept the decision of UNCLOS⁹, therefore there is no threat to sovereignty or security over this dispute.

The Northwest Passage is more contentious. In 1969, the SS *Manhattan* completed its first voyage through the Northwest Passage, in what was considered a direct challenge to Canadian sovereignty. The ice-hardened oil tanker was a test platform for a US oil company to determine the feasibility of transporting oil from the Alaskan

⁷ Kim Mackrael, "Canada, Denmark Closer to Settling Border Dispute," last modified November 30, 2012, <http://www.theglobeandmail.com/news/national/canada-denmark-closer-to-settling-border-dispute/article5831571/?page=all>.

⁸ P. Whitney Lackenbauer, "From Polar Race to Polar Saga: An Integrated Strategy for Canada and the Circumpolar World," in *Canada and the Changing Arctic: Sovereignty, Security, and Stewardship* (Waterloo: Wilfred Laurier University Press, 2011), 125.

⁹ Michael Byers, "Cold Peace: Arctic Cooperation and Canadian Foreign Policy," in *The Arctic Contested* (Brussels: P.I.E. Peter Lang S.A., 2014), 112.

coast through the Northwest Passage.¹⁰ A de-classified internal memo from the US Department of State dated March 12, 1970 stated that the US could not accept Canada's claim that the passage was internal waters.¹¹ The US concern over the status of the Northwest Passage has little to do with the Arctic, however; instead, it is a precedence setting position that would limit movement through straits world-wide. In 1985, the SS *Polar Sea* icebreaker transited the Northwest Passage without permission of Canadian authorities but, through a legal sleight of hand, Ottawa was able to claim that its sovereignty had not been violated.¹²

Canada's claim of ownership of the Northwest Passage is not in question; the right of navigation through the passage is. In response to the SS *Manhattan* and the potential for other vessels to transit the Northwest Passage, Canada introduced two bills in the House of Commons in April 1970, an amendment to the Territorial Seas and Fishing Act that extended the territorial waters from three to twelve miles, and the Arctic Waters Pollution Prevention Act (AWPPA).¹³ The AWPPA sought to control pollution from vessels transiting within the Northwest Passage out to 100 nautical miles outside the archipelago. Canada's assertion of sovereignty for the control of the use of the waters was initially opposed by the US; however, in 1982 the US supported UNCLOS Article 234 which gave states the right to enforce pollution control from vessels in ice covered areas within the economic exclusion zone. In 1985, the voyage of the SS *Polar Sea* once again challenged Canadian sovereignty; Canada responded by claiming full sovereignty

¹⁰ Shelagh D. Grant, *Polar Imperative: A History of Arctic Sovereignty in North America* (Vancouver: Douglas & McIntyre, 2010), 348-351.

¹¹ Theodore L. Eliot, *Imminent Canadian Legislation on the Arctic*, Information Memorandum (Washington: Department of State, 1970).

¹² P. Whitney Lackenbauer, "From Polar Race to Polar Saga...", 77-78.

¹³ Shelagh D. Grant, *Polar Imperative: A History of Arctic Sovereignty*,...354.

over the Northwest Passage as internal waters. A pragmatic solution with the US was eventually reached in 1988 by agreeing to disagree on the legal status of the passage.¹⁴ In 2008, Canada extended the pollution control zone to 200 nautical miles in accordance with UNCLOS, and enacted mandatory reporting for vessels transiting the Arctic starting in 2009.¹⁵ In sum, Canada and the US have agreed to disagree, and the status of the Northwest Passage it is not likely to be resolved in the near future. Canada's governance over the use of the waterway is a means to assert sovereignty, while it maintains the 'agree to disagree' policy with the US. Canada asserts it is internal waters, the US insists it is an international strait.

The land and water disputes with the US and Denmark are manageable. All of the involved states have agreed to resolve the conflicts through legal channels and are likely to accept the ultimate decisions of the UN. Whitney Lackenbauer, an Arctic expert, has concluded that the disputes of Canadian boundaries pose no sovereignty or security concerns.¹⁶ The dispute of the boundaries may not represent a threat to sovereignty, but the status of the Northwest Passage certainly does.

