



Sustaining Sovereignty

Logistics, Presence and Operational Effectiveness in Canada's Arctic

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Canada's reliability as an ally is vital for its security and sovereignty as a member of NORAD, NATO and the United Nations. Historically, the Arctic's harsh environment acted as a natural barrier because of its isolation, climate and limited accessibility.¹ However, climate change is rapidly reducing these barriers, making the Arctic more accessible to shipping, resource development and foreign activity.² Although the Arctic is becoming more accessible, it remains an operationally demanding environment for Canada.³

Sovereignty is not solely defined by legal claims, but by the ability to exercise control over activity within the region.⁴ This is particularly important in the maritime domain, where increased shipping and resource exploration require enhanced domain awareness, regulation and response.⁵ As activity in the region grows, sustained presence becomes essential to demonstrating effective occupation, maintaining operational control and reinforcing Canadian sovereignty.⁶

The Arctic also presents a uniquely demanding operating environment that distinguishes it from other maritime regions.⁷ Extreme weather, vast distances from established bases, limited infrastructure and seasonal accessibility significantly constrain naval operations and complicate sustainment.⁸ These conditions make it difficult to generate and maintain a continuous presence throughout the Arctic region.⁹ Operational effectiveness in the Arctic therefore depends less on combat capability than on the ability to support and sustain forces over time.

The Canadian Armed Forces (CAF) must remain ready, resilient and relevant in protecting Canada's Arctic sovereignty.¹⁰ This paper argues that naval operations, and therefore the RCN's contribution to sovereignty and security in the Canadian Arctic, is constrained less by combat capability than by logistics and sustainment. Consequently, Canada should prioritize investments in Arctic logistics, infrastructure and sustainment capabilities because sustained operations, rather than combat power alone, are the primary requirement for maintaining credible sovereignty. This argument is supported by three lines of analysis: environmental constraints, operational limitations and the requirement for sustained presence to maintain credible sovereignty. As the Arctic becomes more accessible, sovereignty will depend less on the ability to fight and more on the ability to remain present.

Background

The Arctic Archipelago, with its austere climate, limited accessibility and remote geography, has historically acted as a natural barrier that limited sustained foreign activity throughout the region.¹¹ For much of Canada's history, these environmental conditions reduced the requirement for continuous military presence and large-scale infrastructure in the North.¹² More recently, however, the Arctic region has begun transforming due to climate change and technological developments, creating a more accessible and strategically important operating environment.¹³ Longer navigable seasons, increased maritime traffic and growing interest in natural resources are increasing the operational demands on the CAF and other government departments tasked with surveillance, transportation, emergency response and regulatory enforcement.¹⁴

These developments are occurring within a broader international security environment where Arctic accessibility is increasing strategic competition.¹⁵ Russia continues to expand its Arctic military infrastructure and operational activity, while non-Arctic states such as China have demonstrated growing economic and scientific interest in the region.¹⁶ Canada's commitments to NORAD and continental defence require improved awareness and responsiveness across northern approaches.¹⁷ These developments place additional pressure on the CAF to maintain awareness, mobility and operational presence across vast and remote northern areas.¹⁸

As accessibility increases, Canada's sovereignty challenges are evolving from issues based primarily on legal claims and ownership to challenges increasingly dependent on maintaining persistent presence, domain awareness and operational control across vast northern territories and waterways.¹⁹ This places growing importance on mobility, logistics and sustainment capabilities capable of supporting continuous operations in a remote and infrastructure-limited environment.²⁰

Environmental Constraints

Canada's Arctic region is vast and encompasses approximately 40 percent of the country's land mass.²¹ The immense distances between operating areas and southern support bases, combined with limited transportation infrastructure, create significant sustainment challenges for Arctic operations.²² Historically, the harsh geography and climate of the region made the Arctic "something of a defence in itself," limiting both accessibility and operational activity.²³ However, these same conditions continue to constrain the CAF's ability to establish and sustain military presence in the North.²⁴ These conditions significantly increase transit times for personnel, equipment, fuel and supplies.²⁵ This creates a substantial sustainment burden and reduces operational endurance, particularly during extended deployments far from established infrastructure.²⁶ As a result, future Arctic investments should prioritize mobility, infrastructure and sustainment capacity rather than additional combat capability.

