Canadian Maritime Security Network | Analysis

Seapower for the North American Arctic

A Blueprint for Canadian Arctic Maritime Security

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Executive Summary

As Canada responds to growing great power competition by reinvesting in its national defence, the Arctic has gained a place of prominence in national policy. Despite this focus, policy objectives remain vague and often centred on ambiguous concepts of sovereignty. This is a misalignment of priorities and a poor conceptual basis for defence planning. The Arctic is certainly important, but it is not the critical theatre of global competition.

This paper offers a blueprint for Arctic maritime security policy focused on surveillance, regional partnerships, and responses tailored to likely threats in, to, and through the region. The intent is to analyze those threats and offer a policy framework for managing and deterring them efficiently and effectively, without jeopardizing broader defence priorities.

In April 2024, the Department of National Defence (DND) released its long-awaited defence policy update. Taking into consideration the Russian invasion of Ukraine and the growing threat posed by China, *Our North, Strong and Free* (ONSF) declared that "the most urgent and important task we face is asserting Canada's sovereignty in the Arctic and northern regions."[1] This northern framing was a curious turn for Canadian defence policy, given the growing risks in Europe and Asia, though politically it was astute. DND's budget will have to steadily increase in the years ahead, and Canadians will need to support that growth. Centring the Arctic helps with that, given the enduring popular support for 'defending Arctic sovereignty.' Strategically, however, that prioritization misrepresents global risks and Canadian vulnerabilities. Legally, it denotes a poor understanding of sovereignty and how it can be defended.

This is not to dispute ONSF's Arctic risk assessment per se but rather to challenge the weighting assigned to the region, as well as the siloed approach taken to Arctic security. The North is one of several regions that DND must factor into its global planning and one of the many draws on the country's limited resources. Yet, the Arctic is not the geographic centre of gravity in the world's ongoing great power struggles. The Arctic is connected to these struggles but does not sit at the epicentre. Today, the future of the liberal rules-based international order is being decided in Eastern Europe and Asia, with defence risks in the Arctic increasingly related to – and defined by – that broader global contest.

Recognizing how the Arctic fits into broader global risks is vital because it provides clarity on the nature of the threats that Canada is likely to face and the resources needed to address them. Military activity and grey-zone challenges in the Arctic are connected to broader Russian and Chinese efforts to reshape the world order. However, for both of those adversaries, the North American Arctic remains a secondary – or even diversionary – theatre. For Canada to make its Arctic the centrepiece of its global defence priorities is, therefore, a mistake. Rather, the region should be approached as an extension of that larger global conflict.

This means that Canada must meet emerging Arctic challenges but not exaggerate them. It also means separating operational questions of Arctic security from less well-defined concerns over sovereignty. Presence and assertions of control designed to "strengthen sovereignty" have always been politically attractive to Canadian governments. Yet, they have long suffered from a lack of focus – normally failing to connect defence spending and operations to a clear and achievable objective. The result has historically been waste and inefficiency – understandable given that sovereignty is a legal and political concept not easily impacted by military presence.[2] Given Canada's growing defence requirements and limited resources, a Canadian Armed Forces (CAF) mandate to strengthen sovereignty is a quixotic quest that DND cannot afford.

If that amorphous term "sovereignty" is abandoned as the lodestar for Arctic security, what should replace it? This paper argues that an effective and efficient defence of the Arctic means approaching threats with the tailored capabilities needed to maintain effective control of the region, prevent a power vacuum from emerging in the adjoining seas, and deter adversaries from taking advantage of perceived weakness. Achieving these objectives means increasing surveillance and tailoring response capabilities, with an emphasis on safety, security, and grey-zone risks. It also means leveraging partnerships more effectively to knit together national defence silos and remove gaps and seams that may entice adversary activity.

In an attempt to design such a defence, this chapter provides an estimation of the maritime threats facing the North American Arctic over the near and medium terms. It identifies Canadian weaknesses and vulnerabilities that adversaries are likely to exploit and offers a blueprint for expanding and tailoring Canadian capabilities to deter and defend against a complex assortment of threats. At the heart of this analysis sit several core assumptions: namely, that the Arctic will continue to be a secondary theatre in global great power competition, that grey-zone challenges will constitute the *principal* risks to the region, and that efficiency in managing these risks is crucial to preserving resources for more critical theatres. Lastly, it is essential that success is measured by concrete metrics surrounding awareness and control, rather than by unquantifiable sovereignty dynamics.

While this paper argues that the Arctic is not the "most pressing" concern, it is still an important one. Indeed, the Arctic's growing prominence in Canadian defence and foreign policy is a welcome development. Meeting the dizzying array of new challenges will be difficult, but with a clear plan, co-operation, and a careful application of defence resources, it is entirely achievable.

The Threat Environment

The precise nature of the threats facing Canada's Arctic has never been fully agreed upon and has consistently shifted in lockstep with changes in the climate, resource prices, and great power dynamics. When Arctic security re-emerged as a serious consideration in the early to mid-2000s, the issue was largely about whether climate change would lead to foreign competitors grabbing resources or using shipping routes without Canadian permission – possibly even leading to a loss of sovereignty.[3] Commentators differed in their assessments of foreign interest in the Canadian Arctic, the possibility of such threats materializing, and the vulnerability of Canada's legal position in the Northwest Passage.[4] Over time, those pushing back against such fears seemed to have been justified. While Prime Minister Stephen Harper began his tenure warning of defence threats and a need to "use or lose" the Arctic, his approach soon softened, and, by the early 2010s, DND and the CAF were moving away from state-based threats as the focus of Arctic defence policy.[5] Over the 2000s, and well into the 2010s, no official military statement anticipated a near-term conventional threat to the region, calling instead for capabilities suited to a supporting role in an integrated, whole-of-government (WoG) framework.[6]

This push was to enhance the government's all-domain situational awareness over the Arctic, prepare responses for a range of unconventional security situations, and assist other government departments (OGDs) in their efforts to enforce Canadian laws and regulations. It was this unconventional threat assessment that gave rise to the lightly armed constabulary-focused Arctic and Offshore Patrol Vessels (AOPVs)[7] and the small-scale Arctic Response Company Groups.[8] Against trespassing commercial vessels and non-state actors, this was an optimized and cost-efficient response.

The danger of Arctic state conflict was never dismissed completely and still dominated popular media conversations of Arctic security – if not necessarily government or academic discourse. Rob Huebert, in particular, consistently highlighted the Russian military threat to the Canadian Arctic, and that narrative gained more credibility following Russia's 2014 invasion of Ukraine.[9] Yet even in the late 2010s, the risk of a great power conflict seemed extraordinarily unlikely – both because tensions with Russia and China were not what they are today and, more critically, because it was difficult to see what any hostile power could hope to achieve by attacking the Arctic. It was hard to argue with General Walt Natynczyk's oft-quoted line from 2009 that "if someone were to invade the Canadian Arctic, my first task would be to rescue them."[10]

Two factors changed this threat dynamic. The first was clearly the 2022 Russian invasion of Ukraine. This attack ended almost all state-level co-operation between Russia and the West in the Arctic and re-established Russia as a clear enemy – and not merely a competitor. Conflict with Russia was now a distinct possibility as Moscow annexed more foreign territory and embraced naked aggression as its preferred tool of state policy. Russia had long maintained the *capacity* to

threaten North America through the Arctic. Now, it seemed as though the *intent* may be there as well. While there was little in the North American Arctic that Russia might seek to conquer, the region was an obvious thoroughfare for bombers, submarines, and missiles.

The second great change was China's new interest in the region. Declaring itself a "near-Arctic state," China released its comprehensive Arctic Policy in 2018, envisioning a more international region, with Beijing playing an important role in governance and development. This interest raised concerns across the West and particularly in the US. These fears were put on display in 2019, when Secretary of State Mike Pompeo delivered a bombastic speech at an Arctic Council meeting in Rovaniemi. There, the secretary decried China's "pattern of aggressive behavior" around the world, suggesting that Beijing may seek a military presence in the Arctic and highlighting the particular danger of People's Liberation Army Navy (PLAN) submarines operating under the ice cap.[11] That concern was raised again in the US Navy's 2021 Arctic strategy and other US government publications since.[12] While China has not sent warships into the Arctic Ocean, its polar capabilities have grown over the past decade and expanded exponentially in recent years. In the summer of 2024, there were four Chinese research vessels in the Western Arctic, including three icebreakers (and one Polar Class (PC) 6 ice-strengthened ship). That capability now rivals (or surpasses) that of the US Coast Guard.