NORTHWEST PASSAGE

The polar ice cap has receded more dramatically in the last decade than anticipated leaving navigable routes and ice-free regions of the Canadian Arctic.¹⁷

Explorers and adventurers have increasingly utilized these routes. The first commercial

¹⁴ P. Whitney Lackenbauer, "From Polar Race to Polar Saga...", 77-78.

¹⁵ *Ibid*, 114.

¹⁶ P. Whitney Lackenbauer, "Sovereignty, Security, and Stewardship: An Update," in *Canada and the Changing Arctic: Sovereignty, Security, and Stewardship* (Waterloo: Wilfred Laurier University Press, 2011), 245.

¹⁷ Michael Byers, *Who Owns the Arctic?: Understanding Sovereignty Disputes in the North* (Vancouver: Douglas & McIntyre, 2009), 38-39.

bulk carrier transited the Northwest Passage in 2013 and the number of commercial vessels is expected to increase annually.¹⁸ The intensified use of the Northwest Passage escalates the need to resolve the status of the passage.

An international strait provides for freedom of navigation for ships from any state, the rights of submarines to transit submerged, and the right of overflight in the air corridor above the strait.¹⁹ By not resolving the status of the Northwest Passage, Canada can still exercise control over the passage for environmental reasons, but it does not have the authority to prevent innocent passage. The Northwest Passage is not easily defined as the navigable strait changes with ice conditions. The passage is divided into two routes known simply as the northern and southern route. The southern route passing along the southern shores of Victoria and Banks Islands, has been navigable since 2006, the northern route, passing along the islands northern shores, has been navigable since 2007.²⁰

If the passage were to be defined as an international strait, it would encompass both of the routes and consist of a large area of the Arctic. This is problematic for two reasons. First, foreign military ships and submarines would be free to transit the Canadian Arctic waters along this route. The implications of foreign military ships, potentially Chinese and Russian ships, operating within regions Canada considers as internal waters is unheard of, and would be a significant threat to the security and sovereignty of Canada. The second implication is that innocent passage applies to the air corridor above an

¹⁸ Bob Weber, "More Northwest Passage travel planned by Danish shipper," last modified January 7, 2014, <http://www.cbc.ca/news/canada/north/more-northwest-passage-travel-planned-by-danish-shipper-1.2482731>.

¹⁹ Suzanne Lalonde, "Arctic Waters: Cooperation or Conflict?," in *Behind the Headlines* (Toronto: Canadian International Council, 2008), 8-9.

²⁰ Environment Canada, "Canadian Sea Ice Minimum near-Normal in 2013..."

international strait; this would provide Russian long range aviation with an internationally accepted legal routing through a large section of the Canadian Arctic. This would not be acceptable to NORAD, as it would be a significant threat to the security of North America. Although Canada's view that the Northwest Passage is internal waters is not internationally accepted, the right of navigation through this waterway as an international strait is a threat to Canadian sovereignty.

Not all experts agree that there is a threat to Canadian sovereignty in the Arctic. Lackenbauer argues that the ad hoc expansion and half-hearted commitment to the Arctic has been a remarkable success. His position is that the threat against sovereignty is minimal and the rhetoric of government for disproportionate spending on national defence overshadows the need for social, economic and diplomatic solutions.²¹ Franklyn Griffiths supports diplomacy through the Arctic Council and advocates that Russia is not opposed to the Western States when it comes to Arctic governance.²² Lackenbauer surmises that quiet diplomacy and practical bilateral solutions have guaranteed Canada's sovereignty throughout the country's history.²³ He opines that past governments have been successful asserting sovereignty and there is no need for increased militarization of the Arctic. The status of the Arctic as an international strait changes this dynamic, and Canada must be in a position to respond to challenges of sovereignty in the Arctic.

²¹ P. Whitney Lackenbauer, "From Polar Race to Polar Saga...", 72.

²² Franklyn Griffiths, "Towards a Canadian Arctic Strategy," in *Canada and the Changing Arctic: Sovereignty, Security, and Stewardship* (Waterloo: Wilfred Laurier University Press, 2011), 192-195.

²³ P. Whitney Lackenbauer, "From Polar Race to Polar Saga...", 72.