The Arctic's harsh environmental conditions further complicate sustained operations.²⁷ Short operating seasons, extreme weather, limited transportation networks and seasonal maritime accessibility restrict the movement of personnel, equipment, fuel and supplies throughout the region.²⁸ These limitations affect not only the CAF, but also the ability of other government departments to maintain reliable communications and logistical support in northern

communities.²⁹ Although climate change is increasing accessibility in some areas, the region remains operationally challenging due to unpredictable ice conditions, limited infrastructure and environmental hazards.³⁰ Unlike southern Canada, transportation infrastructure in the Arctic remains limited and geographically dispersed.³¹ Many northern communities and operating locations remain accessible only by air or seasonal sealift, complicating both military deployment and routine sustainment activities.³² As a result, Arctic operations frequently resemble expeditionary deployments rather than domestic operations, requiring forces to deploy with large quantities of fuel, equipment and sustainment supplies.³³ Arctic capability development should focus on improving transportation infrastructure and sustainment networks capable of supporting longer-duration operations.

Although the Harry DeWolf-class Arctic and Offshore Patrol Ships (AOPS) were designed to improve the Royal Canadian Navy's (RCN) ability to operate in Arctic waters, they remain dependent on external sustainment support and are constrained by the broader limitations of Arctic infrastructure and logistics networks that significantly limit sustained operations.³⁴ Much of the Arctic Archipelago remains poorly charted, limiting navigational certainty, increasing operational risk and complicating sustained maritime operations in remote waters.³⁵ Inadequate hydrographic surveying, combined with limited northern infrastructure and refuelling capabilities, continues to constrain the CAF's ability to support long-duration operations in the region. As a result, even purpose-built Arctic platforms remain dependent on a broader sustainment network that is still underdeveloped. This restricts freedom of manoeuvre and complicates sustained maritime operations.³⁶

Looking ahead, climate change is expected to increase maritime accessibility and human activity throughout the Arctic region.³⁷ Increased accessibility will generate greater demand for surveillance, Search and Rescue (SAR) operations, transportation support and regulatory enforcement across the Arctic region.³⁸ Longer navigable seasons may improve access to northern communities and facilitate more consistent delivery of supplies and services.³⁹ However, increased accessibility will also generate greater operational demands on the CAF and other government departments, requiring more persistent surveillance, transportation, emergency response and logistical support capabilities. As activity in the region continues to grow, the challenge for Canada will increasingly depend not only on access to the Arctic, but on the ability to sustain operations across it over time.⁴⁰

Operational Constraints

From an operational perspective, the CAF and other government departments have access to the Arctic region but continue to face significant challenges in sustaining operations over time.⁴¹ These limitations can create supply gaps that complicate command and control across dispersed operating areas.⁴² Limited range, constrained sustainment capability and sparse transportation infrastructure force a heavy reliance on maritime vessels, Coast Guard and air transportation to support operations and isolated northern communities.⁴³ These issues reduce responsiveness and complicate information sharing across large operating areas, especially during SAR and surveillance operations.⁴⁴ Communications infrastructure also remains unreliable, requiring deployed personnel to operate with limited local support and resupply options.⁴⁵ As the primary means of coordinating logistics, requesting resupply and maintaining situational awareness,

reliable voice and data communications are essential for sustaining Arctic operations.⁴⁶ Without these systems, CAF personnel face significant difficulty coordinating aircraft movement, managing supply chains and conducting medical evacuations across vast distances.⁴⁷ Communications infrastructure remains limited across much of the Arctic, constraining situational awareness, information sharing and command and control across vast operating areas.⁴⁸ These operational challenges reduce the CAF's ability to maintain persistent maritime domain awareness and effective information sharing across the region.⁴⁹ In addition, reductions in long-range maritime patrols and limited surveillance coverage continue to constrain operational awareness in the Arctic.⁵⁰

