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INFORMATION OPERATIONS AND CANADIAN ARCTIC SOVEREIGNTY

Maj L.A. Laycock

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Maj L.A. Laycock

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INFORMATION OPERATIONS AND CANADIAN ARCTIC SOVEREIGNTY

AIM

1. The aim of this paper is to outline non-kinetic capabilities that can be used by the Canadian Armed Forces (CAF) to enhance Arctic sovereignty.¹

INTRODUCTION

2. Canadian Arctic sovereignty is largely uncontested.² There are small areas where managed, friendly disputes continue with our American and Danish neighbours. On the other side of the North Pole, Russia continues to expand its Arctic Operating Bases and develop its northern naval passage infrastructure. International aviation increasingly overflies the North, through Canadian airspace. Climate change is also contributing to the decrease of Arctic ice, a situation which may increase the commercial use of the Arctic to include: transit, resource mining, and tourism.³ This emerging domain carries important roles for Canada, including search and rescue responsibilities, defence of personnel and resources, and sovereignty enforcement. This paper will focus on the latter of these roles.

3. Information Operations (IO) is the synchronization of a variety of enablers to achieve an effect; “the strategic aims of IO are to secure peacetime national security objectives, deter conflict, protect the DND and CF information and information systems, and to shape the information environment.”⁴ It is further understood “as actions taken that influence decision

¹ Theme E-4 in the RCAF AIRPower Research List 2016, 9.

² Canada, Minister of Indian Affairs and Northern Development and Federal Interlocutor for Métis and Non-Status Indians, “*Canada’s Northern Strategy: Our North, Our Heritage, Our Future*,” 2009, modified May 18, 2011, accessed January 29, 2016, <http://www.northernstrategy.gc.ca/cns/cns-eng.asp>, 13.

³ Government of Canada, “*Statement on Canada’s Arctic Foreign Policy: Exercising Sovereignty and Promoting Canada’s NORTHERN STRATEGY Abroad*,” accessed January 10, 2013, http://www.international.gc.ca/arctic-arctique/assets/pdfs/canada_arctic_foreign_policy-eng.pdf.

⁴ Canada, Department of National Defence [DND], *B-GG-005-004/AF-010, Canadian Forces Information Operations*, Ottawa, ON: Department of Defence, 1998, 1-1.

makers through the exploitation and protection of information and/or information systems.”⁵

These non-kinetic effects have the potential to provide a large return for a small investment and, as such, should be capitalized on when possible.⁶ IO is separated into the two categories of offensive and defensive actions and must flow from a concrete Government of Canada (GoC) Strategic Messaging campaign. IO enablers include: presence, profile, and patrol (PPP); deception; psychological operations (PSYOPS); civil military cooperation (CIMIC); key leader engagement (KLE); electronic warfare (EW); information protect; information security (INFOSEC); operational security (OPSEC); physical security; computer network operations (CNO); cyber protect and attack; and counter IO.⁷

DISCUSSION

4. What should Canadian sovereignty in the Arctic look like? Canada’s Northern Strategy states that “exercising our sovereignty includes maintaining a strong presence in the North, enhancing our stewardship of the region, defining our domain and advancing our knowledge of the region.”⁸ The CAF’s role in this sovereignty exercise can clearly be seen to be defence and increased presence through sound regional knowledge and focused stewardship. Policy further states that the “capability and capacity to protect and patrol the land, sea and sky in our sovereign Arctic territory” must be ensured.⁹ What is the GoC strategic message regarding the Canadian Arctic? How can non-kinetic effects be leveraged to send this message and enforce sovereignty? These questions and assumptions will help to frame this vast topic and produce concrete recommendations.

⁵ Canada, Department of National Defence [DND], *B-GA-403-002/FP-001, Aerospace Electronic Warfare Doctrine*, Trenton, ON: Canadian Forces Aerospace Warfare Centre, 2014, 4.