NORAD

Canada and the US have cooperated through NORAD for the defence of North America to the benefit of both nations. During the development of NORAD's defensive posture, the US provided funding for Canada's early warning radar systems that provided situational awareness and response to assert Canadian sovereignty.²⁴ In return, the US perimeter defences has been moved further north from the continental US, and NORAD provide warnings of Soviet bombers in time to enable a Strategic Air Command response. The Pinetree Line, mid-Canada Line and Distant Early Warning (DEW) Line provided advanced warning for NORAD, and these systems were eventually replaced by the North Warning System (NWS) and Arctic Forward Operating Locations (FOL) to provide the current perimeter defence around North America.²⁵

The role of NORAD to defend North America against the threat of airborne threats have been trained, tested and proven successful for decades. The air control arrangement is "highly successful, efficient and effective, as a function of years of experience."²⁶ Russian long range aviation flights are occasionally intercepted in the Arctic by Canadian CF-18s, but NORAD is missing part of the Canadian land mass. The Arctic Archipelago located north of the Air Defence Identification Zone (ADIZ), from 72° N latitude²⁷ is beyond the coverage of the NWS. For NORAD's mission to defend

²⁴ Alan Stephenson, "Securing the Continent: Where is NORAD Today?," accessed May 2, 2015, <http://opencanada.org/wp-content/uploads/2011/11/SSWG-Paper-Alan-Stephenson-November-2011.pdf>.

²⁵ Joseph T. Jockel, *Canada in NORAD, 1957-2007: A History* (Montreal: McGill-Queen's University Press, 2007), 203-204, 208; Tom Lawson and Michael Sawler, "NORAD in 2012 - Ever Evolving, Forever Relevant," *Canadian Military Journal*, Summer 2012: 5-17.

²⁶ Andrea Charron and James Fergusson, *NORAD in Perpetuity? Challenges and Opportunities for Canada* (Winnipeg: University of Manitoba, 2014), 24.

²⁷ NAVCanada, "Designated Airspace Handbook," last modified April 30, 2015, http://www.navcanada.ca/EN/products-and-services/Documents/DAH_Next_En.pdf.

North America, Airborne Warning and Control System (AWACS) aircraft have the capability to operate and provide the radar picture NORAD is missing, but only operate in the Canadian Arctic when deemed necessary for defence.²⁸ This leaves a large portion of the Canadian land mass unprotected from peacetime sovereignty threats. To achieve NORAD's defensive posture to protect against Soviet bombers launching cruise missiles against targets in southern Canada and the US, the NWS is effective, but the Arctic Archipelago represents an area where NORAD cannot assert sovereignty.

The NWS will reach the operational end of its life soon. NORAD is reviewing its surveillance capabilities with the intention to replace the NWS in the 2025-2030 timeframe as part of what has been called 'NORAD Next.'²⁹ The US provided funding and equipment to establish the NWS which has been operational since the early 1990s, but the replacement will likely be funded by Canada alone.³⁰ The increased burden by Canada may limit expansion of the NWS; whether or not the new system will include the Arctic Archipelago is yet to be seen.

In 2006, NORAD's mission increased to include maritime warning. NORAD's new mandate is to defend North America via aerospace warning, air warning and control, and maritime warning, which includes air and maritime responsibilities for the Arctic.³¹ Maritime and NORAD seem to be a dichotomy of mission sets, but a Sea Launched Cruise Missile (SLCM) from a Russian ship or submarine quickly changes from a 'Sea' problem to an 'Air' problem, where NORAD is poised to react. With the exception of sea

²⁸ Joseph T. Jockel, *Canada in NORAD, 1957-2007: A History...*, 123-124, 189.

²⁹ David Pugliese, "Canada, US Eye Arctic Responsibilities for NORAD," last modified May 3, 2014, <http://archive.defensenews.com/article/20140503/DEFREG02/305030018/Canada-US-Eye-Arctic-Responsibilities-NORAD>.

³⁰ Andrea Charron and James Fergusson, *NORAD in Perpetuity...*, 20, 37.

³¹ *Ibid*, 36.

and sub-surface launched cruise missile, this mission does not quite fit in NORAD's historical expertise.³² The ability of NORAD to defend against a maritime threat in the Arctic is thus a new challenge.