Operational effectiveness in the Arctic is further constrained by limited infrastructure and sustainment capacity.⁵¹ The Nanisivik Naval Facility, originally envisioned as a northern logistics and refuelling hub intended to support RCN and broader CAF operations in the Arctic, has faced a significantly reduced operational scope, illustrating the broader difficulty of establishing and maintaining Arctic infrastructure.⁵² The facility's limited operating season and reduced support capability continue to constrain sustained naval operations in the region, reinforcing the CAF's continued dependence on southern logistics networks for maintenance, repair and resupply.⁵³ Infrastructure gaps throughout the Arctic continue to limit the CAF's ability to sustain long-duration operations, reinforcing continued dependence on southern supply chains for maintenance, repair and logistical support.⁵⁴ As a result, seasonal naval deployments and reduced patrol frequency limit persistent operational presence in the region while also increasing response times for sustainment activities.⁵⁵ Equipment failures that would normally be addressed quickly in southern operating areas become operationally significant in the Arctic because of transportation delays, limited infrastructure and reduced local support capacity.⁵⁶ These limitations reduce operational flexibility and make sustained Arctic operations increasingly resource intensive.⁵⁷

Arctic operations are fundamentally constrained by sustainment challenges.⁵⁸ Vast distances, limited infrastructure, unreliable communications and fragile supply chains require forces to operate as largely self-contained expeditionary units.⁵⁹ This places a significant burden on mobility assets and increases the complexity of operational planning, particularly during extended deployments in the North.⁶⁰ Equipment failures and maintenance issues are more difficult to address in remote operating areas where local support remains limited.⁶¹ These operational realities reinforce that logistics and sustainment, rather than combat capability alone, determine operational effectiveness in the Arctic.⁶² Improving Arctic logistics networks, communications infrastructure and mobility assets should therefore be a priority for future CAF capability development. The principal challenge for the CAF is therefore not gaining access to the region but sustaining persistent operations within it over time.⁶³

The expeditionary nature of operations in the Arctic also makes sustainment and troop mobility challenging for the CAF.⁶⁴ As opposed to domestic operations conducted in southern Canada, where transportation of replacement parts, fuel and personnel is more accessible, northern deployments involve significant risk due to vast distances and limited opportunities for resupply.⁶⁵ Strategic airlift, sealift and seasonal transportation windows therefore become critical enablers for Arctic operations while at the same time reducing operational flexibility once forces are deployed.⁶⁶ Operational tempo can quickly be degraded by equipment failures, weather delays and transportation disruptions since replacement parts and maintenance support are located thousands

of kilometres away in southern Canada.⁶⁷ As a result, Arctic operations require extensive pre-planning, to include stockpiling equipment and coordinating sustainment requirements before deployment can begin.⁶⁸ These issues significantly complicate command and control, reduce operational responsiveness and increase the burden on limited mobility assets supporting multiple remote operating locations simultaneously.⁶⁹

Sustained Presence and Sovereignty

Canada's claim to Arctic sovereignty has historically been reinforced through physical presence.⁷⁰ Following the transfer of Arctic territories from Great Britain in 1880, the establishment of Royal Canadian Mounted Police (RCMP) posts served to assert control and deter foreign activity in the region.⁷¹ Over time, this presence-based approach to sovereignty has been reinforced by legal and political mechanisms, including international law and domestic governance frameworks, while remaining dependent on continued physical presence to translate legal sovereignty into effective control.⁷² However, in the Arctic, sovereignty is not determined by legal claims alone, but by the ability to exercise effective control over activity within the region.⁷³ Canada reinforced its legal position in 1985 through the establishment of straight baselines around the Arctic Archipelago, defining these waters as internal and enabling the exercise of regulatory control.⁷⁴ This control is demonstrated through what Lackenbauer describes as effective occupation, achieved through sustained activity on land, at sea and in the air.⁷⁵ In coordination with other government departments, the CAF contributes to the enforcement of Canadian sovereignty through surveillance, presence and support for the regulatory frameworks that govern Arctic waters, including those associated with the United Nations Convention on the Law of the Sea (UNCLOS).⁷⁶ Canada's claim that the Northwest Passage constitutes internal waters further reinforces the requirement to maintain effective control and operational presence throughout the Arctic Archipelago.⁷⁷