⁶ Canada, Department of National Defence [DND], *B-GA-403-000/FP-001, Canadian Forces Aerospace Doctrine – Shape*, Trenton, ON: Canadian Forces Aerospace Warfare Centre, 2014, iv.

⁷ Canada, DND, *Information Operations*.; Canada, *DND, Aerospace Doctrine—Shape*, Ch 4.

⁸ Canada, Minister of Indian Affairs, “*Canada’s Northern Strategy*,” 9.

⁹ *Ibid.*

5. First, the Arctic operating environment must be understood. It encompasses a vast, resource rich, difficult to navigate, environmentally harsh, and sparsely populated area.¹⁰ The Statement on Canada's Arctic Foreign Policy states that "the Arctic is fundamental to Canada's national identity. . . . Exercising sovereignty over Canada's North, as over the rest of Canada, is our number one Arctic foreign policy priority."¹¹ The Canada First Defence Strategy (CFDS) gives further Arctic guidance, stating that "changing weather patterns are altering the environment, making it more accessible to sea traffic and economic activity."¹² This changing climate necessarily entails added challenges and economic opportunities for this isolated region, including a possible "increase in illegal activity, with important implications for Canadian sovereignty and security."¹³ Further, connectivity is an issue in the north as robust communications infrastructure is mostly absent;¹⁴ intermittent satellite communications and erratic broadband networks and telephone systems "present special problems in terms of navigation, communications and data transmission."¹⁵ Villages and communities are isolated and air travel is required between most of them. Runways, roads, and other forms of major infrastructure are minimal with ongoing northern construction projects being difficult and costly.
6. Defending Canada is the principle role of the CAF: "ensur[ing] the security of our citizens and help[ing to] exercise Canada's sovereignty."¹⁶ In doing so, we must ensure that we

¹⁰ An estimated 50% of the world's undiscovered resources are in the Arctic. See: LCol. Daniel Lachance, "Arctic Alternative Futures," *RCAF Journal* 4, no.3 (Summer 2015),112.

¹¹ Gov. of Canada, "Statement on Canada's Arctic Foreign Policy," 3.

¹² Canada, National Defence, "Canada First Defence Strategy," accessed February 3, 2016, 6, http://www.forces.gc.ca/assets/FORCES_Internet/docs/en/about/CFDS-SDCD-eng.pdf.

¹³ Ibid.

¹⁴ Nordicity, "Northern Connectivity: Ensuring Quality Communication," Report delivered to Northern Communications Information Systems Working Group c/o Government of Yukon, January, 2014. http://northernconnectivity.ca/resources/ncis_wg_report.pdf.

¹⁵ Paul Koring, "In the Arctic, Drones Could Close the Gap," *The Globe and Mail*, July 9, 2012, accessed February 5, 2016, <http://www.theglobeandmail.com/news/national/in-the-arctic-drones-could-close-the-gap/article4398883/>.

¹⁶ Canada, National Defence, "First Defence Strategy," 7.

work closely with the GoC and its partners to achieve desired strategic effects. The CAF “must have the capacity to exercise control over and defend Canada’s sovereignty in the Arctic” as “the military will play an increasingly vital role in demonstrating a visible Canadian presence” in this increasingly important region.¹⁷ The Royal Canadian Air Force (RCAF) has been tasked with conducting Intelligence, Surveillance, and Reconnaissance (ISR) flights in the Arctic as part of the GoC mandate of increased Arctic presence.¹⁸ The Combined Joint Operations Command (CJOC) runs two yearly Joint, Integrated, Multinational, and Public (JIMP) Arctic exercises: Operation NANOOK and Operation NUNALIVUT. The CAFs continued presence in the Arctic is marked by Canadian Forces Station (CFS) Alert, located at the northern-most point of Canada. CFS Alert provides vital signals intelligence (SIGINT) and is manned by a small group of CAF year round.¹⁹ The Canadian Army (CA) is building a training center at Resolute Bay and the RCAF has multiple Forward Operation Locations (FOLs) dispersed throughout the Arctic for North American defence operational basing.