In fact, the Western perception of a Chinese threat in the Arctic was never really about China's Arctic presence per se. During the early to mid-2010s, China's presence, investment, and interest in the circumpolar Arctic grew rapidly and was largely accepted – and even embraced – by most Arctic countries.[13] The real souring of Western attitudes came only as China became more aggressive elsewhere in the world. In the late 2010s and early 2020s, Chinese foreign policy took on a sharper edge, with its "wolf-warrior" diplomats routinely chastising Western leaders and media. At the same time, Beijing's threats toward Taiwan (and to a lesser extent Japan and the Philippines) were growing more strident, its aggression against the Philippines in the South China Sea was making headlines, and its response to criticism of its COVID-19 policy led to sanctions against Australia. It was this general shift in China's behaviour that poisoned European and Canadian perceptions, with obvious implications for Arctic states' acceptance of Chinese activity in their own backyards. China's increasingly toxic reputation for bullying, established elsewhere, was transposed to the Arctic, where Beijing quickly went from a desirable partner to a perceived predator.[14]

While Chinese and Russian behaviour elsewhere seemed to crystalize the threat to the Arctic, the nature of that danger remained opaque and widely misunderstood. It remains common for media, politicians, and commentators of all stripes to warn of threats to Arctic resources, shipping lanes, and even sovereignty. Enemies were 'coming for' the undefended Arctic. Most of these assertions were poorly thought out or unfocused, making for good headlines but poor policy. Few commentators gamed out what Russia might actually achieve by occupying an Arctic island, or China from building an artificial island in Canadian waters.[15] There was also persistent confusion about what Arctic security really entailed. Was a missile travelling through the Arctic toward Washington really an Arctic threat? Should it be considered within the same framework as threats *in* the Arctic, like illegal fishing and trespassing? Confusing these local and global threat vectors led to confusion and an exaggeration of the dangers.

Arctic scholars spent years trying to separate these dynamics to create a clearer understanding of Arctic threats and appropriate responses. Whitney Lackenbauer devised the best framework for this categorization in 2019, suggesting that Arctic perils be broken up by those *through*, *to*, and *in* the region.[16] Threats *in* the Arctic are generally those local safety and security issues originating within the region and impacting it, such as search and rescue or dangers to communities from local factors. Generally, these are not defence issues, though any response could still leverage CAF or Canadian Coast Guard assets. Threats *to* the Arctic are those originating from outside the region and impacting the region itself. These are generally unconventional security concerns, such as illegal fishing, trespassing, or pollution; however, in recent years, state threats have emerged in the form of Chinese marine scientific research (MSR) and surveillance. Hybrid threats such as cable cutting or sabotage to critical infrastructure would fit into this category as well. Meanwhile, the *through* threats have garnered the most attention, but they are not Arctic threats per se. The passage of missiles or submarines through the Arctic requires a local response – but must be understood within a much broader defence framework that takes into consideration their real targets and global ramifications.

The implications for defence policy centre on understanding likely dangers and how they fit together. Events have not borne out early fears of new shipping routes threatening Canadian sovereignty and foreign states plundering the region for resources. Commercial shipping has been well managed, and no foreign state has indicated any desire to contest Canadian jurisdiction over its national resources. Safety and security threats from non-state actors *to* the Arctic remain a concern, but it is one that has not really grown in recent years, despite an expansion of commercial activity.[17] Indeed, this non-state activity, which CAF policy has focused on since the late 2000s, can still be managed within existing resources and by civilian agencies.

The risks demanding fresh attention from DND are therefore the state-based hybrid and conventional defence threats *to* and *through* the region. For the most part, these are connected to global great power competition. In the maritime environment, the Arctic *through* threats are also North Pacific or Atlantic threats and are most commonly met with assets stationed further south (either ships or aerial surveillance). In this respect, the Arctic environment blends with broader continental defence requirements, and Arctic security merges with Pacific and Atlantic defence considerations. The threats *to* the Arctic itself are not purely military but retain a strong defence element. In recent years, these have blended with the *through* threats as they have been pulled into great power competition. The following section breaks down and categorizes these dangers.

Defence Threats

Russian submarines have operated in the Arctic since 1962, when *Leninsky Komsomol* surfaced at the North Pole and raised the hammer and sickle on the ice pack. Over the 1970s and 1980s, concerns grew that the Soviet Navy would use the North American Arctic as either a missile-firing location or a transit route to the North Atlantic – conveniently bypassing the more heavily defended Greenland-Iceland-UK (GIUK) Gap.[18] Today, that is once again a possibility. Cruise missile–firing submarines have re-emerged as a serious concern for continental defence planners. Long-range cruise or hypersonic missiles, fired from the North American Arctic, could serve as first-strike weapons in a nuclear or non-nuclear exchange, hitting key infrastructure such as military and civilian logistics, communications, and transportation nodes.[19] Given that these missiles are much

harder to detect than conventional ballistic weapons, the aggressor would have the critical advantage of surprise.

The Russian Navy has long prioritized this submarine-launched long-range precision strike capability, keeping such programs alive even during the budgetary desert of its post–Cold War economic collapse. Today, the Northern Fleet has six nuclear-powered attack submarines (SSNs) of the Akula-, Victor III-, and Sierra II-classes, as well as five nuclear-powered guided missile submarines (SSGNs) of the Severodvinsk- and Oscar I/II-classes. The Akula- and Severodvinsk-classes can carry the long-range Kalibr cruise missile, which gives the Russian Navy the ability to hit North American targets at ranges up to 2,800 kilometres (km).[20] Reviving fears from the late Cold War, this places much of the northern US – including North American Aerospace Defense Command Headquarters (NORAD HQ) in Colorado Springs – within range of a submarine sitting in Hudson Bay or the Labrador Sea. Unconfirmed reports from the Russian Ministry of Defence have even suggested a maximum range of 4,500 km for the new Kalibrs, leaving most of the US within range of strikes from the Beaufort Sea.[21]

Russia's attacks on Ukrainian infrastructure from submarines in the Black Sea suggest that a focus on long-range precision strikes will continue to play an important role in Russian naval doctrine. The recent conversion of older vessels like the Akula-class supports this doctrine, as does the introduction of the Admiral Gorshkov-, Lada-, and Severodvinsk-classes, all with the ability to launch cruise missiles.[22]

Similar fears have emerged of Chinese naval incursions, though these have been pushed most aggressively by academic and expert sources rather than the US or Canadian governments.[23] For the moment, these fears are also unfounded. Unlike the Russian Navy, China lacks any strategic rationale for operating naval vessels in the Arctic. Chinese submarines (either SSNs or ballistic missile submarines (SSBNs)) gain very little by passing through the shallow Bering Strait to patrol the Arctic Ocean.[24]

While an Arctic naval capability would likely pay minimal strategic dividends to China, it should not be excluded as a possibility. Politically, an Arctic voyage (if not necessarily a sustained presence) may seem very attractive to Beijing. It is illustrative to note that America's first Arctic submarine operation took place for political reasons. In the wake of the Soviet Union's Sputnik success, USS *Nautilus* was sent across the North Pole as a demonstration of American technological prowess.[25] Likewise, China has marked its navy as a tool for demonstrating its cutting-edge technology and reach, an illustration of what political scientist Robert Ross called the "prestige strategies" that governments pursue in seeking domestic legitimacy.[26] A polar voyage would send a powerful political message, dramatically demonstrating to the world (and to the domestic audience) that China is a first-rate technological power capable of the most ambitious and difficult global deployments. This would fit into the PLAN's pattern of growing overseas operations and the use of those deployments as symbols of state power.

Such operations are already starting in the Bering Sea region. In 2022, the Chinese Navy began regular operations in the North Pacific and, since then, has expanded its operating area further north. PLAN and China Coast Guard ships now regularly deploy to the American exclusive economic zone (EEZ) off the Aleutians and, in October 2024, reached the Bering Sea. These

operations are now frequently undertaken jointly with the Russian Navy, as well as the maritime component of the Russian Federal Security Service (FSB) Border Service. On October 2, 2024, a joint fleet passed through the Bering Sea, marking the furthest penetration north by Chinese vessels to date. These operations have little practical training value. Indeed, an analysis of Chinese and Russian media indicates that the two sides have never agreed on the purpose of the missions.[27] In fact, they are mostly political. First and foremost, they are part of a broader effort to demonstrate the strength of the Sino-Russian relationship as a means of pushing back against real and perceived American attempts to isolate both nations. China has also used these voyages as retaliation against American freedom of navigation operations (FONOPs) in the South China Sea.[28] As long as China's relationship with the West remains fraught, such voyages are likely to continue and expand in scope and reach.