Physical presence, however, does not automatically guarantee sovereignty.⁷⁸ While increasing military deployments may appear to strengthen control, the scale, cost and environmental challenges of the Arctic limit effectiveness of such approaches.⁷⁹ Instead, sovereignty is reinforced through consistent and credible activity, including Canadian Armed Forces (CAF) operations, Canadian Ranger patrols and whole-of-government response to emergencies.⁸⁰ In particular, the Canadian Rangers provide the CAF with a lightly equipped and self-sufficient reserve unit, capable of conducting surveillance patrols, supporting CAF operations and assisting other military units operating in the Arctic environment.⁸¹ Their close relationship with northern communities and familiarity with the harsh operating conditions make them a critical component of Canada's Arctic presence and domain awareness.⁸² They effectively serve as the "eyes and ears" of the CAF throughout the region.⁸³ These activities enhance domain awareness, support regulatory enforcement and reinforce the perception of control.⁸⁴ Persistent Arctic presence remains particularly important for the RCN to maintain operational awareness and rebuild Arctic operating experience following decades of limited northern activity.⁸⁵ As maritime accessibility and regional activity continue to increase, the ability to exercise effective command and control across the Arctic Archipelago will become increasingly important for maintaining credible sovereignty and operational responsiveness.⁸⁶ Without such sustained presence, Canada's ability to monitor and influence activity in the region becomes intermittent, weakening its overall sovereignty posture.

The CAF's role in the Arctic is therefore not centred on combat operations, but on maintaining presence, supporting government partners and enabling control over activity in the region.⁸⁷

The key constraint on sustained presence in the Arctic is logistics and sustainment.⁸⁸ This constraint, rather than combat capability, defines the limits of Canada's ability to exercise sovereignty in the Arctic. Episodic deployments, such as seasonal exercises and patrols, reflect a long-standing pattern of Arctic operations.⁸⁹ They provide only temporary demonstrations of control and are insufficient to maintain continuous oversight in a vast and remote environment.⁹⁰ Sustained presence requires reliable infrastructure, including refuelling capabilities, airfields and logistics hubs capable of supporting land, sea and air operations.⁹¹ The requirement to "see and be seen" remains particularly important for the RCN, both to maintain operational awareness and to rebuild Arctic operating experience following decades of limited northern activity.⁹² As activity throughout the Arctic continues to increase, the ability to exercise effective command and control across the Arctic Archipelago will become increasingly important to maintaining credible sovereignty and operational responsiveness.⁹³ This requirement is reflected in Canada's defence policy, which emphasizes the need to increase presence, mobility and sustainment capacity to operate effectively in the Arctic.⁹⁴ Maintaining that presence will require continued investment in northern infrastructure, mobility and sustainment systems capable of supporting year-round operations. As Lackenbauer and Lajeunesse note, Arctic operations are significantly constrained by limitations in infrastructure, communications and sustainment capacity.⁹⁵ Without these enablers, the CAF remains dependent on southern support, limiting both the duration and operational effectiveness of its presence in the region.⁹⁶ Canada must therefore continue investing in northern infrastructure and sustainment systems capable of supporting persistent operations throughout the Arctic.

As Arctic accessibility increases, sovereignty will be challenged not through decisive confrontation, but through gradual erosion over time. In the absence of sustained Canadian presence, other actors will expand their activity in the region, normalizing their presence and shaping the operational environment and challenging Canada's ability to exercise control.⁹⁷ Sovereignty in the Arctic is therefore not lost through defeat, but through absence. Without logistics and sustainment capacity required to maintain continuous presence, Canada risks weakening its ability to exercise sovereignty claims in an increasingly active and contested region.