Foreign military ships are not known to be operating in Canadian waters; however, allied and foreign submarines are suspected of operating submerged and often under the ice. Research and development into surveillance equipment for the Arctic decreased at the end of the Cold War.³³ NORAD's maritime early warning and defence is much more complicated than air defence due to its environment, and the multiple services and non-defence organizations involved. Maritime domain awareness utilizes over 80 agencies, military and civilian, to integrate a common operating picture.³⁴ The difference between NORAD's air and maritime mission is significant. NORAD is responsible for both the warning and the air control mission in Canada and the US.³⁵ However, in the maritime domain NORAD is responsible for warning only, surveillance and control is a national responsibility.³⁶ NORAD will respond to security and sovereignty threats by air to North America, unless it is within the area beyond the NWS coverage, but NORAD will not respond to maritime security or sovereignty concerns as they are processed along national lines.³⁷

The disagreement between Canada and the US on the status of the Northwest Passage brings about another concern for NORAD: innocent passage through the Northwest Passage. For maritime security or sovereignty concerns, Canada would be

³² Joseph T. Jockel, *Canada in NORAD, 1957-2007: A History...*, 123, 180.

³³ Andrea Charron and James Fergusson, *NORAD in Perpetuity...*, 36.

³⁴ *Ibid*, 20-25.

³⁵ *Ibid*, 21.

³⁶ Joseph T. Jockel, *Canada in NORAD, 1957-2007: A History...*, 182.

³⁷ Andrea Charron and James Fergusson, *NORAD in Perpetuity...*, 18.

responsible for responding to maritime threats. The status of the passage as internal waters or as an international strait would not change the fact that Canada is responsible to respond to sovereignty threats. If the threat was from a foreign navy declaring innocent passage through the Northwest Passage, this is no longer only a sovereignty concern for Canada, but it could be a security threat to North America. NORAD's responsibility would cease at the warning phase, though and it would certainly be of concern to the US as well.³⁸ The US position of the Northwest Passage as an international strait is a security concern to North America. Canada would be unable to assert sovereignty in the Northwest Passage if it were deemed an international strait due to innocent passage. If the passage is determined to be internal waters as Canada asserts, Canada would have the legal grounds to assert sovereignty, if it possesses the capability to respond.

To take the innocent passage argument one step further, flight directly over an international strait is also protected by innocent passage. If the Northwest Passage is an international strait, NORAD would have an air corridor through its perimeter defence. The bi-national organization would have to agree on what was considered a threat to sovereignty, and what actions would require a response. Without an agreed status of the Northwest Passage, it is not likely NORAD could define what an incursion to sovereign territory is. The US position as an international strait again is a concern for all of North America. Russian aircraft could enter Canadian airspace and essentially fly through the entire ADIZ from the Alaskan border to Iqaluit, over the Canadian landmass, under the protection of innocent passage. This flight is one of guaranteed freedoms in international

³⁸ Joseph T. Jockel, *Canada in NORAD, 1957-2007: A History...*, 182-183.

law under Part III of UNCLOS,³⁹ but would be considered both a threat to Canadian sovereignty and to the security of North America.

NORADs traditional role of bi-national deterrence and defence of North America has been effective. Russia and China are the only states capable of striking North America; but neither state pose a direct political threat to North America.⁴⁰ However, with Russian actions in Crimea and Ukraine coming as a surprise to most of the world, is there any guarantee what is next on Putin's list? As Charron has noted, "Russia's actions in the Ukraine are extremely worrying and may signify a 'game changer' in how Canada and the US deal with Putin."⁴¹

During the Cold War, Soviet long-range bombers were routinely intercepted off the east coast of Canada. Although they were en route to Cuba, they flew close enough to Canadian and American airspace to test the response of NORAD. The Alaskan coast was subject to similar incursions, but Canada's western Arctic saw very few intercepts. The first decade of the post-Cold War period was exceptionally quiet, but when Russian long range bombers began extended training missions and tested NORAD once again, it has been the Arctic that has been Russia's most prolific target. NORAD's defensive posture would therefore be at risk with authorized flights through the Northwest Passage.