Creeping Chinese or Russian naval operations, moving toward the Beaufort Sea or Canadian waters, would create obvious peacetime tensions and saddle the CAF with new requirements to shadow and monitor such activity. Yet, the presence of adversary warships in the region presents as much opportunity as risk. The reality is that the North American Arctic has very few military targets or shipping lanes to attack, and, in the event of war, a hostile presence would be uncomfortable but not critical. Indeed, Canada's priorities would certainly be elsewhere. Fighting in the Arctic would invariably mean global confrontation, and the critical question in this scenario would not be whether Canada could defend its Arctic but whether it could defend the sea lines of communication across the North Atlantic or Pacific. Ironically, the more warships and submarines that an adversary were to deploy into the North American Arctic, the better for the CAF and its allies – given that such deployments would bottle up enemy assets far from their own support infrastructure and very far from any conflict's geographic centre of gravity.

Ironically, a Chinese or Russian show of force in the Arctic may achieve its greatest effect by encouraging North American investment in the region. A Chinese submarine surfacing in the Beaufort Sea would, for instance, have a powerful political impact in Ottawa and Washington. This would lead to the diversion of scarce defence dollars to anti-submarine warfighting capabilities in the region under public pressure. In doing so, Canada and the US would have to strip these resources from the European and Asian centres of gravity, moving them to a theatre where they would accomplish less in wartime while being more expensive to maintain in peacetime. In judo, this would be described as a Kuzushi, a feint that pushes an enemy to shift their centre of balance in a manner that leaves them off balance and vulnerable.

Avoiding this disruption would not mean ignoring adversary activity in the Arctic. Rather, it would mean calibrating a response to the threat. Intruding vessels would need to be monitored, which could be done with detection systems and submarines stationed at choke points. Presence would also need to be sufficient to deter violations of Canadian waters or its jurisdiction. Suggestions for accomplishing this are laid out in the following sections. What should be avoided, however, is an emotional overinvestment of resources tailored to popular demand and political fear, more than strategic realities.

Hybrid Threats

More likely than an Arctic naval confrontation is the emergence of new hybrid threats. That new reality was highlighted in both ONSF and the 2024 *Arctic Foreign Policy* (AFP). These dangers exist in the grey zone between the traditional safety and security threats posed by civilian actors (pollution, trespassing, regulatory violations, etc.) and the attributable state-based threats of rival navies and coast guards. Hybrid threats are more opaque and complex and emerge when civilian or quasi-state actors act on behalf of a state, though in a manner that provides that state with plausible deniability.

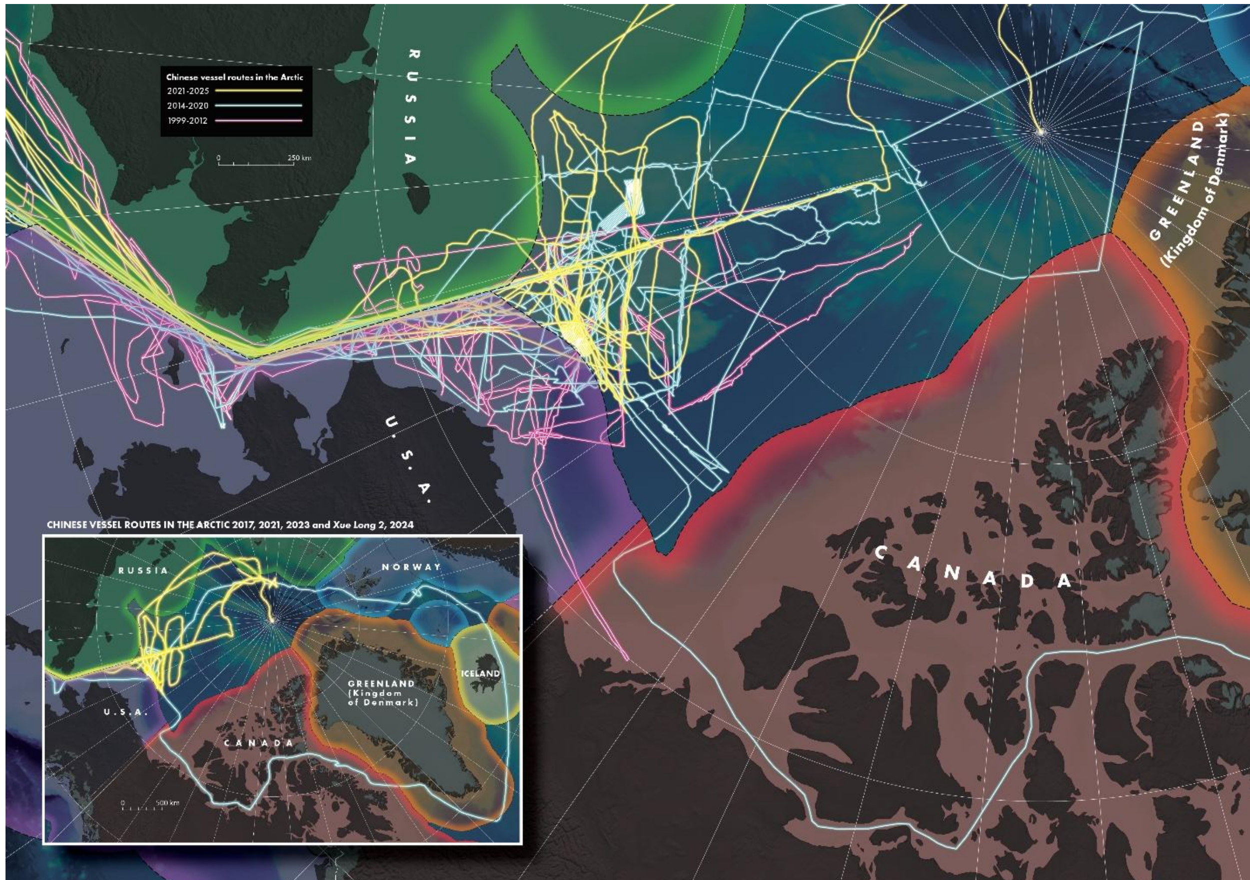
China has taken this meshing of state and private actors on the seas the furthest. In the South China Sea, Beijing has put ostensibly civilian craft at the tip of the spear, using maritime militia and fishing fleets to harass foreign ships and dominate an ocean space it illegally claims as its own. Operating in this way, China can be more aggressive than with state vessels. The real power can be left in reserve, with the PLAN typically remaining in the background as an implicit threat.[29]

While comparisons between the Arctic and the South China Sea are overused, China's hybrid warfare tactics are transferable. American scholars Rebecca Pincus and Walter A. Berbrick warn that such a grey zone between "traditional war and genuine peace" could creep into the Arctic.[30] In the South China Sea, that might mean a "civilian" ship ramming Vietnamese oil surveyors. In the Arctic, it might be Chinese fishing trawlers blocking or harassing the fleets of other states or serving as intelligence, surveillance, and reconnaissance (ISR) platforms, or even cable cutters.[31] These ships' ambiguous connection to a state government allows them to be more aggressive and limits the consequences for the sponsoring government. For instance, commercial vessels undertook the spate of cable cutting in Europe, though they were almost certainly organized by a state government. In that instance, the victim (in this case, North Atlantic Treaty Organization (NATO) states) may know exactly who is behind the attack but lack the clear justification to respond against the aggressor state.

While the dramatic new (or renewed) state-based military threats like submarines, bombers, and cruise missiles have made headlines, it is the *to* threats – those quasi-state-based fishery operations, surveillance, and dual-purpose MSR expeditions – that will probably develop into persistent challenges requiring constant attention and regular management in the Arctic.

Within this category sit Russian and Chinese hybrid surveillance and MSR. These quasi-civilian platforms include China's icebreaker fleet, which is principally owned by the Polar Research Institute of China, reporting to the Ministry of Natural Resources. The practice of MSR is perfectly normal and accepted around the world; however, given China's global challenge to the rules-based international order, and its particularly corrosive behaviour closer to home, it is only natural that its behaviour in the Arctic is tied to a global, competitive framework. China's research areas also suggest a cause for concern. Over its 15 Arctic expeditions (as of 2026), Chinese ships have concentrated their research work in the Bering and Beaufort Seas west and north of Alaska.[32] These are the strategic routes into the Arctic that must be charted for future submarine operations. They are also potential areas of seabed resource development.

With respect to resource exploration, Arctic states have certainly taken notice. Tracking of the Chinese icebreakers *Xue Long* and *Xue Long 2* demonstrates China's keen interest in resource mapping and deep seabed mining, with a particular focus on Northwind Ridge and the Chukchi Plateau on the American continental shelf. In response, the US government altered its long-standing position on MSR and now requires that foreign vessels have advance permission before entering and operating within its EEZ or continental shelf.[33] In 2021, Russia amended its extended continental shelf claim to include the Gakkel Ridge, immediately after China identified that area as the target of geological surveys. Clearly, both Moscow and Washington perceive these icebreaker operations as something more than pure research.