The CAF's return to the northern region after decades of limited presence has been a gradual and operationally challenging process.⁹⁸ However, the development of practical Arctic capabilities, combined with close coordination with whole-of-government (WoG) partners and strengthened relationships with Indigenous communities, will improve the CAF's ability to respond to increased activity throughout the North.⁹⁹ In accordance with the Federal Emergency Response Plan, the CAF must remain prepared to support law enforcement agencies and other government departments in both security and stewardship responsibilities of Canada's Arctic territory and waters.¹⁰⁰

Conclusion

Canadian sovereignty in the Arctic is constrained less by the CAF's ability to deploy combat forces into the region than by its ability to sustain persistent operations across it over time. Environmental

conditions, infrastructure limitations, communications challenges and unreliable logistics networks continue to constrain the CAF's operational effectiveness in the North. As climate change increases accessibility and strategic interest in the Arctic, these developments also generate greater operational demands for surveillance, transportation, emergency response and regulatory enforcement. Together, these factors create significant command and control challenges, where vast distances, unreliable communications and limited infrastructure complicate coordination, situational awareness and operational responsiveness across the region.

As activity and accessibility in the northern region continue to increase, Canada will face growing pressure to maintain a more consistent and responsive operational presence throughout the region over extended periods. Increased maritime traffic, scientific activity, resource exploitation and foreign operations will require greater surveillance, transportation and emergency response capabilities across vast and remote operating areas. In this environment, sovereignty will depend less on symbolic presence alone and more on the ability to maintain persistent awareness, coordination and operational responsiveness over time. Episodic deployments and seasonal operations may demonstrate intent, but they do not provide the continuous presence required to effectively monitor, regulate and respond to activity across Canada's northern waters.

The Arctic therefore presents a long-term sustainment challenge rather than a conventional combat problem. Sovereignty in the region is reinforced through continuous presence, operational awareness and the ability to exercise effective control over activity across Canada's northern waters. The principal challenge for the CAF is therefore not gaining access to the region but sustaining persistent operations within it over time. Canada should therefore prioritize investments in Arctic infrastructure, mobility and sustainment capacity to ensure persistent presence and maintain credible sovereignty in an increasingly accessible and contested Arctic environment. Sovereignty in the Arctic is therefore not lost through defeat, but through absence.

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Notes

¹ P. Whitney Lackenbauer and Adam Lajeunesse, *The Canadian Armed Forces in the Arctic: Building Appropriate Capabilities* (Calgary: Canadian Defence and Foreign Affairs Institute, 2016), 43.

² Rob Huebert, "Canada and the Changing International Arctic: At the Crossroads of Cooperation and Conflict," in *Northern Exposure: Peoples, Powers and Prospects for Canada's North*, ed. Frances Abele et al. (Montreal and Kingston: McGill-Queen's University Press, 2009), 4-5.