CANADA'S COMMITMENT

Exercising sovereignty over Canada's North is the priority for Canada's Arctic Foreign policy. Canada exercises sovereignty through laws and regulations, and through

³⁹ Suzanne Lalonde, "Arctic Waters: Cooperation or Conflict...", 9.

⁴⁰ Andrea Charron and James Fergusson, *NORAD in Perpetuity...*, 11.

⁴¹ *Ibid*, 10.

the activities of the RCMP, Canadian Coast Guard, and the Canadian Armed Forces (CAF).⁴² But there is a minimal presence by any government agency.

The Canadian Coast Guard provides the greatest government presence in the Arctic primarily through ice-breaking services, but its mandate does not include policing or immigration services.⁴³ With the exception of a small number of RCMP officers, there is little government presence in the Arctic to enforce regulations, and most villages have only the RCMP to perform functions of Customs and Immigration. On September 18th, 2006, the RCMP in Grise Fiord arrested a Romanian man under the Immigration Act after he arrived from Greenland on an 18 foot fishing boat. He had been deported from Canada in 2000 and was attempting to enter Canada through Grise Fiord en route to Toronto.⁴⁴ On August 23rd, 2007, two Norwegian sailors reported to the Gjoa Haven RCMP station to get their passports stamped as proof of their visit to the renowned town where Roald Amundsen wintered in 1903. After finding a closed police station, they exerted a tremendous effort to locate a RCMP officer to report their first stop on Canadian soil.⁴⁵ On August 21st, 2007, the Gjoa Haven RCMP were too busy to respond to complaints about the unruly crew of the *Berserk II*, the crew calling themselves 'Wild Vikings' were arrested and deported days later after arriving in Cambridge Bay.⁴⁶ As evidenced of these incidents, the presence of the government of Canada in the Arctic

⁴² Government of Canada, "Statement on Canada's Arctic Foreign Policy: Exercising Sovereignty and Promoting Canada's Northern Strategy Abroad," accessed February 16, 2015, http://www.international.gc.ca/arctic-arctique/assets/pdfs/canada_arctic_foreign_policy-eng.pdf.

⁴³ Canadian Coast Guard, "Mission, Vision and Mandate," accessed April 20, 2015, <http://www.ccg-gcc.gc.ca/eng/CCG/Mission>.

⁴⁴ CBC News, "Romanian takes long road to Toronto, via Grise Fiord," last updated September 20, 2006, <http://www.cbc.ca/news/canada/north/romanian-takes-long-road-to-toronto-via-grise-fiord-1.570622>.

⁴⁵ Sara Minogue, "Rites of Passage thwart northern adventurers," last updated March 14, 2009, <http://www.theglobeandmail.com/news/national/rites-of-passage-thwart-northern-adventurers/article4092726/?page=all>.

⁴⁶ *Ibid.*

region is lacking. The first indication of a foreign presence in the Arctic occurred days or weeks after the vessels entered Canadian waters, and only when the foreigners came to shore. Sailors are bound by Canadian rules for safety, and guidelines for reporting through NORDREG,⁴⁷ but there is no monitoring unless they happen to come into contact with the RCMP, whether intended or not. The remote Arctic regions are not free from sovereignty or security threats, a merchant ship carrying immigrants or terrorists could pose a significant threat to Canadian security by entering the Canadian Arctic unobserved.⁴⁸

The government has announced plans for two new icebreakers, eight (now six) Arctic Offshore Patrol Ships and a deep-water port in Nanisivik to provide a refuelling service over the summer period. The increased presence of Government of Canada vessels in the North will allow the government to patrol, monitor and protect the Arctic.⁴⁹ To exercise sovereignty over the Arctic, Canada must have the surveillance capability to monitor and locate threats to its sovereignty, and the ability to respond to actions that threaten Canadian interests.⁵⁰ There are no naval bases in the Arctic, and the deep water port at Nanisivik is not likely to be operational for several years.⁵¹ Without a sea-port in the Arctic, for example, the Royal Canadian Navy (RCN) depends on oil tankers or a port in Greenland to refuel its ships; Canada does not have the ability to patrol the Arctic

⁴⁷ Canadian Coast Guard, "Vessel Traffic Reporting Arctic Canada Traffic Zone (NORDREG)," accessed April 20, 2015, http://www.ccg-gcc.gc.ca/eng/MCTS/Vtr_Arctic_Canada.