Chinese icebreaker operations, 1999-2025. Map by Chris Brackley, from Adam Lajeunesse, China's Arctic Toolkit, Canadian Maritime Security Network (2026).

The Chinese have also used these voyages to test dual-purpose equipment. In late February 2022, DND made the startling announcement that it had retrieved a Chinese monitoring buoy in the Arctic. The CAF had spotted the buoy as part of Operation *Limpid*, a continuing effort to provide the early detection of threats to Canada's security. The precise nature and purpose of this device remain classified, but it was apparently a sophisticated multi-sensor buoy.[34] The very fact that Chinese hardware is appearing in the region gives credence to existing fears that Beijing's Arctic presence is destined to lead to competition. DND added to these concerns by noting that it was

"fully aware of recent efforts by China to conduct surveillance operations in Canadian airspace and maritime approaches utilizing dual-purpose [civilian/military] technologies."[35]

While this buoy made headlines, it was far from unique. China has spent a decade testing sensing and detection systems in the region, including uncrewed ice stations, anchored submersibles, autonomous gliders, and helicopter-dropped sea ice drift buoys.[36] In 2024, *Zhong Shan Da Xue Ji Di* tested a multi-beam echo sounding system,[37] while *Ji Di* (a different ship with a similar name)[38] worked with the "Qiushi" autonomous underwater robot capable of topographic investigations.[39] This is the initial research needed for expanding naval operations (and submarine operations in particular).[40]

In July 2023, China announced that scientists from the Polar Research Institute of China had successfully tested a listening device under Arctic conditions and are planning to deploy these devices "on a large scale" in the Arctic Ocean.[41] Recent research indicates that this acoustic technology could help detect underwater vessels with near-perfect accuracy in the Beaufort Sea.[42] This capability was apparently developed from China's 2020 Arctic Expedition studying ocean acoustic layers.[43]

Above the ice, Chinese icebreaker operations have also supported the development of the BeiDou global positioning system, high-latitude communications technologies, and data transmission systems. All these systems are ostensibly civilian, though with clear military utility. It is essential to remember that this work often has perfectly innocent civilian scientific objectives; indeed, Canada and the US do similar work. Still, the links between China's scientific agencies and the military, and the tensions surrounding Sino-American competition, make it difficult to ignore the likelihood that this work is also feeding into a long-term military capability.

China also presents a long-term threat to the region's fisheries. While this danger is speculative, it is – in this author's opinion – one of the most significant and likely threats over the next decade. Warming waters are drawing new fish stocks to the North at the same time as many of the world's fisheries are being depleted.[44] China's Arctic policy highlights its rights under international law to fish in the Arctic Ocean, while its 16,000-ship fishing fleet has achieved the dubious distinction of being the world's worst offender with respect to illegal, unreported, and unregulated (IUU) fishing.[45] Tracking and regulating these ships is both legally and practically complex, as coastal states have discovered during China's fishing activities in African, South American, and Asian waters. For Canada, the regulation of foreign fishing fleets in the Arctic Ocean and Beaufort Sea would be extraordinarily difficult. Large-scale Chinese fishing deployments without automatic identification system (AIS) transponders straddling the EEZ (and occasionally crossing into it) are common elsewhere in the world. This pattern of behaviour takes on a geopolitical edge when the coastal state is willing to push back against environmentally rapacious behaviour. Similar to other hybrid threats, fishing fleets could easily be used as an arms-length tool to apply pressure to the Canadian government in times of tension, not to mention the real economic danger to the region should the Chinese seek to establish a regular fishery there.

Sovereignty Threats

While all these risks have a clear security and defence nexus, they are often misrepresented as threats to Canadian sovereignty. This is a simplistic framing, most commonly used for political effect. Sovereignty threats are intentional political acts by foreign actors designed specifically to challenge and weaken Canada's legal claim to land or water. In practice, this means a challenge to Canada's position that the Northwest Passage constitutes historic internal waters. Canada has never faced a maritime sovereignty challenge like this before. On several occasions, American ships have transited the passage (or parts of the passage) without requesting Canadian consent, and these have sometimes kicked off sovereignty 'crises.' Yet none of these were intentional and, by definition, were therefore not a challenge.[46] The reality is that very rarely (if ever) has there been a defence or security peril that could legitimately be called a sovereignty threat.

More accurately, the CAF's task is to assert control over – and project power into – the region to meet defence and security threats. Indeed, most of the Arctic threats identified in ONSF, *Strong, Secure, Engaged* (SSE), and other government documents (dating back decades) are not sovereignty threats. A Chinese research vessel operating in Canadian Arctic waters or a Russian submarine in the area, for instance, threatens Canadian security. A civilian vessel transiting the Northwest Passage without permission is primarily a safety danger, given the potential for environmental harm. These do not represent sovereignty threats, since their presence is not geared toward challenging Canadian ownership of its territory or waters.

That being said, Canada is facing a new set of *potential* sovereignty challenges in the Arctic. New geopolitical factors have made an intentional assault on Canadian sovereignty a real possibility. The first such threat comes from the United States. During his first term in office, President Donald Trump appeared close to launching a FONOP through the Northwest Passage – even tasking the US Coast Guard with the preparatory staff work.[47] As President Trump advances his second-term annexationist plans for Greenland and bizarre hostility toward Canada, an assault on Canadian sovereignty becomes increasingly possible. This could be as part of Washington's broader Arctic policy or even as a response to a non-Arctic dispute. A 2025 executive order from the Trump White House ordering the secretaries of Defence and Homeland Security to "develop a strategy … to secure arctic waterways" could be taken in different ways, but it should be concerning to Canada, given the administration's generally hostile approach to its northern neighbour.[48]

Less likely, but also possible, is a Chinese challenge. China's position on the legal status of the Northwest Passage remains ambiguous; however, Beijing may identify the issue as either a weakness to exploit for political gain or as a wedge issue to further separate Canada and the US. A Chinese icebreaker conducting a FONOP-style voyage (as would be the case with the US) is unlikely. Such action would poison relations with Canada and, ironically, limit China's access to the region, since no Canadian government would have the political room to co-operate with Beijing after such a crisis. An overt challenge is also out of character for China, which prefers to engage in grey-zone conflict where possible. In waters closer to home, China tends to rely on its maritime militias to assert its excessive maritime claims. In the Arctic, any Chinese challenge would likely come from proxy actors, providing Beijing with plausible deniability while allowing it to challenge Canada, or simply to send a message without clear lines of accountability.

A concerning example of how this could play out came in the summer of 2021. That year, Chinese sailor Zhai Mo attempted to circumnavigate the Arctic Ocean aboard a small craft. While officially a private citizen, Zhai had clear connections to the Chinese government and a state media crew aboard. He also had a history of asserting Chinese state sovereignty in disputed areas – in essence performing his own private freedom of navigation voyages.[49] That this particular voyage was slated to take place at the height of the controversy over the kidnapping of the two Michaels suggests that it may have had a political motivation. While Zhai was turned back by ice, his voyage offers a blueprint for potential grey-zone political assaults.