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- ³ Crown-Indigenous Relations and Northern Affairs Canada, *Canada's Arctic and Northern Policy Framework* (Ottawa: Government of Canada, 2019), 74.
- ⁴ Rob Huebert, "Climate Change and Canadian Sovereignty in the Northwest Passage," *Isuma: Canadian Journal of Policy Research* 2, no. 4 (Winter 2001): 86–94.
- ⁵ Crown-Indigenous Relations and Northern Affairs Canada, *Arctic and Northern Policy Framework*, 52-53.
- ⁶ P. Whitney Lackenbauer and Adam Lajeunesse, *The Canadian Armed Forces in the Arctic: Building Appropriate Capabilities* (Calgary: Canadian Defence and Foreign Affairs Institute, 2016), 42.
- ⁷ Department of National Defence, *Evaluation of Arctic Operations* (Ottawa: Assistant Deputy Minister [Review Services], 2024), 5.
- ⁸ Lackenbauer and Lajeunesse, *Building Appropriate Capabilities*, 36.
- ⁹ DND, *Evaluation of Arctic Operations*, 5.
- ¹⁰ Department of National Defence, *Our North, Strong and Free: A Renewed Vision for Canada's Defence* (Ottawa: Government of Canada, 2024), viii.
- ¹¹ Lackenbauer and Lajeunesse, *Building Appropriate Capabilities*, 43.
- ¹² Department of National Defence, *Arctic and Northern Strategy: Canada's Approach to Defence in the North* (Ottawa: Department of National Defence, 2024).
- ¹³ Global Affairs Canada. *Canada's Arctic Foreign Policy*. Ottawa: Government of Canada, 2024. 6.
- ¹⁴ Mark Carney, "Prime Minister Carney Announces Ambitious New Plan to Defend, Build, and Transform the North," Government of Canada, March 12, 2026, accessed May 13, 2026, <https://www.pm.gc.ca/en/news/backgrounders/2026/03/12/prime-minister-carney-announces-ambitious-new-plan-defend-build-and>; Global Affairs Canada, *Canada's Arctic Foreign Policy*, 6-7.
- ¹⁵ United States Department of the Navy, *A Blue Arctic: A Strategic Blueprint for the Arctic* (Washington, DC: Department of the Navy, 2021), accessed May 13, 2026, <https://media.defense.gov/2021/jan/05/2002560146/-1/-1/0/BLUE-ARCTIC-STRATEGIC-BLUEPRINT-ARCTIC.PDF>, 3-8.
- ¹⁶ U.S. Department of the Navy, *A Blue Arctic*, 7-8
- ¹⁷ Carney, "Defend, Build, and Transform the North."
- ¹⁸ "Canada's Arctic Shield."
- ¹⁹ Global Affairs Canada, *Canada's Arctic Foreign Policy*, 8.
- ²⁰ Department of National Defence, *Arctic and Northern Strategy*, 10-12.
- ²¹ Marcus Wong, "Sovereignty in Retreat? Rebuilding the Canadian Armed Forces in the Arctic," *Centre for International and Defence Policy Policy Briefs* 10, no. 7 (December 17, 2025), 1.
- ²² Lackenbauer and Lajeunesse, *Building Appropriate Capabilities*, 33.
- ²³ Lackenbauer and Lajeunesse, *Building Appropriate Capabilities*, 43.
- ²⁴ DND, *Evaluation of Arctic Operations*, 5.
- ²⁵ Gregory Hunter, Jim Chan, and Mark Rempel, "Assessing the Impact of Infrastructure on Arctic Operations," Defence Research and Development Canada, STO-MP-SAS-OCS-ORA-2019 (2019), 4–5.
- ²⁶ Hunter, Chan, and Rempel, "Assessing the Impact of Infrastructure," 4–5.
- ²⁷ Rob Huebert, "Canada and the Changing International Arctic: At the Crossroads of Cooperation and Conflict," in *Northern Exposure: Peoples, Powers and Prospects for Canada's North*, ed. Frances Abele et al. (Montreal and Kingston: McGill-Queen's University Press, 2009), 3-4.
- ²⁸ Office of the Auditor General of Canada, *Report 6: Arctic Waters Surveillance* (Ottawa: Office of the Auditor General of Canada, 2022), 3; Huebert, "Canada and the Changing International Arctic," 4.
- ²⁹ DND, *Evaluation of Arctic Operations*, 3-5.
- ³⁰ Huebert, "Canada and the Changing International Arctic," 15.
- ³¹ DND, *Evaluation of Arctic Operations*, 3-5.
- ³² Auditor General of Canada, *Arctic Waters Surveillance*, 3.
- ³³ Hunter, Chan, and Rempel, "Assessing the Impact of Infrastructure," 4–5.
- ³⁴ Office of the Parliamentary Budget Officer, *Budget Analysis for the Acquisition of a Class of Arctic/Offshore Patrol Ships* (Ottawa: Parliamentary Budget Officer, 2014), 6.
- ³⁵ Auditor General of Canada, *Arctic Waters Surveillance*, 3.
- ³⁶ Auditor General of Canada, *Arctic Waters Surveillance*, 3; Lackenbauer and Lajeunesse, *Building Appropriate Capabilities*, 33; Lackenbauer and Lajeunesse, *Building Appropriate Capabilities*, 41.
- ³⁷ Huebert, "Canada and the Changing International Arctic," 4.
- ³⁸ Department of National Defence, *Our North, Strong and Free* (Ottawa: DND, 2024), 24-25.
- ³⁹ Huebert, "Canada and the Changing International Arctic," 15.