7. The critical task of the defence of North America is accomplished through bilateral agreements with the American Armed Forces, such as the North American Aerospace Defence Command (NORAD). Canada’s continued engagement in this bilateral agreement is taken as a given in this paper and is integrated into the second of the CAF’s CFDS three main core tasks which is “to conduct daily domestic and continental operations, including in the Arctic and through NORAD.”²⁰ The non-kinetic deterrence effect achieved by this bilateral agreement ensures that international parties that would do us harm or use the Arctic to exploit our weaknesses think twice. This critical alliance with American neighbours also ensures that

¹⁷ Ibid., 8.

¹⁸ Canada, DND, *Electronic Warfare Doctrine*, 9-10.

¹⁹ Canada, Minister of Indian Affairs, “*Canada’s Northern Strategy*,” 11.

²⁰ Canada, National Defence, “*First Defence Strategy*,” 10.

territorial disputes and freedom of passage of the sea, such as in the Arctic, remain peaceful and cooperative.

8. How can CAF non-kinetic capabilities contribute to the GoC's Arctic action plan? First, some assumptions must be made: the GoC will issue Strategic Messaging guidance, the CAF will be mandated to work in a JIMP environment to deliver offensive and defensive Information Operations to achieve desired effects, and NORAD will continue to provide North American aerospace defence and maritime warning. Certain IO enablers cannot be properly examined at this unclassified level; however some, including deception, EW, and leveraging NORAD assets, may provide large returns and should be considered in planning.

9. Domestically, the Strategic Messaging campaign should highlight defence and environmental stewardship of Canada's Arctic. It should emphasize the partnership with the indigenous people and the opportunities that climate change is bringing to the region. These messages must be delivered with responsible and sustainable development, important economic growth, and benefit for Indigenous people as paramount motivators.²¹ Domestic IO enablers are further examined in the next few paragraphs, which are separated by CAF component or specialty area.

10. Internationally, the strategic message should be that Canada's sovereign land and waters will be protected at all costs. To this end, Canada does not accept theft or environmental degradation during the excavation of resources, all Canadian environmental and other laws must be followed at all times, and any violators will be prosecuted to the full extent of the law. PSYOPS can be targeted at industry and government leaders who may seek to take advantage of

²¹ Canada, Minister of Indian Affairs, "*Canada's Northern Strategy*," 1.

the opening Arctic waterways and resource development. The Arctic Council is an important forum to transmit this message and engage in further dialogue and global common understanding.²²

11. **Joint IO Enablers:** Joint Task Force North operates out of Yellowknife and conducts frequent activities throughout the Arctic including KLEs. Increasing the frequency of northern operations and exercises without affecting a negative impact on local areas or the environment would create a positive effect. These operations must not all be large in scope, like Op NANOOK. Social media should be leveraged to deliver the GoC Arctic strategic message. INFOSEC, physical security, and OPSEC should be practiced at all times.

12. **RCAF IO Enablers:**²³ The RCAF is the service of choice for all season PPP over flights and enforcement of Arctic sovereignty through a variety of sensors and platforms including the CF188 and CP140. It is understood that “Canada’s ability to maintain a surveillance presence in the Arctic is fundamental to the assertion of its sovereignty.”²⁴ ISR is also a deterrent to would-be transgressors as it increases the probability of being caught red-handed.²⁵ Layered ISR is provided through aircraft patrols, RADARSAT-2 coverage, and the North Warning System (NWS). Due to the operating environment, it is understood that “the ISR systems required for sufficient coverage of the north will have to be both air and space-based. *Polar Epsilon* constitutes a good beginning.”²⁶ *Polar Epsilon* is a satellite-based surveillance program which uses the RADARSAT-2 satellite constellation. The NWS also provides vital air surveillance and warning capability, advising NORAD of air threats approaching the Canadian Air Defence

²² Ibid., 35.; Gov. of Canada, “Statement on Canada’s Arctic Foreign Policy,” 10.