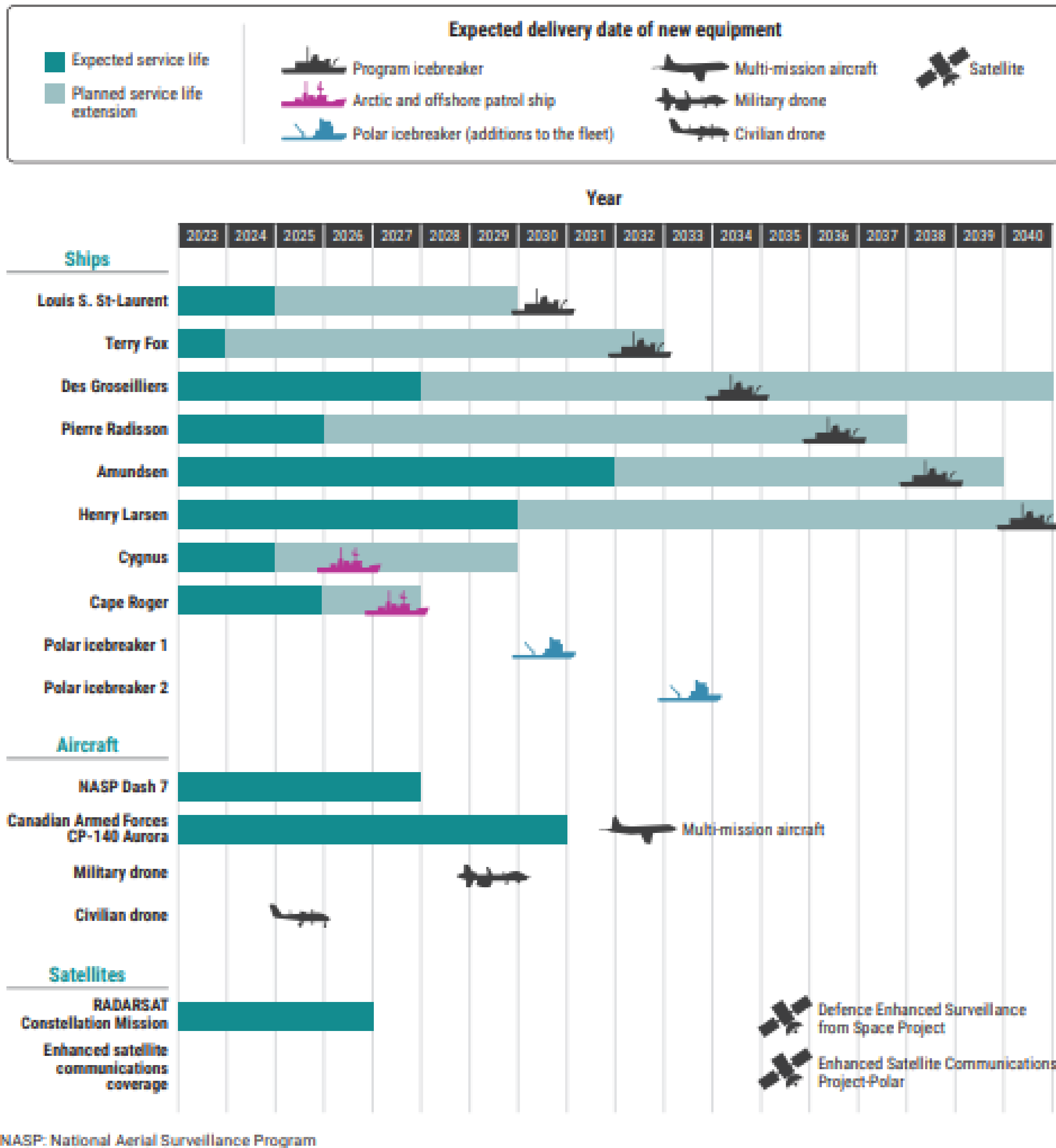
Canadian Strengths and Vulnerabilities

Despite the constant march of critical media coverage, Canada's Arctic capabilities are not the threadbare catastrophe that they are popularly made out to be. Indeed, Canada has a strong foundation to build upon. The Canadian Coast Guard (CCG) operates the world's second-largest icebreaker fleet, including nine heavy or medium icebreakers able to operate in the Arctic (although many of these ships are very old). In 2025, the Royal Canadian Navy (RCN) took delivery of its sixth PC5 AOPV – ships that have given the Navy its first regular Arctic presence since the 1950s. The National Shipbuilding Strategy is also on track to deliver two more AOPVs to the CCG, along with two PC2 heavy icebreakers and six "program icebreakers" – advertised as heavy/medium vessels.[50] Moreover, DND is recapitalizing its aerial surveillance with contracts signed for 11 MQ-9B long-range drones, which are set to be used extensively in the Arctic, as well as 16 P-8A aircraft to replace the aging CP-140 Aurora, long Canada's Arctic surveillance workhorses.[51] The RADARSAT Constellation facilitates maritime surveillance, providing satellite imagery of the region. The CAF is also supported by the Canadian Rangers, present in every northern community, as well as local actors spread across the region – including the Coast Guard Auxiliary, Guardians, and Royal Canadian Mounted Police (RCMP). This strong local presence is important, since community members have historically been the most effective force for identifying interlopers.[52]

Despite these expanding capabilities, Canada still has obvious gaps to address. In 2022, the auditor general released a report that was largely critical of the country's surveillance capabilities. Its conclusion was that Canada lacked the maritime domain awareness that it needs to effectively monitor the region. Slow progress in replacing ships and aircraft has limited the space that can be monitored.[53] Likewise, the RADARSAT Constellation satellites, which federal organizations rely on to detect and track vessels, are nearing the end of their lives and will gradually degrade. Even with these systems functioning, mission satellites are already at full capacity and cannot accommodate more demands.[54]

While Canada is rapidly rebuilding its Arctic icebreaker fleets, it lacks sufficient infrastructure to comfortably maintain a presence in the region. Both CAF and CCG assets are projected into the Arctic from southern bases. Sustaining and expanding operations requires facilities that do not yet exist. Canada's nearest base is St. John's, a roughly 4,400 km voyage from Resolute, at the centre of the Northwest Passage. Attempts to build a seasonal refuelling station at Nanisivik have stretched on for 18 years and now seem likely to collapse completely.[55] In the Eastern Arctic, Canadian vessels have relied on the port of Nuuk in Greenland; however, this comes with some risks. Canadian ships are hostage to local port schedules, a fact that left HMCS *Harry DeWolf*

waiting for several hours for space to open during its inaugural voyage through the Northwest Passage in 2021.[56] In the Western Arctic, the situation is worse. Over the roughly 5,300 km between Nuuk and Nome, Alaska, there is nowhere to refuel. As such, fuel can only be taken from barges or ship transfers. This remains an inefficient and unreliable system, given the unpredictability of weather and ice conditions. In 2021, for instance, *Harry DeWolf* was forced to forego a planned fuel transfer because its refuelling vessel never arrived.[57]



Existing and expected Arctic equipment. Auditor General's Report (2022).

A Blueprint

Delivering capabilities to effectively and efficiently meet the diverse threat environment starts with supply. The father of the American nuclear submarine program, Admiral Hyman Rickover, once said that "the art of war is the art of the logistically feasible."[58] So, too, is the practice of Arctic operations. Infrastructure is critical and played a central role in both the Liberal and Conservative Party Arctic platforms during the 2025 election. In the Arctic, a more sustained RCN and CCG presence to address any of the threats discussed above requires refuelling facilities, grey-water disposal, a local storage of critical spare parts, and emergency repair facilities.

Canada has failed to develop this over the past two decades owing to high costs, political dithering, and difficult logistics. Nanisivik is a case in point. Businesses, however, have a better track record. Baffinland Iron Mines built a port on Milne Inlet in two years, which today handles over 70 Capesize ships every season.[59] In part, the success of the port is owed to the capital cost being amortized over a great deal of activity; every year, Baffinland exports six million tons of ore from its facilities. With a cost of $114 million, Nanisivik was expected to refuel only a few CCG and RCN vessels over the short shipping season. Finding economies of scale means investing in dual-use infrastructure. Partnerships with industry to leverage existing facilities, or joint ventures on greenfield sites (like that proposed at Grays Bay), would be more cost effective than stand-alone government facilities.[60]

Working with communities to expand local infrastructure offers similar advantages.[61] Government funding for expanded harbour and port facilities at strategically located communities could leverage existing infrastructure to facilitate construction. A local workforce would also make sustainment a far cheaper and simpler task. Again, Nanisivik offers an instructive example. Sitting 20 km over a poor dirt road from Arctic Bay, the facility had no permanent staff and was difficult to access. Maintenance was naturally more difficult and expensive.[62] While this distance meant that government vessels did not disturb the community, it also removed any secondary benefits from that community. Harbours built or expanded in communities will lower shipping costs, making imported goods more affordable. Maritime infrastructure will also support the growing shipping and cruise tourism industries. Currently, Canada lacks grey-water disposal and support facilities for civilian ships (as well as government vessels). Developing multi-use maritime support infrastructure would help to facilitate that economic activity and mitigate environmental security problems that may arise from growing shipping activity.[63] These are all objectives of Canadian Arctic policy and offer a rare example of a "win-win."