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- ⁴⁰ Department of National Defence, *Our North, Strong and Free* (Ottawa: DND, 2024), 24-25; Huebert, “Canada and the Changing International Arctic,” 15; Lackenbauer and Lajeunesse, *Building Appropriate Capabilities*, 63-64
- ⁴¹ DND, *Evaluation of Arctic Operations*, 2.
- ⁴² DND, *Evaluation of Arctic Operations*, 5.
- ⁴³ Adam Lajeunesse, *The Royal Canadian Navy in the Arctic: A Brief History*, Niobe Papers No. 2 (Halifax: Centre for Foreign Policy Studies, 2015), 4-6.
- ⁴⁴ Auditor General of Canada, *Arctic Waters Surveillance*, 10.
- ⁴⁵ Lackenbauer and Lajeunesse, *Building Appropriate Capabilities*, 36.
- ⁴⁶ Hunter, Chan, and Rempel, “Assessing the Impact of Infrastructure,” 4–5.
- ⁴⁷ Hunter, Chan, and Rempel, “Assessing the Impact of Infrastructure,” 4–5.
- ⁴⁸ Auditor General of Canada, *Arctic Waters Surveillance*, 10.
- ⁴⁹ Auditor General of Canada, *Arctic Waters Surveillance*, 10.
- ⁵⁰ Huebert, “Canada and the Changing International Arctic,” 21.
- ⁵¹ Lackenbauer and Lajeunesse, *Building Appropriate Capabilities*, 63-64.
- ⁵² P. Whitney Lackenbauer, *The Nanisivik Naval Facility: A Policy Primer* (NAADSN, 2025), 11-12.
- ⁵³ Lackenbauer, *The Nanisivik Naval Facility*, 15, 30, 40-41.
- ⁵⁴ Lackenbauer and Lajeunesse, *Building Appropriate Capabilities*, 41.
- ⁵⁵ Auditor General of Canada, *Arctic Waters Surveillance*, 7-8, 15.
- ⁵⁶ Lackenbauer and Lajeunesse, *Building Appropriate Capabilities*, 46.
- ⁵⁷ Lackenbauer and Lajeunesse, *Building Appropriate Capabilities*, 41, 46.
- ⁵⁸ Auditor General of Canada, *Arctic Waters Surveillance*, 7-8; Lackenbauer and Lajeunesse, *Building Appropriate Capabilities*, 63-64.
- ⁵⁹ Lackenbauer and Lajeunesse, *Building Appropriate Capabilities*, 36.
- ⁶⁰ Hunter, Chan, and Rempel, “Assessing the Impact of Infrastructure,” 4–5.
- ⁶¹ Lackenbauer and Lajeunesse, *Building Appropriate Capabilities*, 46.
- ⁶² Lackenbauer and Lajeunesse, *Building Appropriate Capabilities*, 63-64; Auditor General of Canada, *Arctic Waters Surveillance*, 7-8; Lajeunesse, *RCN in the Arctic*, 4-6.
- ⁶³ Lackenbauer and Lajeunesse, *Building Appropriate Capabilities*, 63-64.
- ⁶⁴ Lackenbauer and Lajeunesse, *Building Appropriate Capabilities*, 36, 63-64.
- ⁶⁵ DND, *Evaluation of Arctic Operations*, 3-5.
- ⁶⁶ Auditor General of Canada, *Arctic Waters Surveillance*, 3.
- ⁶⁷ Lackenbauer and Lajeunesse, *Building Appropriate Capabilities*, 46.
- ⁶⁸ Lackenbauer and Lajeunesse, *Building Appropriate Capabilities*, 36, 41.
- ⁶⁹ DND, *Evaluation of Arctic Operations*, 5.
- ⁷⁰ Lackenbauer and Lajeunesse, *Building Appropriate Capabilities*, 42.
- ⁷¹ Aaron Spitzer, “The Brave and Shameful History of High Arctic Sovereignty in Canada,” *Adventure Canada*, November 12, 2020.
- ⁷² Crown-Indigenous Relations and Northern Affairs Canada, *Arctic and Northern Policy Framework*, 20.
- ⁷³ Rob Huebert, “Climate Change and Canadian Sovereignty in the Northwest Passage,” in *Canadian Arctic Sovereignty and Security: Historical Perspectives*, ed. P. Whitney Lackenbauer (Calgary: Centre for Military and Strategic Studies, 2011), 389.
- ⁷⁴ Donat Pharand, “Canada’s Sovereignty Over the Northwest Passage,” *Michigan Journal of International Law* 10, no. 2 (1989): 654.
- ⁷⁵ Lackenbauer and Lajeunesse, *Building Appropriate Capabilities*, 42.
- ⁷⁶ Lackenbauer and Lajeunesse, *Building Appropriate Capabilities*, 22.
- ⁷⁷ Lackenbauer and Lajeunesse, *Building Appropriate Capabilities*, 64.
- ⁷⁸ Lackenbauer and Lajeunesse, *Building Appropriate Capabilities*, 64.
- ⁷⁹ Lackenbauer and Lajeunesse, *Building Appropriate Capabilities*, 36.
- ⁸⁰ Lackenbauer and Lajeunesse, *Building Appropriate Capabilities*, 65.
- ⁸¹ Crown-Indigenous Relations and Northern Affairs Canada, *Arctic and Northern Policy Framework*, 74-75.
- ⁸² Lackenbauer and Lajeunesse, *Building Appropriate Capabilities*, 65.
- ⁸³ Lackenbauer and Lajeunesse, *Building Appropriate Capabilities*, 33.
- ⁸⁴ Crown-Indigenous Relations and Northern Affairs Canada, *Arctic and Northern Policy Framework*, 74-75.
- ⁸⁵ Adam Lajeunesse, *The RCN in the Arctic: A Brief History*, Niobe Papers No. 2 (Halifax: CNMT, 2015), 6.
- ⁸⁶ Lajeunesse, *RCN in the Arctic*, 6.
- ⁸⁷ Crown-Indigenous Relations and Northern Affairs Canada, *Arctic and Northern Policy Framework*, 74-75.