⁴⁸ Andrea Charron and James Fergusson, *NORAD in Perpetuity...*, 17.

⁴⁹ Government of Canada, "Statement on Canada's Arctic Foreign Policy...", 5.

⁵⁰ The Globe and Mail, "The Myth of Arctic Sovereignty..."

⁵¹ Andrea Charron and James Fergusson, *NORAD in Perpetuity...*, 40.

independently.⁵² Occasional patrols by the RCN with limited range and operating season does not provide the presence necessary to assert sovereignty.

The Canadian Armed Forces (CAF) has limited resources to conduct surveillance of maritime traffic in the Arctic. The primary resource for the Royal Canadian Air Force (RCAF) is the Polar Epsilon program and the RADARSAT-2 satellite. Through twice daily snapshots of the Arctic, RADARSAT-2 can provide near-real time surveillance, detection, and ship classification.⁵³ RADARSAT-2 is most effective when paired with other Intelligence, Surveillance and Reconnaissance (ISR) assets to detect a vessel of interest (VOI), and then devolve the responsibility for identification and monitoring to non-traditional ISR (NTISR) assets.⁵⁴

The primary NTISR resource available to support this mission is the CP-140 Aurora. When this maritime surveillance aircraft was purchased, there were no navigable routes through the Arctic waters, and its primary mission was to support the RCN in blue water operations, with limited use expected in the Arctic. The modernization of the CP-140 fleet will provide 14 aircraft with a service life expectancy of 2030.⁵⁵ This aircraft is capable of providing surveillance of the Arctic, but numerous aircraft are required to provide persistent coverage throughout the summer period. The Aurora is a multi-role aircraft capable of providing maritime surveillance, Anti-Submarine Warfare (ASW), and ISR to air, land, and maritime forces in addition to support to other government

⁵² Paul Okalik, "Arctic Priorities: A Northern Perspective...", 7.

⁵³ Levon Bond, "JUSTAS and Polar Epsilon: Integrated Intelligence, Surveillance, and Reconnaissance of the Canadian Arctic," *Canadian Military Journal*, Autumn 2011: 24-29.

⁵⁴ *Ibid.*

⁵⁵ Royal Canadian Air Force, "Expanding the CP-140 Modernized Aurora Fleet," last modified March 20, 2014, <http://www.rcaf-arc.forces.gc.ca/en/news-template-standard.page?doc=expanding-the-cp-140-modernized-aurora-fleet/hszrx7qw>.

departments.⁵⁶ Most recently the CP-140 was deployed to support Operation Impact in Iraq, further reducing the availability of airframes for maritime and Arctic surveillance.⁵⁷ The multi-role capabilities of the CP-140 provide a great asset to the RCAF; however, the variety of missions it supports places this scarce resource in high demand. The RCAF has an insufficient number of aircraft available to fulfill the current need.

The RCAF has explored options to acquire an Unmanned Aerial Vehicle (UAV) to augment RADARSAT-2 to increase surveillance time and provide a more persistent capability. The Joint Unmanned Surveillance Target Acquisition System (JUSTAS) program has identified a need for high-altitude long-endurance UAV capability such as the Global Hawk to provide surveillance of maritime traffic in the Arctic in the summer, and coastal patrols throughout the year. Regrettably, there is no confirmed platform or timeline to deliver this capability.⁵⁸

The RCAF has no UAV capability to provide Arctic surveillance, and it is not likely to acquire such capability in the near future. The CP-140 fleet is burdened with high demands, and RADARSAT-2 provides insufficient persistent surveillance coverage. Although the RCAF possess the capability to provide surveillance of maritime traffic in the arctic, the demands placed on the CP-140 and the delay in the JUSTAS program has limited the assets available for Arctic surveillance.⁵⁹

⁵⁶ Royal Canadian Air Force, "Expanding the CP-140 Modernized Aurora Fleet..."

⁵⁷ National Defence and the Canadian Armed Forces, "Operation IMPACT CP-140 Aurora Detachment Completes 100th Mission in Theatre," last modified March 9, 2015, <http://www.forces.gc.ca/en/news/article.page?doc=operation-impact-cp-140-aurora-detachment-completes-100th-mission-in-theatre/i6mizqn0>.