A more unique solution to Canada's marine refuelling and supply problems was advanced at a 2021 Naval Association of Canada workshop on Arctic security. Given the size of the Canadian Arctic and the unreliability of port access (on account of ice conditions), a "floating logistics base" might offer real potential. This would be an ice-strengthened supply ship deployable to the Arctic on a seasonal basis, able to supply CCG and RCN vessels – and even allies. Ship-to-ship refuelling is not ideal in ice-covered waters; however, it has been common practice for decades and would be more reliable than the use of coastal barges. A purpose-built (or renovated) supply ship would offer flexibility and reliability to replace or supplement traditional ports.[64] Such a solution would also be cheaper and easier to maintain, since major work could be done in southern shipyards and the vessel(s) could move south for the winter. Commander of the RCN Vice-Admiral Angus

Topshee went so far as to publicly promote this concept at the 2025 Canadian Seapower conference in Calgary – though he was careful to note that it had neither funding nor policy coverage.[65]

Improved infrastructure would support a larger and more sustained maritime presence, though the nature of that presence is still being debated. In 2025, for instance, the Conservative Party promised a fleet of armed icebreakers, a dramatic break from decades of operational doctrine focusing on non-kinetic threats. Canadian academics have long debated the need for armed vessels in the region, with Rob Huebert pushing for that capability since 2015. Others – this author included – have considered this unnecessary and wasteful.[66]

Here, this author would partially challenge his former self (to quote Franklyn Griffiths). The global security dynamic has shifted since the AOPVs were designed, and the RCN now faces a far greater defence threat on all three oceans and is critically short on combat vessels. In the Arctic, the defence risks are still minimal; however, the non-state threats that dominated security concerns a decade ago have been joined (and supplemented) by hybrid state-based threats. The foreseeable future now includes increased incursions by Chinese icebreakers and research vessels and probably state-backed fishing fleets and proxy actors. Canada may also have to address the threat of state-backed cable-cutting vessels or spy (electronic signals intelligence, or ELINT) ships. In extreme scenarios, Russian or Chinese warships could also extend their reach into the North American Arctic for either operational or political objectives, requiring a warship shadow at the least.

While the possibility of combat in the Arctic is extremely low, combat capability has an important deterrent value. Preventing new security threats from emerging means ensuring that adversaries do not see a window of opportunity. In 2017, while transiting the Northwest Passage aboard the Chinese icebreaker *Xue Long*, Canadian ice pilot Nigel Greenwood recounted the ship's arrival at Cambridge Bay, where an "authoritative voice" announcing itself as the "warship Edmonton" hailed the icebreaker. When the small Kingston-class vessel came into view, the Chinese captain turned to Greenwood and, "with some mirth," asked, "this is a warship!?"[67] More than an amusing anecdote, Greenwood's account suggests that Canadian ships designed to impress or deter state adversaries – even unarmed ones – may need a kind of authority that unarmed ships simply do not have.

A Transport Canada official once described that kind of authority as a "pucker factor." In the fall of 2015, an Environment Canada officer aboard HMCS *Shawinigan* learned of an unresponsive vessel off Akpait National Wildlife Area near Baffin Island – a marine park off limits to all but locals carrying out subsistence hunting. *Shawinigan* was sent to respond, and, in recalling the incident, the official noted that being hailed by a warship (which they must have assumed would be armed) created that "pucker factor" – and led to immediate compliance.[68]

While the AOPVs are equipped with a 25mm cannon, this system was designed to provide a constabulary response geared toward civilian actors and may not suffice against state vessels seeking to achieve political or military objectives. Russia's equivalent Arctic patrol ships – the Ivan Papanin-class, laid down in April 2017 – have many of the same mission requirements as the AOPVs, but each vessel is armed with a 100 mm deck gun as well as stern-mounted weapons modules containing up to eight Kalibr-type anti-ship and/or land-attack cruise missiles. For Canada's purposes, this is excessive; however, there are cost-effective ways to upgrade the AOPVs

to provide that added deterrent value and – in a crisis – the ability to stop a ship that does not want to be stopped.

If the issue were simply Arctic defence, arming the patrol ships would probably be an inefficient use of resources. Yet, the AOPVs also operate globally. In the event of war, the RCN would be stretched thin and would need all the armed vessels it could scrape together. While the AOPVs will never be prepared to fight front-line enemy combatants, they would be useful in patrolling all three coasts and engaging hostile surface raiders, ELINT ships, and lightly armed vessels on the high seas. This would stretch their design capabilities, but necessity tends to push aside questions of optimization. For example, the corvettes the RCN used to fight the Battle of the Atlantic were hardly ideal platforms, but the RCN made do.

The key to realistically adding capability is weapons and sensors that do not require major modifications to the hull.[69] This could include containerized systems, which promise a more limited combat capability but can be more easily "plugged into" the ship. In a similar vein, the US Navy (USN) is looking at capabilities to support its broader program of "distributed lethality," which includes adding combat systems to ships previously considered non-combatants. The Marine Corps is experimenting with Naval Strike Missiles aboard amphibious warfare ships, while the USN's "Ghost Fleet Overlord" program recently test-fired an SM-6 Standard Missile from a modular launch cell onboard the uncrewed surface vessel USV *Ranger*.[70]

The most popular surface warfare weapon being deployed in this manner is the Naval Strike Missile, which is now one of the standard anti-ship weapons in the USN. These, and similar weapons, carry their own guidance systems to independently acquire targets or receive targeting information from outside sources, permitting deployment on vessels like the AOPV.[71] The American SeaRAM could also be installed with minimal new sensor additions. This type of point-defence missile system is designed to work against the kind of limited missile attack that might come from hybrid vessels, which an AOPV could experience in the relatively uncontested waters around North America.

Augmenting the AOPVs to include improved defensive and interdiction capabilities would not fundamentally alter their role. These are patrol ships, ill-suited to combat operations; however, renewed great power threats to Canada demand that the country broaden its understanding of patrol duties. While the AOPVs will never be front-line warships, a more robust capability would expand their purpose to encompass a wider swath of the security spectrum, from pure constabulary safety and security operations to the defence of North American waters from hybrid threats and – in an extreme crisis – even engaging hostile vessels. The ships will always be constabulary patrol vessels, but strategic upgrades can help them carry out that role in a more contested environment, with what one might call "constabulary+" capabilities.[72]

This kind of adaptation would be more efficient and appropriate than an investment in dedicated Arctic combat capability. An example of the latter may be the new Canadian Continental Defence Corvette. This new class of ship was first conceived of as a replacement for the Kingston-class patrol ships but has since evolved to meet growing great power threats. While this project remains unfunded and largely undefined, it is clearly envisioned by the RCN as a full combatant. Critically,

the ship has also been pitched as a PC6[73] "war fighter" that will – in Admiral Topshee's words – "bring the fight right to the ice edge, into the ice."[74]

This concept of operations – for an Arctic combatant that will work and fight in the ice – flows logically from ONSF directives. It is also a misunderstanding of Arctic security. For the reasons already outlined, the RCN is unlikely to be called upon to fight a surface engagement in the Arctic ice. Combat at the ice edge is also far less likely to materialize than in the critical sea routes of the Atlantic and Pacific. If kinetic force is needed at the ice edge, it is difficult to see what could be accomplished by a surface combatant that could not be achieved by a submarine or airpower. Meanwhile, managing hybrid and unconventional threats with a combatant is clearly an overreaction.

With the RCN desperately short of combat power in the North Atlantic and Pacific, ice-strengthening a fleet of corvettes will actually be counterproductive. This Arctic capability will add cost and complexity, threatening the success of the project and even these ships' eventual capabilities. An ice-strengthened corvette equipped to PC6 would not only be more expensive, but it would also require added weight in specialized steel and internal strengthening. That structural adjustment could add over 10% to the ship's mass,[75] reducing its fuel efficiency and therefore its range. That added mass would also limit manoeuvrability and perhaps weapons capacity, if the weight trade-off reduced the number of vertical launch cells – or if additional systems are needed for heating. The hull shape of an ice-capable ship would also be inefficient; ice-strengthened hulls tend to be rounded to ride up on the ice, versus the sharper bows of blue-water ships that cut more efficiently through the water. This further decreases the speed and fuel efficiency needed by a warship in the open ocean.

The concept of an ice-capable combatant stems from a too-common Canadian notion that presence and combat power can "strengthen" sovereignty. As this paper has argued, capability is important but must be achieving something specific and significant. Beyond that, the Navy risks wasting resources or degrading platforms that will be critical to Canada's more general defence needs.

Within a broader global defence environment, Arctic security must be governed by considerations of efficiency. With this in mind, Canada must also enhance its cooperation with Arctic neighbours to establish appropriate surveillance and response capabilities. This means working with the United States as well as the Kingdom of Denmark. The 2024 *Arctic Foreign Policy* certainly arrived at this conclusion, calling for "deeper collaboration" and referencing the "North American Arctic" 13 times (its predecessor, the *Statement on Canada's Arctic Foreign Policy*, never employed the term). The implication is clear: as a region, the defence of the North American Arctic should be undertaken in partnership with our neighbours – and particularly the Americans. While the use of the term "North American" generated some nationalistic criticism, it is a logical extension of Canada's new security focus.[76]

President Trump's bizarre statements regarding Canadian and Greenlandic sovereignty have made such a joint effort far more difficult. The Trump administration's sympathies for Russia and other authoritarian states, as well as its open hostility to NATO, have also made it a far less reliable ally. This begs the question: can and should Canada trust any part of its national defence to the US? Despite the profound uncertainty, the answer is still yes – though with some important provisos.