-
- ⁸⁸ Lackenbauer and Lajeunesse, *Building Appropriate Capabilities*, 46.
- ⁸⁹ Lajeunesse, *RCN in the Arctic*, 3–4.
- ⁹⁰ Lackenbauer and Lajeunesse, *Building Appropriate Capabilities*, 36.
- ⁹¹ Department of National Defence, *Our North, Strong and Free* (Ottawa: DND, 2024), 25.
- ⁹² Adam Lajeunesse, *The RCN in the Arctic: A Brief History*, Niobe Papers No. 2 (Halifax: CNMT, 2015), 6.
- ⁹³ Crown-Indigenous Relations and Northern Affairs Canada, *Arctic and Northern Policy Framework*, 74-75.
- ⁹⁴ Department of National Defence, *Our North, Strong and Free* (Ottawa: DND, 2024), 24-25.
- ⁹⁵ Lackenbauer and Lajeunesse, *Building Appropriate Capabilities*, 63.
- ⁹⁶ Lackenbauer and Lajeunesse, *Building Appropriate Capabilities*, 40.
- ⁹⁷ Lackenbauer and Lajeunesse, *Building Appropriate Capabilities*, 63-65.
- ⁹⁸ Lackenbauer and Lajeunesse, *Building Appropriate Capabilities*, 63.
- ⁹⁹ Lackenbauer and Lajeunesse, *Building Appropriate Capabilities*, 64.
- ¹⁰⁰ Lackenbauer and Lajeunesse, *Building Appropriate Capabilities*, 23-24.