²³ For more on Aerospace Information Operations see: Canada, DND, *Aerospace Doctrine—Shape*, Chapter 4.

²⁴ Koring, “Drones.”

²⁵ LCol. Brian Murray, “Air Power’s Contribution to Coercion,” *RCAF Journal* 4, no.3 (Summer 2015), 31.

²⁶ Levon Bond, “JUSTAS and Project Epsilon: Integrated Intelligence, Surveillance, and Reconnaissance of the Canadian Arctic,” *Canadian Military Journal* 11, no.4 (Autumn 2011), 25.

Identification Zone (CADIZ). NORAD forward operating locations (FOLs) exist in northern communities and serve as operational basing options for the defence of North America. These locations have facilities which could be leveraged for other CAF-led operations with the understanding that NORAD operations have priority. The CFDS speaks to strengthening this layered capability by “acquiring radars and satellites to improve surveillance capabilities, especially in the Arctic” where this capacity is currently limited.²⁷ One such technology is the Automatic Dependent Surveillance – Broadcast (ADS-B) which provides increased air traffic surveillance coverage through receivers on satellites.²⁸ It is a cheaper alternative to radar and NAV CANADA is aggressively pursuing its joint expansion.²⁹

13. Another method to increasing coverage in the Arctic is through Unmanned Aerial Systems (UAS). UAS can provide a variety of effects including: intelligence gathering, real time video surveillance, electronic intelligence, signals intelligence, finding and fixing targets, and even delivering fires.³⁰ The Joint Unmanned Surveillance and Target Acquisition System (JUSTAS) Programme is the RCAF’s answer to procure cutting edge UAS technology; however, it is currently in a “wait-and-see” mode as in service issues and budget constraints are assessed.³¹ Polar Hawk has been marketed as an extreme Arctic capable UAS, with an estimated three-five being capable of providing complete coverage of Canada’s North.³² With 30-hours of flight and sophisticated sensor packages that could measure a wide array of military and civilian data, these

²⁷ Canada, National Defence, “*First Defence Strategy*,” 18.

²⁸ NAV Canada, “Automatic Dependent Surveillance—Broadcast,” accessed February 4, 2016, <http://www.navcanada.ca/EN/products-and-services/Pages/on-board-operational-initiatives-ads-b.aspx>.

²⁹ Ibid.

³⁰ Ian Langford, *Australian Special Operations: Principles and Considerations*, Australian Army, 25.

³¹ Danny Garrett-Rempel, “Will JUSTAS Prevail? Procuring a UAS Capability for Canada,” *RCAF Journal* 4, no.1 (Winter 2015), 26.

³² Ibid., 24.

versatile, multirole platforms could provide continued PPP in the Arctic.³³ There are issues with UAS use in the Canadian Arctic which would need to be addressed prior to its use including, but not limited to, satellite link intermittent coverage, Canadian individual and collective privacy concerns, and appropriate airworthiness programmes to integrate UAS under the Aeronautics Act.³⁴

14. **Royal Canadian Navy (RCN) IO Enablers:** The RCN contributes to IO in the Arctic by surface and subsurface naval PPP, when sea ice conditions permit. If sea ice continues to melt, as anticipated, these navigational sovereignty presence patrols could occur over longer seasons and provide a sustained and direct presence in northern waterways, with naval boarding a possibly as well. With the purchase of polar ice breakers and Arctic/Offshore Patrol Ships (AOPS) the RCN's capacity to provide general purpose ice-capable assets for surveillance and sovereignty patrols, contributing to GoC activities in the Arctic, will increase.³⁵ The all purpose fuel depot in Nanisivik is another strategic enabler in the North, providing fuel for a wide spectrum of operations for the RCN and the Canadian Coast Guard.³⁶

15. **CA IO Enablers:** The CA has many capabilities which could be leveraged to enforce Canadian Arctic sovereignty and transmit the GoC Arctic strategic message. Contributions could be through the Influence Activities Task Force integrating into communities and conducting PSYOPS, CIMIC, and KLE to achieve maximum desired effects and proper evolution of messaging. PSYOPS messages can also be passed by leveraging RCAF assets. The CAF Arctic Training Center in Resolute Bay is a joint venture with Natural Resources Canada and provides a

³³ Koring, "Drones."