The threats to the Arctic defined in this analysis are not limited to the Canadian North, and a joint response will be more effective than efforts undertaken in silos. Joint surveillance will close gaps, and operational co-operation will maximize value from scarce resources. Canada-US co-operation has been built up in the Arctic over decades, and its disintegration would have long-term implications, potentially even making rebuilding harder if the US can overcome the current government's destructive foreign policy approaches. In addition, a more integrated operational posture in the North builds reliance – not only Canadian reliance on the US but also American reliance on Canada. The latter will be important if Washington's current "Make America Great Again" (MAGA) mindset becomes permanent. In the Arctic, Canada brings a great deal to the table, including over-the-horizon radar, a large icebreaker and patrol fleet, infrastructure, air and satellite surveillance, and on-the-ground monitoring. Canada manages the northern entrance to the American homeland, and the integration of these capabilities and assets into American homeland defence offers Canada a powerful source of future leverage against an administration(s) that respects leverage more than friendship.

Co-operation with the US and Denmark/Greenland can be improved through information sharing, common systems and procedures, and a more formalized surveillance and monitoring framework. While NORAD provides effective aerospace warning, maritime warning remains largely ad hoc. This is especially true of ships crossing from Greenlandic to Canadian waters. Here, there is no formal system of joint monitoring or hand-offs for vessels of interest. Today, this may be manageable; however, when traffic increases, a more complex maritime environment will require a more systematic response. Without this, the maritime boundaries between Arctic allies will develop into a seam where various national commands meet and where threats may be dropped. These partnerships need to be set up in advance, since it takes time to build the appropriate relationships and systems.[77] Here, a joint Maritime Security Operations Centre to manage a more complex Arctic across maritime boundaries by tracking vessels of interest and coordinating national surveillance and response assets would make sense.[78]

A common operating picture should be built on joint surveillance and also on the better use of open-source data. One of the most pressing surveillance problems is small craft, which do not have to shine AIS.[79] These craft are typically less well maintained and crewed and are far more likely to present a safety or security threat. In Greenland, ships under 20 tons are not required to report, while in Canada, ships 330 tons or under are exempt.[80] Mandatory AIS and reporting for small craft have long been options for improving tracking but have often been avoided out of a concern for Canada's ability to enforce them. There is some justification for this; however, an inability to enforce a sensible rule is no reason not to have it. Universal enforcement is not always needed to derive value from a regulation. Canada licenses people to drive, but some still drive without a licence; many of them are still fined and arrested, providing a strong – if not perfect – incentive to obey the law.[81] A joint effort by Canada, the US, and Denmark/Greenland to expand mandatory AIS in the North American Arctic waters, and incorporate that information into a more complete recognized maritime picture, would go a long way to closing that small craft gap.

At the tactical level, joint communications have also been a challenge. Different states use different technologies, and there is no clear standardization across national forces. Even communicating non-restricted information has proven challenging, given a poor understanding of allied structures and responsibilities.[82] An improved system of allied information sharing should be developed,

along with harmonized standards for information sharing. There is an example of best practices in the existing counter-drug operations and information sharing in the Caribbean, where these systems are well developed. This could take the form of an international memorandum of understanding or an agreement that would allow for the sharing of valuable information.[83]

Joint surveillance by the three states would also be an effective use of resources. No country has an abundance of long-range aircraft or drones, and satellite capabilities are still limited. By combining resources – or at least coordinating their use – Canada, the US, and Denmark/Greenland can maximize their value. That coordination can also extend to maritime patrols and presence. Even with an expanded patrol and icebreaker fleet, Canada will find it difficult to sustain a presence everywhere in the Arctic across the entire shipping season. Formal coordination with the Danish and US navies and the US Coast Guard would maximize that presence, allowing states to concentrate platforms in certain areas, confident that their allies are present elsewhere. The 2024 season showed how effective such an arrangement could be. With USCGC *Healy* laid up by an engine fire, the US found itself with no icebreakers in the Arctic when the Chinese deployed several icebreakers into the Bering and Chukchi Seas. In the future, Canadian ships could meet adversary deployments. Likewise, American and Danish support would be helpful in filling gaps caused by unexpected downtime or overtasking in Canada's fleets.

Such an arrangement would have ramifications outside the Arctic as well. Danish participants at a 2022 Naval Association of Canada workshop noted that Canadian support in Greenlandic waters would not only be helpful there but would also allow Danish assets to deploy to the GIUK Gap and Faroe Islands, where NATO is in need of more resources.[84] Likewise, American confidence that Canadian ships would be available in the Western Arctic would free resources for the real centre of gravity in the Pacific – something that is in Canada's interest as well.

Regularizing this kind of co-operation and coordination will face political hurdles. Neither the US nor Denmark recognizes Canada's legal position vis-à-vis the Northwest Passage. While the dispute with the Americans has been well managed (the issue has never come up with Denmark), the political sensitivity to US ships in Canadian waters cannot be ignored. A relatively simple diplomatic agreement, akin to the Arctic Cooperation Agreement signed by Canada and the US in 1988, could facilitate this vital co-operation. That 1988 agreement reserved national legal positions and provided an easy framework for US icebreaker operations in the Arctic. It has been a success, and US Coast Guard voyages have taken place without incident since.

Building upon that success, the three states should advance common clearance procedures for the entire North American Arctic – from western Alaska to eastern Greenland. This agreement would be similar to the 1988 agreement in purpose and designed along the same lines as the Permanent Joint Board on Defence's (PJBD) Recommendation 52/1 (1952), which removed political clearance from Canadian or US operational voyages into the other's internal or territorial waters, replacing this with easy-to-obtain operational clearance on a service-to-service basis.

For Canada, an arrangement of this kind would have multiple benefits. It would message allied solidarity and co-operation in the Arctic and facilitate allied operational voyages, while making joint defence planning smoother. Politically, it would remove the friction of sovereignty considerations by eliminating the risk of the Canadian media interpreting a US or Danish voyage

as a sovereignty threat. With a formalized service-to-service clearance procedure, Canada would not feel a political need to demand allied state consent to transit, and it would also, therefore, remove the need for that state to say yes or no. In line with Canada's objectives in the 1988 agreement, such a clearance agreement would allow the government to inform Canadians that foreign activity was taking place within well-defined clearance protocols.

Applying this framework to the continent, and not just Canadian waters, would also distance the initiative from popular concerns over Canadian sovereignty. It would frame the effort as reciprocal, a fact that regular RCN or CCG operations in Alaskan and Greenlandic waters could emphasize. This form of agreement is particularly relevant to future US operations in the region. The 1988 Arctic Cooperation Agreement covers only icebreakers, and, as the ice melts, there is a greater likelihood that US surface vessels will seek to transit the passage for operational reasons.

Apart from surface vessel coordination, Canada will also have a new fleet of submarines to integrate into the broader continental defence efforts. Arctic defence has heavily influenced the replacement of the Victoria-class, with the July 2024 program announcement mentioning the Arctic six times in seven paragraphs. Indeed, a discussion of the melting ice in the Arctic led the announcement, rhetorically underpinning the entire rationale for the submarines. Despite the Arctic-focused sales pitch, Canada's next fleet of conventional submarines will not patrol the Northwest Passage or sustain an under-ice presence. This is simply beyond the capabilities of any of the vessels under consideration. Yet, these strategic assets will still play an important role in monitoring the region's gateways. These submarines will track vessels entering the Northwest Passage and provide the RCN with a strong deterrent. Adversaries will know that Canadian submarines may or may not be in the region, and state and non-state actors alike will have to factor these vessels into their calculations.

Canada's submarine fleet will also be most effective when plugged into broader North American defence structures. The US has extensive experience operating SSNs under the ice, and the most effective employment of Canadian submarines would be to integrate them into a broader continental approach. This means RCN submarines monitoring the gateways along the ice edge in coordination with American SSNs operating in the Arctic Ocean. A joint approach to under-ice detection systems would strengthen this program further. During the Cold War, Canada and the US worked together to build these networks, and today, Canada is forging ahead with next-generation systems. On this, ONSF sets aside $1.4 billion for "specialized maritime sensors to defend Canada from underwater threats on all 3 coasts."[85] Common sense and historical patterns suggest that this effort will benefit from US support.[86] Meanwhile, American security is strengthened by plugging into a Canadian listening system that feeds into US Northern Command's continental picture.