⁵⁸ Levon Bond, "JUSTAS and Polar Epsilon: Integrated Intelligence, Surveillance..."

⁵⁹ Canadian American Strategic Review, "Canadian Forces UAV Procurement: A DND JUSTAS Project Timeline," accessed May 10, 2015, <http://www.casr.ca/id-justas-project-timeline.htm>.

Joint Task Force North (JTFN) emphasizes the visible presence of the CAF and specifically the Canadian Rangers to assert Arctic sovereignty.⁶⁰ Through Arctic operations such as Operations Nanook, Nunaliut, and Nunakput, JTFN coordinates military assets for patrols and surveillance in far reaches of the Arctic from the Alaskan border and the Mackenzie valley to Baffin Island in the east, and as far north as CFS Alert. These operations provide a significant presence in the operations areas and often support other government departments. Another significant presence in the Arctic is through the reserve component of the CAF known as the Canadian Rangers, comprised of local Inuit and First Nations. The Canadian Rangers provide routine patrols in vicinity of their villages, and often continue to provide reporting of anything significant even when not on duty. This low-tech solution is effective, though not always timely.⁶¹

Canada has a variety of patchwork solutions to gain awareness of vessels in the Arctic, but lack the persistent coverage needed to have awareness of all marine traffic, a necessity to assert sovereignty. Additionally, once a threat is detected, the limited patrols and lack of basing and refueling capabilities for the RCN prohibit continuous operations throughout the open water season. These limitations prevent Canada from responding to security and sovereignty threats in the Arctic.

CONCLUSION

Over the last 200 years, explorers have been searching for the legendary Northwest Passage. Sir John Franklin's and Roald Amundsen's extraordinary efforts in exploration have led the way to realized Arctic travel. The SS *Manhattan* and SS *Polar*

⁶⁰ Andrea Charron and James Fergusson, *NORAD in Perpetuity...*, 39.

⁶¹ P. Whitney Lackenbauer, "From Polar Race to Polar Saga...", 99-101.

Sea voyages instigated changes in Canadian policy to assert sovereignty, but the equipment and infrastructure needed to respond to a sovereignty threat was not provided. The rapid change to the ice conditions since 2000 has again increased the political promises and re-emphasized Canada's Arctic Foreign Policy, but once again the response to deliver the needed capability has been slow and paltry. Canada has historically resolved disputes in the Arctic peacefully through diplomatic efforts. Though the legal boundaries in the Arctic will soon be resolved, the use of the Arctic waters, especially the Northwest Passage, will present a threat to sovereignty.

NORAD has the opportunity to improve its radar coverage through NORAD Next, though years from implementation this is an appropriate time to push the radar chain to the extremities of the Canadian land mass. Until then, the Arctic Archipelago will remain an area where NORAD is incapable of detecting and responding to sovereignty threats. An air corridor over the Northwest Passage could be the greatest challenge facing NORAD in the future, an international strait through the ADIZ presents a significant security challenge to North America. In the maritime environment, NORAD's mission ends at maritime warning, Canada is responsible for surveillance and control of the Arctic waters.

Canada does not have the ability to conduct persistent surveillance to detect and react to incursions of sovereignty. The surveillance capability in the Arctic is lacking and delays in JUSTAS and the insatiable demand for CP-140s to support numerous operations limit this capability. The Canadian Coast Guard and Royal Canadian Navy need additional infrastructure and equipment to increase its presence in the Arctic. The government has delayed and reduced the procurement of the Arctic Offshore Patrol Ships

and new ice-breakers, and the infrastructure plans for Nanisivik deep-water port has been scaled back.

The promise of infrastructure and equipment has not been realized and the current equipment does not provide the necessary capability. Canada can pursue increases to Canadian Armed Forces and Coast Guard budgets to acquire the appropriate level of equipment and resources to provide surveillance and a response capability to a sovereignty threat in the Arctic. The opening of the Northwest Passage has created a threat to Canadian sovereignty for which Canada's lethargic response to build capability hinders its ability to assert sovereignty. Canada must establish a force capable of responding to sovereignty threats before that threat arrives on the Arctic shores.

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