³⁴ Garrett-Rempel, "JUSTAS," 23-25.

³⁵ Canada, National Defence and Canadian Armed Forces, "Arctic Offshore Patrol Ships (AOPS)," last modified December 2, 2013, accessed February 3, 2016, <http://www.forces.gc.ca/en/business-equipment/arctic-offshore-patrol-ships.page>; Gov. of Canada, "Statement on Canada's Arctic Foreign Policy," 6.

³⁶ Canada, Minister of Indian Affairs, "Canada's Northern Strategy," 10.

staging base from which soldiers can learn Arctic survival skills to effectively operate in this harsh environment and force project as required.³⁷ It demonstrates a sustained military presence and will serve to stimulate the local economy without creating a large, additional burden on limited resources. All CAF's members should be capable of working, living, and thriving in Canadian conditions, including the far North. The CA works closely with the Rangers: vital Indigenous northern specialists who possess Arctic survival skills and provide continued PPP, surveillance, search and rescue support, as well as human intelligence (HUMINT) collection in and around their communities.³⁸ They share their skills with their CA counterparts, helping to develop these specialties within the regular CAF. They would also be vital to messaging in their home communities.

16. **Special Operations Forces (SOF) IO Enablers:** SOF specializations such as capacity building, enhanced Ranger training, contested naval boarding, special reconnaissance, direct action, and HUMINT could be optimized to deliver joint IO effects in the Arctic. Their distinctive skills and advanced equipment provide unique opportunities for HUMINT and capacity building in these isolated areas.

17. **Cyber IO Enablers:** Cyber and information protect must also be practiced at all times to ensure that the information domains remain uncorrupted and that computer systems, classified systems, and networks are safe from all threats. In the North, satellite communications and links are vital and must be kept uncorrupt. Detailed CNO is correspondingly critical in all IO planning.

³⁷ Canada, National Defence and Canadian Armed Forces, *Canadian Armed Forces Arctic Training Centre*," August 15, 2013, last modified August 27, 2014, accessed February 3, 2016, <http://www.forces.gc.ca/en/news/article.page?doc=canadian-armed-forces-arctic-training-centre/hkdons6l>.

³⁸ Canada, Minister of Indian Affairs, "*Canada's Northern Strategy*," 10.

18. **Specialist Support:** Public Affairs (PA) and Judge Advocate General (JAG) serve a vital role in ensuring the GoC Strategic Messaging campaign is followed; they must be involved at all levels of IO planning to ensure that effects are synchronized, consistent with policy and intent, and in accordance with statutory limitations. PA further serves to ensure that messaging is being correctly conveyed through media interviews and policy statements online. Social media use should also be maximized.

CONCLUSION

19. As can be seen, each service already offers a multitude of messaging options. What is missing is a clear strategy and synchronization of effects through a targeted IO campaign. The proposed way ahead is to obtain clear Strategic Messaging themes from the GoC with respect to the Arctic and guidance on the use of domestic IO. Once that is received, an IO planning group, including PA, JAG, NORAD, and all four components should be convened by CJOC to determine possible JIMP courses of action. Indigenous personnel, Rangers, other government departments, and non government agencies should also be consulted and integrated into all planning stages. In the absence of a targeted IO campaign, non-kinetic effects are not being maximized and the risk of counter messaging exists with Canadian Arctic sovereignty not being optimized to the best of the CAF's ability.

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