Such partnerships also offer real advantages in the important realm of international messaging. Chinese and Russian propaganda efforts over the past decade have focused on identifying and promoting gaps and seams between NATO allies. While the Trump administration has played directly into these narratives, there is still value in fighting against that current and trying to pull back from it. Co-operation in the Arctic sends a powerful political message: that there is no power vacuum in the region, that there are no seams to exploit, and that the North American partners are willing and able to maintain regional security. This posture is a powerful deterrent.

While service-to-service relationships between Canada and the US are still very strong, there will clearly be political difficulties for any Canadian government seeking to work with Washington for the foreseeable future. In part, this stems from a certain degree of insecurity in Canadians, which assumes, as a default, that any combination must leave Canada in a position of inferiority. In the Arctic, however, Canada brings more resources to the table than the US – an imbalance that will grow as Canada's icebreaker fleet expands. The Arctic is therefore a region where Canada can leverage its contributions to continental defence to achieve political advantages in the broader relationship. Specifically, the northern approaches to the American homeland depend on Canadian assets to detect and even interdict maritime and aerospace threats in and through the region. The stronger the Canadian presence, and the more useful it is to American homeland security, the more costly it would be for the US to lose the partnership. American threats to the Canadian economy or its sovereignty (Arctic or otherwise) could be countered asymmetrically by a future Canadian curtailment of that collaboration. In essence, a future prime minister may find opening a gaping hole in American continental security to be a useful bargaining chip.

Measuring Success

As Canada refocuses on Arctic security, being able to measure success will become increasingly critical. Historically, the country's Arctic objectives have been loosely defined and built on the ambiguous notion of "defending sovereignty." This overarching aim has always been a barrier to effective policy evaluation, both because the vast majority of RCN and CCG activity in the region has nothing to do with Canada's sovereignty and because sovereignty is not something that can be quantified.

This misplaced framework goes back decades. Former Chief of the Defence Staff Admiral Robert Falls expressed such frustration with the RCN's deployments in the 1970s:

> We conducted superficial acts. We flew aircraft in the north on monthly patrols … they never made contact … we flew in complete darkness, figuratively and literally, most of the time. We sent ships into the north and damaged their hulls, they weren't made for that type of action. It was a complete waste of time, but it satisfied the politicians.[87]

Presence for the sake of presence makes little sense. Sometimes, no presence is perfectly acceptable. When the AOPVs were first announced, there was criticism of their inability to operate in the Arctic during the winter months.[88] The Conservative Party's 2025 election offered a similar demand for a more complete presence, promising armed icebreakers as all-season sovereignty enforcement. This makes for good headlines but begs the question, what exactly would they be doing in the winter when there are no foreign ships to monitor?

As Canada invests more into the defence of the Arctic, it needs more measurable objectives than just showing the flag. ONSF offers a starting point. It calls for the traditional "vigorous assertion of our sovereignty"[89] but also goes a step further, defining this as the ability to "deter threats or defeat them when necessary."[90] The RCN and CCG can achieve this with what ONSF calls "greater presence, reach, mobility, and responsiveness."[91] This framework offers a solid foundation.

Evaluating Canadian presence means measuring the RCN and CCG's ability to sustain platforms in the region when and where they are needed to achieve an effect. For instance, can the RCN or CCG respond to a ship grounding, pollution incident, or trespassing vessel in a reasonable amount of time? Would such a response seriously disrupt other critical tasks? Is the Canadian presence visible enough to convey to foreign actors that the region is not a power vacuum? Does Canada have the infrastructure, spare fuel, and ability to rotate crews to maintain ships on station for the entire season? These are imperfect measures of control and deterrence but can serve as useful benchmarks.

Canada's presence and capabilities should also match the threat. In the Arctic, that seems likely to mean civilian and non-military state vessels. Canada needs the ability to identify and monitor these vessels and, if necessary, evict them from Canadian waters. Quantifying surveillance is far easier than measuring deterrence. The simple test is whether Canada can identify and track vessels as they enter its EEZ and certainly its territorial or internal waters. Can Canada and its allies identify potentially dangerous vessels and manage hand-offs across maritime boundaries? Are vessels turning up in communities without being previously identified?

Once potential threats are identified, Canada will need interdiction capabilities. The measure of that capability is whether the RCN (or a CCG vessel with an added security mandate) could effectively interdict, board, and possibly arrest vessels. Does the Navy's AOPV fleet have the trained boarding teams? Have the RCN and CCG built effective relationships with Environment Canada, the RCMP, and Transport Canada to facilitate regular shiprider programs to allow those departments and agencies to exercise their jurisdiction by leveraging RCN or CCG assets?

From a deterrence and defence perspective, the standards for success are higher. Canada is rebuilding the capability to monitor subsurface activity in the Northwest Passage choke points. Success will be measured by its technological capacity to detect intruders and respond with either its own submarines at the ice edge or by passing that information to the US Navy. More likely than submarine operations, however, are foreign state surface ship activities. China, in particular, has a pattern of illegal fishing where response capabilities are limited and the costs of misbehaviour low. The ability to enforce Canadian laws and regulations in the Arctic EEZ would deter such action by demonstrating that there is no power vacuum to exploit and that any attempt to do so entails risks and political costs exceeding potential gain, thus going a long way toward preventing the need to actually conduct enforcement. Demonstrating the ability to respond forcefully to Chinese (or other states') hybrid threats places the uncomfortable onus of escalation on the aggressor.

Conclusion

The Arctic security dynamic has become progressively more complex as foreign interest grows and great power competition leaks into the region. The Canadian government has made the region the centrepiece of its defence policy. Northern security played an outsized role in the 2025 federal election and is still a priority for Mark Carney's Liberal government. That interest and investment is good; however, it is too often lacking in strategic vision and nuanced threat assessments. A realistic appraisal of Canada's vulnerabilities points to gaps in surveillance, communication, and coordination, which may allow non-state, hybrid, and even state actors to operate in the region unsupervised and unconstrained.

This is not a sovereignty consideration. It is a useful comparison to note that Canada routinely spots unidentified vessels off the Atlantic coast, yet there is no lamentation over the strength of Canada's claim to Newfoundland. Sovereignty challenges are specific threats stemming from a foreign actor's intentional challenge to Canada's legal position. No serious challenge has ever materialized, and, while such a challenge is not impossible, Canada must be able to separate sovereignty concerns from security risks.

The most likely security concerns relate to non-state and hybrid actors operating in Canadian waters without authorization. Canada has geared its response capabilities to this threat and has made good progress. However, the deterioration of the global security dynamic over the past several years suggests that more needs to be done. The RCN and CCG require more capabilities to monitor and interdict craft that may be operating to advance state objectives. They also need the infrastructure to sustain those operations more broadly and over longer shipping seasons.

That control is more effective when exercised jointly. To this end, Canada should expand its co-operation and coordination with the US and Denmark/Greenland to build a better common operating picture and even share maritime assets across national boundaries, where appropriate. That joint effort would not only yield operational results but also provide a powerful political symbol that would serve as a deterrent to foreign states looking to exploit gaps and seams.

In building these systems, the Arctic must also be viewed through a global lens. Many security threats to the region stem from tensions elsewhere. While underinvesting in regional defence has long been a Canadian problem, overinvesting represents a similar strategic blindness. The Arctic is important but is not the centre of gravity for the defence of Canada or North America. In facing separate great power challenges from both Russia and China, the RCN must prioritize resources to critical theatres and platforms that would be used in high-intensity conflict. From a defence perspective, the Arctic is a secondary theatre in these existential struggles. Secondary does not mean unimportant; however, it does mean that Canada's response must be carefully tailored to the threat, that it should not overinvest, and that it should not silo the Arctic off from the bigger picture.

Canada's Arctic defence requirements are also not static. They will continue to evolve with global geopolitics and a changing climate. Canada's relationship with the US may, likewise, take surprising and disconcerting turns that impact how it operates in the Arctic and who Canada considers a friend or foe. For the foreseeable future, however, Canada must apply carefully measured force geared toward a broad assortment of security and defence threats. This response must be anchored in better situational awareness, improved international co-operation, and response capabilities that are able to enforce Canadian law and jurisdiction and deter malign foreign activity. The *Arctic Foreign Policy* warns that the guardrails in the Arctic are off.[92] That is certainly true, and a more focused and sensible approach is overdue.

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Notes

[1] Department of National Defence (DND), *Our North, Strong and Free: A Renewed Vision for Canada's Defence* (Ottawa: Minister of National Defence, 2024), ix.
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